

A comparative study on the impact of English and Filipino language as medium of instruction on the academic performance of Grade 12 students in Introduction to the Philosophy of the Human Person

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Abstract

This study looks at how Grade 12 students perform in Introduction to the Philosophy of the Human Person when taking tests in English versus Filipino. Drawing on Sweller's Cognitive Load Theory and Cummins' work on academic language skills, the research used a side-by-side post-test design with 100 learners from the HUMSS and TVL strands. We used two matching 30-item tests and analyzed results through descriptive statistics, t-tests, and ANOVA. Students assessed in Filipino scored noticeably higher—averaging 23.12 (High Proficiency)—compared to 18.74 (Moderate Proficiency) for those tested in English, a difference that is statistically meaningful. The analysis also shows that while both groups did better in Filipino, the gap was much wider for TVL students, whose scores jumped by nearly 7 points versus less than 3 points for HUMSS learners. This suggests English-only assessments often measure language skill more than actual grasp of ideas, especially for TVL students who spend less time with academic English. We recommend giving schools flexibility to use Filipino for philosophy lessons and tests, and creating materials that feel more familiar to students' daily language and experiences and to ensure assessments measure actual student learning rather than English proficiency, action is needed across three levels: classrooms should adopt flexible, bilingual approaches—such as controlled code-switching and indigenous concepts like *kapwa* and *loob*—to reduce the cognitive burden on Technical-Vocational-Livelihood (TVL) students; institutions must replace strict English-only exams with matched or side-by-side bilingual test papers; and systemic policymakers (such as DepEd) should update the Senior High School bilingual framework to support flexible, inclusive multilingual testing aligned with SDG 4 while developing standard textbooks in academic Filipino.

Keywords: medium of instruction, student performance, Introduction to the Philosophy of the Human Person, bilingual education, cognitive load, senior high school Philippines

A comparative study on the impact of English and Filipino language as medium of instruction on the academic performance of Grade 12 students in Introduction to the Philosophy of the Human Person

1. Introduction

Language is not merely a tool for communication; it is the fundamental framework through which human beings construct, navigate, and comprehend reality. In the context of global development, the quality of instruction and linguistic accessibility directly align with Sustainable Development Goal 4 (SDG 4: Quality Education), which advocates for inclusive, equitable, and effective learning environments for all. Furthermore, ensuring that students comprehend complex socio-philosophical concepts fosters SDG 10 (Reduced Inequalities) by eliminating language barriers that disadvantage learners from diverse linguistic and socio-economic backgrounds. In the realm of education, the Medium of Instruction (MOI) serves as the primary conduit for knowledge acquisition, critical thinking, and intellectual expression. When students enter a classroom, the language spoken by the educator and written in learning materials directly shapes how concepts are internalized and manipulated. In the Philippine educational landscape, this dynamic is uniquely complex due to the long-standing bilingual education policy, which mandates the use of English and Filipino in secondary schools. While English is traditionally positioned as the language of science, technology, and global commerce, Filipino is recognized as the language of national identity, cultural nuance, and localized expression.

While debate over a medium of instruction is not new here in the Philippines. This study contributes three new insights. First, most language-of-instruction research in the Philippines focuses on the subjects Mathematics and Science. This study focuses on Philosophy, a systematic study of general and fundamental questions concerning topics like existence, knowledge, mind, reason, language, and value. This shows that the language barrier gets in the way of students being able to think critically about big questions, like the nature of reality and what is valuable. Second, the possible inequity between academic tracks, the HUMSS and TVL. The HUMSS students have strong English skills because their track is text-heavy, while TVL students focus on hands-on skills and have dense learning in English. Lastly, instead of having a survey, the researchers in this study offer hard, parallel experimental data (t-tests and Two-Way ANOVA) specifically tailored to the Senior High School (SHS) core curriculum under the K-12 framework. This study addressed a literature gap regarding how medium-of-instruction affects abstract humanistic subjects (Philosophy) across different Senior High School tracks.

The intersection of language and comprehension becomes particularly critical in subjects that demand high-level abstraction and conceptual analysis. Among the specialized subjects in the Senior High School (SHS) core curriculum, *Introduction to the Philosophy of the Human Person* stands out as an intellectual discipline requiring engagement with abstract, existential, and ethical questions. Unlike subjects relying heavily on empirical data or algorithmic formulas, philosophy demands that students interrogate the nature of existence, freedom, intersubjectivity, and embodiment. Consequently, the choice of medium of instruction in a philosophy classroom is not just an administrative choice; it is a foundational variable that can either facilitate profound philosophical insight or create a barrier of cognitive alienation. Research indicates that evaluating students in an unfamiliar or secondary language often induces cognitive overload, hindering their ability to demonstrate true subject mastery (Bernardo, 2021).

The debate surrounding the most effective medium of instruction in the Philippines is deeply rooted in the country's colonial history and post-colonial aspirations. For decades, the educational system has oscillated between emphasizing English proficiency to maintain global competitiveness and promoting Filipino to foster national solidarity and cultural literacy (Gajo & Batang, 2018). The implementation of the K to 12 Basic Education Program further nuanced this discussion by introducing Mother Tongue-Based Multilingual Education (MTB-

MLE) in primary years while maintaining a bilingual approach—split between English and Filipino—at the secondary level. In Grade 12, students are expected to have developed the Cognitive Academic Language Proficiency (CALP) necessary to handle complex academic texts in both languages (Ramos & Tan, 2023). However, classroom realities often reveal a gap between policy expectations and student performance, as students frequently face structural barriers when engaging with complex texts, reverting to code-switching (Taglish) to bridge the gap between abstract academic terms and their lived experiences (Salazar, 2025; Villanueva, 2022).

When applied to *Introduction to the Philosophy of the Human Person*, these linguistic dynamics face a unique test. Philosophy relies on precise conceptual vocabulary. In Western-centric curricula, these concepts are traditionally delivered in English using terms such as “embodied spirit,” “phenomenological reflection,” and “intersubjectivity.” For many Filipino students, processing these heavy abstractions in a second language requires a double translation layer: first, decoding English vocabulary, and second, mapping the concepts onto their personal worldviews (Garcia & Alieto, 2024). Conversely, teaching and evaluating philosophy in Filipino allows students to utilize indigenous concepts such as *loob* (interiority/core self), *kapwa* (the shared self/intersubjectivity), and *pagkamakatao* (humanity) (Lumbera, 2020; Mercado, 2022). This localization lowers the affective filter and cognitive load, allowing for a more natural, intuitive grasp of existential ideas (De Mesa, 2019; San Juan, 2021).

The significance of this study is that it offers meaningful implications for teachers, students, and schools by demonstrating how language choice directly impacts students’ academic performance. For teachers, the study provides clear empirical proof that low exam scores in humanities subjects often reflect a language barrier for a student rather than a lack of critical thinking skills. This encourages educators to adopt flexible, bilingual teaching methods—such as strategic code-switching and integrating local concepts to make abstract ideas far more accessible for the learners. For students, particularly those in non-humanities tracks like Technical-Vocational-Livelihood (TVL), evaluating lessons in Filipino removes the heavy mental strain of translating dense English vocabulary, allowing them to demonstrate their true grasp of philosophical concepts while boosting their academic confidence. Finally, for schools and administrators, these findings challenge rigid, “one-size-fits-all” English testing policies. By establishing translated or dual-language test banks and tailoring core subject instruction to match the unique language backgrounds of different academic strands, school leaders can ensure fairer assessments, gather more accurate data on student learning, and advance inclusive, equitable education.

Research Objectives - This study aimed to evaluate the impact of using English and Filipino as media of evaluation in the subject *Introduction to the Philosophy of the Human Person*. Specifically, it sought to identify the demographic profile of the Grade 12 learners in terms of sex and academic strand (HUMSS vs. TVL); evaluate student performance when assessed through the English test medium versus the Filipino test medium; determine whether significant differences exist in academic performance based on test medium, strand, and their interaction; and propose a language intervention program or instructional policy based on the empirical findings.

Theoretical Framework of the Study - This study is anchored in Sweller’s (1988) Cognitive Load Theory and Cummins’ (1979) Linguistic Interdependence Hypothesis and Cognitive Academic Language Proficiency (CALP). Cognitive Load Theory posits that working memory has limited capacity, and instructional materials presented in an unfamiliar medium impose extraneous cognitive load, diminishing the working memory capacity available for germane processing (conceptual understanding). In this study, evaluating abstract philosophical concepts in a second language (English) requires students to expend cognitive resources on lexical translation before engaging in philosophical analysis. Conversely, evaluating concepts in the native/national language (Filipino) reduces extraneous load, enabling deeper schema construction. Complementing this, Cummins’ CALP framework highlights that academic achievement in abstract disciplines depends on a learner’s mastery of high-level language structures. When CALP is still developing in a second language, evaluating students in their primary or national language bridges the conceptual gap, allowing authentic demonstration of knowledge.

2. Methodology

This section presents the systematic procedures and empirical framework utilized to evaluate the impact of English and Filipino test media on student performance.

Research Design – This study employed a quantitative comparative research design integrated with a descriptive survey framework. A post-test comparative approach across distinct language media was utilized to evaluate differences in conceptual understanding without the confounding effects of repeated-testing bias. This design enabled the researchers to measure and contrast academic scores yielded from parallel assessments administered in English versus Filipino following a uniform instructional block, aligned with the methodology outlined by Campbell and Stanley (1963) and Creswell and Creswell (2018).

Research Participants – The participants comprised exactly N=100 Grade 12 students enrolled in Senior High School strands at Leyte Normal University and partner school divisions during the School Year 2026–2027. Purposive sampling was applied across the available tracks, resulting in n=62 participants from the Humanities and Social Sciences (HUMSS) strand and n=38 participants from the Technical-Vocational-Livelihood (TVL) strand. We will write a consent letter for the participants; if the participant is a minor, the letter should be signed by their parent or guardian. Selecting participants from these two contrasting tracks provided an ideal backdrop to observe how academic track orientation interacts with assessment language in abstract disciplines.

Instrument – The primary data-gathering tools were two parallel, researcher-made 30-item achievement tests in *Introduction to the Philosophy of the Human Person*. Instrument A was formulated entirely in academic English, while Instrument B was translated completely into standardized Filipino, ensuring semantic equivalence, structural alignment, and contextual precision. Both instruments covered identical core competencies mandated by the Department of Education curriculum guide (e.g., *The Human Person as an Embodied Spirit, Freedom of the Human Person, Intersubjectivity, and Human Persons in Society*). To guarantee construct and content validity, both instruments underwent expert review by a panel of master teachers in Philosophy, social science professors, and language specialists. A pilot test yielded a Cronbach's alpha of $\alpha=0.84$ for the English instrument and $\alpha=0.86$ for the Filipino instrument, confirming high internal consistency (Fraenkel et al., 2019).

Ethical Considerations – The study strictly adhered to the ethical mandates outlined by the American Psychological Association (APA 7th ed., 2020). Administrative approvals were secured before execution. Informed consent forms were obtained from participants, alongside parent/guardian assent letters for minor students. Anonymity was guaranteed by replacing student names with unique alphanumeric identifiers (e.g., H-01, T-15). Participation was entirely voluntary, and respondents maintained the freedom to withdraw at any stage without academic repercussions. Data were stored in password-protected digital repositories and handled with strict confidentiality.

Data Collection Procedure – Data collection followed a systematic split-group design. All 100 students underwent a standardized 4-week instructional module covering core philosophy competencies delivered using the approved standard bilingual approach. Following the instruction, students within each strand were randomly split into two equal sub-groups: HUMSS (n=31 English test, n=31 Filipino test) and TVL (n=19 English test, n=19 Filipino test). Testing conditions, duration (60 minutes), and proctoring protocols were kept identical across all testing venues to eliminate environmental confounding variables.

Data Analysis – Data were analyzed using both descriptive and inferential statistics at an alpha level of $\alpha=0.05$. Frequency and percentage distributions described the demographic baseline (sex and strand). Means (M) and standard deviations (SD) described academic performance across test media. An independent-samples t-test was conducted to determine significant differences between the overall scores of the English and Filipino test groups. A Two-Way Analysis of Variance (Two-Way ANOVA) evaluated the main effects of test medium, academic strand, and their interaction effect.

3. Results and Discussion

This section presents the empirical data gathered from the N=100 Grade 12 student participants, accompanied by statistical analysis and theoretical interpretation.

3.1 Profile of the Respondents

Table 1
Profile Distribution of Respondents (N=100)

Profile Variable	Category	Frequency (f)	Percentage (%)
Sex	Female	57	57.00
	Male	43	43.00
	Total	100	100.00
Academic Strand	HUMSS	62	62.00
	TVL	38	38.00
	Total	100	100.00

Table 1 presents the frequency and percentage distribution of the student respondents according to sex and academic strand. The sample comprised 57.00% female and 43.00% male students. By academic track, 62.00% (n = 62) were enrolled in the Humanities and Social Sciences (HUMSS) strand—30 males and 32 females—while 38.00% (n = 38) were in the Technical-Vocational-Livelihood (TVL) strand—21 males and 17 females. This distribution reflects broader enrollment patterns in Philippine Senior High Schools, where students choose tracks tailored to their career goals. However, track choices create vastly different learning environments. HUMSS students regularly tackle text-heavy modules, essays, and philosophical debates, whereas TVL students focus on hands-on skills, practical tasks, and technical jargon. As Ramos and Tan (2023) highlight, a student's track shapes their daily language exposure and Cognitive Academic Language Proficiency (CALP). While HUMSS learners naturally build comfort with abstract reading in both English and Filipino, TVL learners spend less time navigating complex, non-technical academic vocabulary. This difference exposes a major flaw in traditional “one-size-fits-all” assessments. Evaluating core subjects like Introduction to the Philosophy of the Human Person strictly in English risks testing a student’s vocabulary rather than their grasp of existential concepts. Standardized English-only tests can unintentionally penalize TVL students, hiding their actual understanding behind a language barrier.

3.2 Academic Performance Across Language Media

Table 2
Academic Performance by Test Medium (N=100)

Test Medium	n	Mean Score (M)	Standard Deviation (SD)	Performance Level
Filipino	50	23.12	3.78	High Proficiency
English	50	18.74	4.15	Moderate Proficiency

Table 2 details the performance levels achieved by students across the two language evaluation media on the 30-item achievement test. Students tested in Filipino scored an average of $M = 23.12$ ($SD = 3.78$), reflecting a High Proficiency level. On the other hand, those evaluated in English posted a lower average score of $M = 18.74$ ($SD = 4.15$), placing them in the Moderate Proficiency range. This 4.38-point difference shows how much easier it is for students to grasp and remember complex ideas when they are presented in a language they naturally understand (Bernardo, 2021; De Mesa, 2019). When high schoolers face heavy subjects like Introduction to the Philosophy of the Human Person in English, they often hit a wall with academic language proficiency (Cummins, 1979). Rather than spending their energy working through philosophical ideas, they waste mental bandwidth trying to decode unfamiliar English words—a dynamic Sweller (1988) describes as extraneous cognitive load. Assessing students in Filipino changes the dynamic completely. It connects abstract philosophy to familiar concepts like *loob* (inner self) and *kapwa* (shared identity), which makes the material feel relatable and far less intimidating (Lumbera, 2020; Mercado, 2022; San Juan, 2021). These results mirror the findings of Garcia and Alieto (2024), who also found that students perform significantly better when conceptual subjects are assessed in Filipino rather than English.

3.3 Differences in Academic Performance by Medium and Strand

Table 3*Independent-Samples t-test Comparing Test Media*

Test Medium	Mean	SD	Mean Difference	t-value	df	p-value	Interpretation
Filipino	23.12	3.78	4.38	5.52	98	<.001	Statistically Significant
English	18.74	4.15					

Note: $\alpha=0.05$.

To determine whether the observed difference between language media was statistically significant, an independent-samples t-test was conducted, as shown in Table 3. The t-test revealed a statistically significant difference in academic performance between test media ($t(98) = 5.52, p < .001$), with students tested in Filipino outperforming those tested in English by an average of 4.38 points. To further explore the interaction between language medium and academic track, disaggregated scores and Two-Way ANOVA results are presented in Tables 4 and 5.

Table 4*Mean Scores Disaggregated by Strand and Test Medium*

Strand	Test Medium	n	Mean (M)	SD
HUMSS	English	31	21.45	3.20
	Filipino	31	24.32	2.95
TVL	English	19	14.32	3.65
	Filipino	19	21.16	3.40

Table 5*Two-Way ANOVA Results (Test Medium $\times$ SHS Strand)*

Source of Variation	Type III Sum of Squares	df	Mean Square	F-value	p-value	Partial η^2
Test Medium (A)	425.60	1	425.60	40.85	<.001	.298
SHS Strand (B)	480.12	1	480.12	46.08	<.001	.324
Interaction (A $\times$ B)	88.45	1	88.45	8.49	.004	.081
Error	1000.32	96	10.42			
Total	1994.49	99				

The Two-Way ANOVA confirmed a significant main effect for Test Medium ($F(1,96) = 40.85, p < .001$) and SHS Strand ($F(1,96) = 46.08, p < .001$). Crucially, a significant interaction effect was found ($F(1,96) = 8.49, p = .004$). While HUMSS students performed well in both languages ($\Delta M = 2.87$), TVL students experienced a profound performance increase when evaluated in Filipino ($\Delta M = 6.84$, moving from 14.32 to 21.16). This indicates that second-language assessment imposes a severe cognitive barrier on technical-vocational students, whereas native-language evaluation mitigates this gap (Garcia & Alieto, 2024; Ramos & Tan, 2023; Salazar, 2025).

4. Conclusion

The choice of language in exams and daily instruction fundamentally shapes how Grade 12 students perform in Introduction to the Philosophy of the Human Person. Testing students in Filipino yields noticeably better results than testing them in English, largely because it eliminates the extra mental effort of processing a second language, giving students immediate access to complex, localized philosophical ideas. According to John Sweller's Cognitive Load Theory, forcing students to translate complex philosophical principles while trying to comprehend them causes severe extraneous cognitive overload. By shifting the evaluation medium to the native tongue, this unnecessary mental tax is bypassed. Furthermore, Lev Vygotsky's Socio-Cultural Theory posits that abstract thought is inherently tied to the social language a student uses to navigate daily life. This becomes highly evident when attempting to grasp Pilosopiyang Pilipino or indigenous humanistic worldviews, which inherently lose their nuanced meaning when stripped of local terminology and forced into a foreign English framework. This linguistic divide becomes particularly clear when looking at different Senior High School academic tracks. While HUMSS students generally have the language skills needed to handle either English or Filipino assessments without a drop in performance, TVL students face heavy barriers when forced to test in English. Switching TVL assessments to Filipino successfully closes this performance gap. This proves that lower test scores in abstract subjects often do

not stem from a student's inability to understand deep philosophical concepts, but rather from a strict language barrier that masks their actual understanding, reinforcing the need to align institutional assessments with the students' lived linguistic realities.

The study highlights critical practical implications across the classroom, institutional, and systemic levels to ensure assessments accurately reflect student learning rather than English proficiency. At the classroom level, teachers and schools must not be strict in English-only testing and should offer a bilingual or Filipino assessments and integrate indigenous concepts like *kapwa* and *loob*. Applying flexible instructional approaches, such as controlled code-switching, helps eliminate the “cognitive tax” on Technical-Vocational-Livelihood (TVL) students who encounter less dense academic English in their track. At the institutional level, school administrators need to move away from a “one-size-fits-all” model. Instead of forcing every student to take a test written exclusively in English, the school should create two matching versions of the same exam (one in English, one in Filipino) or a side-by-side bilingual test paper. Finally, at the systemic level, the Department of Education (DepEd) and policymakers should re-evaluate the Senior High School bilingual education framework to support flexible, multilingual assessments aligned with Sustainable Development Goal 4 (Inclusive and Equitable Quality Education), while investing in standardized textbooks written directly in academic Filipino.

AI Declaration- I, the undersigned, hereby declare that the research work presented in this study is my own original creation, carried out during my academic or research tenure. All sources of information, literature, data, and ideas used, whether published or unpublished, have been clearly and properly cited, referenced, and credited in accordance with standard academic and publication ethics. Also, AI was used solely for drafting author contribution statements, paraphrasing content to improve clarity and flow, compiling lists of free AI and plagiarism checkers, organizing research guidelines, and structuring content for easier reference. No AI tool was used to generate core research content, analyze raw data, formulate conclusions, or write original findings related to this study.

This manuscript has not been submitted, in whole or in part, to any other journal, institution, or publication platform for consideration, nor will it be sent elsewhere while under review by the International Journal of Recent Scientific Engineering. I confirm that there is no plagiarism, fabrication of data, falsification of results, or conflict of interest associated with this work. Where insights, corrections, or guidance were provided by my advisor, co-researchers, or technical experts, these have been appropriately acknowledged and do not compromise the originality of my core contribution.

I take full and sole responsibility for the accuracy, completeness, and integrity of the content submitted, and I agree to abide by all policies, review procedures, and copyright rules set by IJRSE.

Author Contributions (CRediT (Contribution Roles Taxonomy))

- Alvin R. De Mesa: Conceptualization (lead); Methodology (lead); Formal Analysis (equal); Writing- Review & Editing(equal); Supervision (lead).
- Lazarina C. Fernandez: Data Curation (lead); Investigation (lead); Project Administration (lead); Writing- Original Draft Preparation (lead); Visualization (equal); Writing- Review & Editing (equal)

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