REVIEW ARTICLE

Filipino at the Curricular Periphery: A Narrative Review of STEM-Centric Urban Secondary Education in the Philippines

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ABSTRACT

Background: Urban secondary education in the Philippines sits at the intersection of an intensified science, technology, engineering, and mathematics (STEM) agenda, English-linked global competitiveness, and a constitutional commitment to Filipino as a language of instruction and scholarly discourse. Filipino may retain formal curricular presence while occupying a weaker institutional and epistemic position than subjects associated with science, mathematics, technology, and English. *Objective*: This narrative review examines how Filipino becomes marginalized in STEM-centric urban secondary schools and identifies directions that can strengthen its curricular, pedagogical, and professional status without weakening STEM or English competence. *Methods*: A structured narrative search covered scholarship from 2019 through 2025, supplemented by one foundational bilingual education policy. The final corpus comprised 27 sources: 22 peer-reviewed journal articles, one scholarly book chapter, and four Philippine policy or curriculum documents. Sources were synthesized through thematic comparison informed by SANRA principles. *Results*: Five patterns recurred: hierarchical allocation of subject status and curriculum time; prestige attached to English and market-oriented disciplines; confinement of Filipino to cultural or language-specific functions; routine multilingual practices within science and mathematics classrooms; and professional consequences when institutional value follows high-status subjects. Philippine and international STEM studies documented translanguaging and code-switching as resources for reasoning, scientific argument, participation, and conceptual access. *Conclusion*: Filipino's marginalization is best understood as institutional and epistemic rather than simple curricular absence. An equitable model protects Filipino as a discipline while legitimizing it for explanation, inquiry, public science communication, and cross-curricular knowledge construction alongside English and regional languages.

I. INTRODUCTION

The organization of school knowledge is never neutral. Curriculum time, staffing, assessment weight, facilities, and public messaging communicate which forms of knowledge a school treats as central to intellectual development and which it treats as supplementary. Research on subject hierarchy shows that students learn these rankings through the structure and culture of schooling itself, not only through explicit statements about important subjects (Araneda et al., 2021). Davies and Trowsdale (2021) likewise argue that multi-subject curricula operate through disciplinary cultures that distribute time, legitimacy, and influence unevenly. In contemporary secondary education, the hierarchy often favors subjects linked to measurable economic productivity, technological innovation, and competitive credentials. Delahunty (2025) locates this tendency within wider neoliberal curricular discourse, in which science and the broader STEM agenda can become tightly associated with national progress, employability, and global economic competition. Such priorities are understandable in economies that seek technological capacity, but they can also narrow the institutional definition of educational value.

This tension has particular force in the Philippines, where education is embedded in a multilingual history shaped by colonial language regimes, national language formation, and the continuing social power of English. Philippine English has developed a well-established local identity, yet English still carries substantial institutional and academic capital because of its historical position, international reach, and association with professional mobility (Martin, 2019). Tupas (2020) cautions that analyses of English in postcolonial settings must attend to the social world that produces unequal language value rather than treat language varieties as detached linguistic objects. Lising et al. (2020) further demonstrate that Filipino bilingual academic discourse frequently moves across English and Tagalog resources, which makes strict ideological separation less representative of actual communicative practice. These conditions mean that language choice in school is not merely a technical question about medium of instruction. It also distributes access to legitimacy, authority, and particular forms of knowledge.

Official policy contains an important paradox. The 1987 Policy on Bilingual Education identifies both Filipino and English as languages for instruction and explicitly includes the continuing intellectualization of Filipino among national educational goals (Department of Education, 1987). The same policy describes English as an international language and as a non-exclusive language of science and technology, a formulation that leaves conceptual space for Filipino in scientific and technical discourse. Yet the institutional separation of languages by subject, together with long-standing expectations that science and mathematics belong primarily to English, can produce a practical boundary between Filipino and the knowledge domains that schools portray as globally competitive. In 2024, Republic Act No. 12027 further altered the language-policy environment by discontinuing mandatory mother-

tongue instruction from Kindergarten to Grade 3 and restoring Filipino and English as the primary media of instruction, with regional languages retained in auxiliary or optional roles under specified conditions (Republic of the Philippines, 2024). Although this reform addresses early basic education rather than secondary STEM directly, it illustrates the continuing instability of language allocation across the national system.

Senior high school reform has made questions of subject status more visible. During the Department of Education's April 2025 public consultation on the strengthened Senior High School curriculum, the proposed common core was reduced to five year-long subjects: Effective Communication, Life Skills, General Mathematics, General Science, and Pag-aaral ng Kasaysayan at Lipunang Pilipino (Department of Education, 2025a). At that consultation stage, a standalone Filipino language or literature course was not among the five common core subjects, even though General Mathematics and General Science retained explicit core positions. The Department subsequently authorized pilot implementation of the strengthened curriculum for Grade 11 in School Year 2025-2026 (Department of Education, 2025b). The consultation proposal should not be misread as a final declaration that Filipino would disappear from senior high school. Rather, it reveals the curricular precarity of Filipino when policy reform prioritizes a smaller set of common subjects and when communicative competence may be reorganized into broader or differently named courses. This distinction matters because marginalization can occur through reduced curricular centrality, not only through formal removal.

Teachers' perceptions provide direct evidence of this vulnerability. Ringor et al. (2024), in a study of 76 secondary-level Filipino teachers, reported concern that the prospective removal of Filipino from senior high school would weaken language use, cultural continuity, and the discipline's perceived relevance. Such concern is consistent with research on language-teacher identity in peripheral educational spaces, where professional legitimacy can be shaped by broader language ideologies and by the status assigned to the subject itself (Nordstrom, 2020). In urban schools that market STEM specialization, international readiness, coding, research, and English proficiency, these status dynamics may be especially visible. The issue is therefore not whether STEM deserves strong curricular support. The more consequential question is whether a STEM-centered institution must organize language and knowledge in a way that makes Filipino appear intellectually secondary.

Evidence from multilingual STEM education complicates any assumption that English-only practice is pedagogically necessary for rigorous science or mathematics. In the Philippine context, Bravo-Sotelo and Metila (2023) found that mathematics teachers used Tagalog-English code-switching for ideational, textual, interpersonal, and communicative purposes. De Los Reyes and Bagona (2024) documented translanguaging during science instruction in multilingual Philippine classrooms, while De Los Reyes (2024) showed that multilingual classroom repertoires supported discussion, assessment, and comprehension in English learning. Most directly for a STEM-intensive secondary context, Wyson and Genuino (2025) observed translanguaging among teachers and students in an English-medium Philippine science high school, including functions related to instruction, laboratory work, troubleshooting, background knowledge, and identity. These findings align with international research that treats multilingual language practices as resources for scientific sense-making rather than as defects to be eliminated (González-Howard et al., 2023; Grapin et al., 2023; Hou et al., 2025).

The conceptual problem, then, is larger than the weekly schedule of the Filipino subject. Marginalization may operate across at least four linked dimensions: curricular status, when Filipino receives less protected time or fewer high-stakes pathways; symbolic status, when English and STEM are positioned as modern and economically productive while Filipino is framed mainly as cultural; epistemic status, when Filipino is not treated as a legitimate medium for producing and communicating disciplinary knowledge; and professional status, when Filipino teachers experience weaker institutional recognition because their field is located outside the school's prestige center. This multidimensional definition avoids an unhelpful binary in which Filipino is either present or absent. A subject can remain on the timetable and still occupy the curricular periphery.

A narrative review is appropriate for this problem because the evidence is heterogeneous. It includes policy documents, language ideology research, studies of subject hierarchy, Philippine classroom investigations, teacher-perspective studies, and international work on multilingual STEM education. These sources do not estimate one common effect size, nor do they answer a single intervention question. They do, however, allow a theoretically informed synthesis of mechanisms, contradictions, and policy choices. Accordingly, this review asks three questions: How do curricular hierarchy and language ideology produce conditions in which Filipino can be treated as secondary within STEM-centric urban secondary education? What does empirical research on multilingual science and mathematics reveal about the actual epistemic role of Filipino and other familiar languages? What institutional and curricular directions follow when Filipino is understood not only as a language subject but also as a resource for disciplinary reasoning, public communication, and knowledge construction?

II. METHODS

Review Design and Scope

This study used a structured narrative review design. The aim was interpretive integration rather than exhaustive effect estimation. Narrative review was selected because the focal problem crosses curriculum studies, sociolinguistics, language policy, teacher identity, STEM education, and Philippine basic education policy. The review followed the quality principles emphasized by Baethge et al. (2019), particularly explicit statement of importance and aims, description of the search process, appropriate referencing, critical presentation of the evidence, and attention to evidence type. No meta-analysis was attempted because the included literature used incompatible designs, outcomes, populations, and units of analysis.

The principal publication window was January 1, 2019 through December 31, 2025. This period was chosen to capture the contemporary expansion of STEM-centered curriculum discourse, recent Philippine language-policy changes, and the rapid growth of translanguaging research in science education. One pre-2019 source, Department Order No. 52, s. 1987, was retained because it remains a foundational statement of the Philippine Bilingual Education Policy and explicitly addresses the intellectualization of Filipino and the language of science and technology. The review focused on Philippine secondary education, especially urban and STEM-intensive contexts, but accepted evidence from elementary, tertiary, and international settings when a study directly clarified a mechanism relevant to language hierarchy, scientific sense-making, subject status, or teacher professional identity. This bounded use of adjacent evidence allowed the review to address mechanisms for which direct Philippine secondary research remains limited without presenting cross-level findings as direct substitutes for high school evidence.

Search Strategy and Source Selection

The literature search combined scholarly search engines, ERIC-indexed records, publisher databases and journal platforms, and official Philippine government repositories. Search terms were organized into four conceptual blocks. The first paired Filipino, Tagalog, Philippine language, or multilingual with STEM, science, mathematics, science high school, senior high school, or secondary education. The second paired English-medium instruction, language ideology, code-switching, or translanguaging with Philippines and education. The third combined subject hierarchy, curriculum hierarchy, marginalization, status, prestige, or curriculum time with school subjects. The fourth targeted Philippine policy terms, including bilingual education, strengthened senior high school curriculum, Filipino subject, medium of instruction, and mother tongue policy. Citation chaining from relevant review articles and empirical studies was used to identify additional sources with clear relevance to multilingual STEM participation and disciplinary language.

Sources were eligible when they met at least one of four criteria: they provided empirical evidence on the use or status of Filipino, Tagalog, English, or multilingual repertoires in Philippine education; they examined subject hierarchy, curricular prestige, or teacher identity in a way that could explain institutional marginalization; they investigated multilingual language practice in science or mathematics; or they constituted an official Philippine policy or curriculum document that materially defined the institutional position of languages or subjects. Peer-reviewed journal articles and scholarly chapters were prioritized. Official documents were restricted to authoritative government sources. Studies published outside the Philippines were included

only when their mechanism had direct analytic relevance to multilingual STEM education or subject hierarchy.

The review excluded duplicate publications, untraceable references, opinion pieces without an identifiable evidence base, student papers, unpublished class outputs, sources centered only on general language acquisition with no relationship to curriculum or knowledge construction, and studies whose educational setting offered no plausible transfer to the review questions. Sources were also excluded when citation details, authorship, publication venue, or publication status could not be independently verified. This rule was applied to protect the reference base from unverifiable or weakly documented material. The final interpretive corpus comprised 27 sources: 22 peer-reviewed journal articles, one scholarly book chapter, and four official Philippine policy or curriculum documents. Nine scholarly sources were directly focused on the Philippines, and the policy subset added four national documents; the remaining sources supplied comparative or theoretical evidence on subject hierarchy and multilingual STEM learning.

Data Extraction and Narrative Synthesis

Each included source was entered into an evidence matrix with fields for publication year, country or policy jurisdiction, educational level, disciplinary context, research design or document type, languages discussed, central finding or policy provision, and relevance to the review questions. Philippine sources received additional coding for school level, urban or multilingual setting when reported, status of Filipino or Tagalog, role of English, and relationship to STEM or curriculum reform. International STEM sources were coded for the epistemic functions attributed to students' full linguistic repertoires, including conceptual explanation, scientific argumentation, interpretation of task language, participation, collaboration, identity, and assessment. Subject-hierarchy studies were coded for mechanisms through which institutions signal prestige, including curriculum time, perceived future utility, academic selectivity, and disciplinary culture.

Synthesis proceeded through iterative thematic comparison. Initial deductive domains reflected the review questions: curricular status, language prestige, epistemic access, classroom practice, and professional status. Within each domain, sources were compared for convergence, contradiction, and contextual limits. Inductive subthemes were then developed when several sources described a common pattern that was not fully captured by the initial framework. Particular attention was given to negative or countervailing evidence. For example, the review did not treat the formal use of English in science as proof that Filipino lacked scientific value; empirical classroom studies were examined for actual language practices. Conversely, the presence of translanguaging in classrooms was not treated as proof that Filipino held equal institutional status. This separation between enacted practice and formal status was central to the synthesis.

The final thematic structure was reviewed against the source matrix to ensure that each claim could be traced to at least one verified source and that major conclusions reflected convergence across evidence types where possible. Philippine policy documents were used to establish formal curricular and language arrangements, Philippine empirical studies were used to characterize local practice and perception, and international studies were used to test whether the identified mechanisms were consistent with broader research on language and STEM learning. Because the review was narrative rather than systematic, no pooled quality score or risk-of-bias statistic was calculated. Instead, evidentiary weight depended on source type, directness to the review question, methodological transparency, and consistency with independent evidence.

Rigor and Quality Safeguards

Several safeguards were built into the review. First, bibliographic details and digital object identifiers were verified against publisher or authoritative indexing records before inclusion in the reference list. Second, policy claims were checked against Department of Education or official legal repositories rather than secondary commentary. Third, direct Philippine evidence was distinguished from international analogy throughout the analysis. Fourth, the synthesis avoided causal language when the underlying studies were descriptive, qualitative, or conceptual. Fifth, the review treated Filipino, regional Philippine languages, and learners' mother tongues as related but non-equivalent categories. Filipino is the national language and is Tagalog-based, but it is not the first language of all Philippine learners. This distinction was necessary because a policy that expands Filipino can still fail to recognize other local linguistic repertoires.

Finally, the review defined marginalization conservatively. A source was not coded as evidence of marginalization simply because it reported English use or strong STEM programming. Evidence had to indicate reduced curricular centrality, weaker symbolic prestige, restrictions on epistemic use, or professional consequences tied to subject or language hierarchy. This rule prevented the analysis from presuming a conflict between Filipino and STEM. The review instead examined the conditions under which STEM-centered institutional priorities and English-linked prestige become mutually reinforcing in ways that narrow Filipino's recognized intellectual role.

III. RESULTS

The 27-source corpus produced a coherent but differentiated account of Filipino's position in STEM-centric schooling. The evidence did not show a uniform policy of exclusion. Instead, it documented a recurring separation between formal recognition of Filipino and the institutional practices through which subject prestige, language legitimacy, and disciplinary knowledge are allocated. Five thematic patterns were identified. Table 1 summarizes the evidence domains and the descriptive result associated with each domain.

Table 1
Evidence Domains and Descriptive Patterns in the Review

Evidence domain	Representative sources	Descriptive pattern
Philippine language and curriculum policy	Department of Education (1987, 2025a, 2025b); Republic of the Philippines (2024)	Filipino retains formal national status, while curriculum and medium-of-instruction rules continue to distribute languages and subjects unevenly across educational functions.
Subject hierarchy and curriculum prestige	Araneda et al. (2021); Davies and Trowsdale (2021); Delahunty (2025)	Schools communicate unequal subject value through time, utility narratives, disciplinary culture, and links to future economic or academic opportunity.
Philippine English and multilingual academic practice	Lising et al. (2020); Martin (2019); Tupas (2020); Velasco (2025)	English holds strong institutional visibility, while Filipino academic communication and policy enactment remain multilingual and shaped by language ideology.
Philippine STEM classroom language	Bravo-Sotelo and Metila (2023); De Los Reyes and Bagona (2024); Wyson and Genuino (2025)	Tagalog or Filipino and other familiar languages are used for explanation, disciplinary reasoning, laboratory activity, interaction, and conceptual access.
Multilingual STEM evidence beyond the Philippines	Brown et al. (2019); González-Howard et al. (2023); Grapin et al. (2023); Hou et al. (2025); Karlsson et al. (2020); Lemmi et al. (2019); Licona and Kelly (2020)	Language-inclusive and translanguaging practices are repeatedly associated with participation in disciplinary sense-making and scientific argument.
Teacher identity and professional role	Lee et al. (2023); Nordstrom (2020); Ringor et al. (2024); Velasco (2025)	Teacher legitimacy and professional positioning vary with the institutional status assigned to languages, subjects, and cross-disciplinary language expertise.

Theme 1: Formal Bilingual Recognition Coexists with Unequal Disciplinary Allocation

Philippine policy formally recognizes Filipino and English as instructional languages. Department Order No. 52, s. 1987 places the development and intellectualization of Filipino among the goals of bilingual education and describes English as a non-exclusive language of science and technology (Department of Education, 1987). Republic Act No. 12027 later restored Filipino and English as the principal media of instruction after the discontinuation of mandatory mother-tongue instruction in the early grades, while retaining a role for regional languages under specified arrangements (Republic of the Philippines, 2024). Across these documents, Filipino retains national educational legitimacy, but the formal framework continues to allocate languages through institutional rules rather than normalize fluid multilingual use across all disciplines.

The curriculum evidence showed that formal language status does not automatically secure equivalent subject status. During the April 2025 public consultation on the strengthened Senior High School curriculum, General Mathematics and General Science were explicitly named among five common core subjects, while a standalone Filipino language or literature subject was

not listed in that proposed common core (Department of Education, 2025a). The June 2025 pilot memorandum initiated implementation of the strengthened Grade 11 curriculum in selected schools (Department of Education, 2025b). The documents described curriculum streamlining and concentration of common requirements; they did not define Filipino as absent from all senior high school offerings.

Theme 2: Subject Hierarchy Links Institutional Prestige to Future Utility and STEM Identity

The subject-hierarchy literature consistently described unequal status among school disciplines. Araneda et al. (2021) reported that schools socialize learners into hierarchies of subject importance, with judgments shaped by perceived usefulness and future relevance. Davies and Trowsdale (2021) described how disciplinary cultures and time allocation maintain unequal positions within multi-subject curricula. Delahunty (2025) identified economic productivity, innovation, and competitiveness as recurrent legitimating ideas within contemporary science curriculum discourse.

In the Philippine evidence, these general mechanisms intersected with the social status of English. Martin (2019) documented the established role of Philippine English while situating it within a longer national history of English use. Tupas (2020) analyzed the unequal social world within which Englishes develop, and Lising et al. (2020) documented extensive Tagalog-English code-switching in Filipino academic interaction. Taken together descriptively, these sources show that the educational environment combines high institutional visibility for English with routine multilingual practice among Filipino users.

Theme 3: Filipino is Often Associated with Cultural Identity while Its Epistemic Scope is Narrower

The Philippine studies that dealt directly with Filipino subject status placed strong emphasis on cultural and linguistic continuity. Ringor et al. (2024) reported that secondary Filipino teachers associated possible subject removal with risks to language use, cultural heritage, national identity, and the perceived relevance of Filipino. This evidence situated Filipino as an important curricular carrier of culture and identity. It also showed that teachers perceived the subject's curricular position as vulnerable when senior high school priorities were reorganized.

A different set of studies showed that the actual communicative functions of Filipino or Tagalog extend beyond identity expression. Bravo-Sotelo and Metila (2023) found that Tagalog-English code-switching in Philippine mathematics classrooms served ideational, textual, interpersonal, and communicative functions. De Los Reyes and Bagona (2024) documented translanguaging for communicative work in science teaching and learning, and Wyson and Genuino (2025) identified instructional, procedural, troubleshooting, background-knowledge, and identity functions in a Philippine English-medium science high school. These studies described Filipino or Tagalog as part of the language through which disciplinary activity was accomplished, even when English held formal medium-of-instruction status.

Theme 4: Multilingual STEM Practice Supports Disciplinary Participation and Sense-Making

The international STEM literature showed a recurring contrast between language-exclusive norms and the multilingual practices used to complete disciplinary work. Lemmi et al. (2019) identified language-exclusive and language-inclusive ideologies in secondary science assessment. Brown et al. (2019) found that complex scientific language could impose cognitive demands that interfere with performance among adolescents. Lee and Stephens (2020) argued that contemporary views of STEM and language support integrated approaches rather than treating language development and disciplinary learning as separate enterprises.

Empirical and review evidence described specific epistemic functions for translanguaging. Karlsson et al. (2020) found that access to multiple languages supported continuity of learning in a science classroom. Licona and Kelly (2020) described translanguaging as part of the construction of scientific argumentation in a bilingual middle school context. González-Howard et al. (2023) synthesized evidence that language views shape multilingual learners' participation in scientific sense-making, while Grapin et al. (2023) distinguished equity as simple access to dominant norms from equity that transforms whose language and knowledge count. Hou et al. (2025), in a systematic review of global K-12 science education, reported wide use of translanguaging practices across varied contexts and highlighted their relationship to science sense-making and inclusive participation.

Theme 5: Language and Subject Status Extend to Teacher Legitimacy and Institutional Role

Evidence concerning educators showed that language hierarchies have professional consequences. Nordstrom (2020) documented how teachers in lower-status community language settings negotiated professional identity amid struggles for legitimacy and recognition. In the Philippines, Velasco (2025) found that teachers' language ideologies influenced how multilingual education policy was interpreted and implemented in two urban school districts. Ringor et al. (2024) likewise documented Filipino teachers' concern about the curricular future and social relevance of their discipline.

The literature on science and language integration described a contrasting professional model in which language expertise is treated as integral to disciplinary teaching. Lee et al. (2023) presented teacher professional development for multilingual science as work that integrates science and language rather than positioning language support outside the discipline. Wyson and Genuino (2025) similarly documented language flexibility within advanced secondary science classes rather than only within language-subject periods. Across these sources, professional roles differed according to whether language was treated as a separate remedial or cultural concern or as part of disciplinary knowledge work.

IV. DISCUSSION

The central finding of this review is that the marginalization of Filipino in STEM-centric urban secondary schools is best understood as a relational institutional process, not as a simple question of whether Filipino appears on the curriculum. Subject hierarchies operate through protected instructional time, assessment visibility, staffing priorities, facilities, public narratives of future utility, and the perceived intellectual seriousness of disciplines. Araneda et al. (2021) show how schools socialize learners into such hierarchies, while Davies and Trowsdale (2021) explain how disciplinary cultures preserve unequal influence within a multi-subject curriculum. Applied to the Philippine context, this means Filipino can remain formally recognized while still being positioned outside the institutional center if STEM, coding, research, and English become the principal markers of academic excellence and future readiness.

This interpretation also explains why the issue should not be framed as an argument against STEM. Delahunty (2025) is useful precisely because the critique is directed at the economic and ideological narrowing of science curriculum, not at scientific knowledge itself. A strong STEM curriculum is essential for scientific literacy, national development, technological competence, and students' access to expanding fields of work. The problem emerges when the language of competitiveness turns STEM from a set of important disciplines into a hierarchy-making principle that determines what counts as intellectually consequential. Under that logic, subjects whose value is harder to express through salaries, international rankings, or technical credentials may be treated as supportive rather than constitutive of education. Filipino is especially exposed because language and humanities subjects can be recast as cultural enrichment while STEM and English are cast as future infrastructure.

The Philippine language context intensifies this hierarchy because English has both practical value and symbolic power. Martin (2019) demonstrates that English in the Philippines is not merely an imported code; Philippine English has developed its own history and local legitimacy. Yet Tupas (2020) reminds scholars that English varieties still exist within unequal postcolonial social relations. The relevant policy question is therefore not whether students should learn English. They should. The question is whether high English proficiency requires schools to restrict the epistemic role of Filipino. The literature reviewed here offers little support for that assumption. Lising et al. (2020) show that Filipino academic users already move across Tagalog and English, and Philippine classroom studies reveal similar flexibility in disciplinary contexts (Bravo-Sotelo & Metila, 2023; De Los Reyes & Bagona, 2024; Wyson & Genuino, 2025).

This evidence exposes a significant policy paradox. The Bilingual Education Policy calls for the continuing intellectualization of Filipino and explicitly avoids defining English as the exclusive language of science and technology (Department of Education, 1987). If schools nevertheless reserve high-status scientific explanation, formal research, and technical argument almost entirely for English, they reproduce the very epistemic boundary that the policy leaves open. Marginalization in this sense is not a ban on Filipino. It is the repeated institutional message that Filipino is appropriate for discussing identity, culture, interpersonal life, or the language subject itself, while complex scientific and technical knowledge belongs elsewhere. Ringor et al. (2024) capture one consequence of this arrangement: Filipino teachers can experience curriculum reform as a threat not only to workload but to the public relevance of their discipline.

The 2025 senior high school consultation illustrates how this process can become visible during curriculum compression. A smaller common core necessarily forces decisions about what all students must study. General Mathematics and General Science retained explicit positions in the consultation proposal, while a standalone Filipino course was not among the five proposed common subjects (Department of Education, 2025a). That document was a consultation-stage proposal, and it should not be treated as final evidence of subject elimination. Its analytic importance lies elsewhere: curricular streamlining makes subject hierarchy legible. When policymakers compress the curriculum, the categories that retain protected common-core status reveal what the system considers universally indispensable. For Filipino, this creates a recurring need to justify its place in terms stronger than cultural symbolism alone.

The strongest basis for such justification is epistemic rather than defensive. Science learning is language-rich work. Students must define, classify, compare, infer, model, explain, evaluate evidence, argue from data, negotiate procedures, and communicate uncertainty. González-Howard et al. (2023) show that the language views adopted in science classrooms shape access to these practices. Grapin et al. (2023) go further by distinguishing equity that merely gives multilingual students access to dominant discourse from equity that transforms which communicative resources are recognized as legitimate. From this perspective, Filipino is not simply another subject competing for minutes. It can function as part of the communicative infrastructure through which learners build and test disciplinary meaning.

The Philippine evidence supports this repositioning. Bravo-Sotelo and Metila (2023) found that code-switching in mathematics served ideational functions central to content instruction, not only rapport or classroom management. De Los Reyes and Bagona (2024) documented translanguaging as a resource for science learning in a highly multilingual Philippine setting. Most compelling for the present review, Wyson and Genuino (2025) showed that students and teachers in an English-medium Philippine science high school used translanguaging during laboratory discussion, troubleshooting, instruction, and other forms of scientific participation. These are not peripheral activities. They are part of how science is done in classrooms. The implication is not that all STEM instruction should shift to Filipino, but that a rigid equation of English with scientific rigor misdescribes actual expert classroom practice.

International evidence strengthens this point while also setting limits. Lemmi et al. (2019) show that science teachers can hold language-exclusive or language-inclusive ideologies, and Brown et al. (2019) provide experimental evidence that unnecessarily complex scientific language can consume cognitive resources. Karlsson et al. (2020) and Licona and Kelly (2020) illustrate how learners use more than one language to sustain conceptual continuity and construct scientific arguments. Hou et al. (2025) synthesize a broader K-12 evidence base in which translanguaging appears across diverse science contexts. These studies cannot establish that Filipino will produce the same outcomes in every Philippine urban high school, but they make a monolingual default difficult to defend as the only route to disciplinary precision.

A publication-ready policy response should therefore move beyond the binary choice between preserving Filipino as a standalone subject and integrating it across the curriculum. Both functions matter. First, Filipino requires protected disciplinary space because language study, literature, rhetoric, sociolinguistic awareness, and national cultural discourse are bodies of knowledge in their own right. If Filipino appears only as a tool used by other subjects, the discipline can lose its own intellectual architecture. Second, Filipino should also have cross-curricular epistemic status. Schools can require students to explain scientific concepts for Filipino-speaking publics, translate technical claims with attention to conceptual equivalence, produce bilingual research abstracts, develop Filipino terminology where appropriate, analyze misinformation in Filipino media, and communicate quantitative evidence to local communities. Such work turns Filipino from a ceremonial marker of identity into a language of public reasoning.

This cross-curricular model is also compatible with strong English outcomes. Lee and Stephens (2020) argue that contemporary STEM and language perspectives treat disciplinary and language learning as mutually supportive. Lee et al. (2023) similarly conceptualize teacher development that integrates science and language. In a Philippine school, that principle can support planned collaboration between Filipino and STEM teachers rather than competition for prestige. A science teacher may focus on conceptual accuracy, evidence, and disciplinary practice, while a Filipino teacher contributes expertise in explanation, register, audience, argument, translation, rhetoric, and public communication. The product is not diluted science. It is more demanding scientific literacy because students must move knowledge across audiences and linguistic registers without losing precision.

Professional status should be addressed explicitly. Nordstrom (2020) demonstrates how teachers' identities are affected when their language work sits at an institutional periphery. Velasco (2025) shows that teacher language ideologies shape the enactment of multilingual policy in Philippine urban districts. These findings mean that curricular reform cannot succeed through revised subject names alone. School leadership must determine who is invited into curriculum design, who receives professional development, whose expertise is associated with innovation, and whose subject appears in research showcases, interdisciplinary projects, and institutional publicity. If every high-visibility innovation is branded as STEM or English while Filipino teachers are assigned primarily to celebrations, ceremonies, or remediation, the school reproduces symbolic marginalization even when formal teaching loads remain unchanged.

Urban STEM-centric schools also need a multilingual rather than merely bilingual conception of equity. Filipino is nationally important, but it is not the first language of all learners. The country contains extensive regional linguistic diversity, and Velasco (2025) documents the way local language ideologies shape policy implementation. Republic Act No. 12027 (Republic of the Philippines, 2024) likewise confirms that regional languages remain relevant even after the shift away from mandatory mother-tongue instruction in the early grades. A policy that strengthens Filipino by silencing Cebuano, Ilocano, Hiligaynon, Waray, Maranao, or other regional languages would reproduce the same hierarchy at a different level. The more defensible goal is additive multilingualism: strong Filipino, strong English, respect for regional languages, and deliberate use of the full linguistic repertoire when it advances learning and inclusion.

For school governance, the review points to a set of institutional tests that are more useful than simply counting Filipino periods. Leaders can ask whether Filipino appears in high-status interdisciplinary projects, whether students may use it to demonstrate complex reasoning before translating or extending that reasoning into English, whether scientific communication tasks include Filipino-speaking audiences, whether Filipino teachers participate in research and innovation programs, and whether budget and professional development decisions treat language expertise as part of academic excellence. These questions make marginalization observable at the level where it is produced: routines, priorities, and recognition. They also preserve the legitimate strengths of a STEM-focused school while broadening the definition of what a future-ready Filipino learner must be able to do.

The broader implication is that language policy and curriculum policy should not be designed on separate tracks. A STEM curriculum always contains assumptions about language because scientific knowledge must be represented, argued, taught, assessed, and communicated. A language curriculum always contains assumptions about knowledge because sophisticated language develops through engagement with consequential ideas. Treating Filipino as disconnected from STEM therefore weakens both sides of the curriculum. The evidence synthesized here supports a model in which English remains a major language of international scientific participation, Filipino gains a stronger role in disciplinary explanation and public knowledge, and regional languages remain available as resources for access, identity, and meaning. Such a model replaces the hierarchy of languages with a functional ecology of academic communication.

V. LIMITATIONS

This review has several limitations. First, the direct empirical literature on the marginalization of Filipino specifically within urban STEM-centric Philippine secondary schools is small. The synthesis therefore includes adjacent evidence from elementary and tertiary Philippine classrooms, international multilingual STEM studies, and general research on subject hierarchy. These sources clarify mechanisms but cannot substitute for school-level comparative data from Philippine urban high schools. Second, the review is narrative rather than systematic. Although the search and selection process was structured and the corpus was verified, database coverage was not designed to establish exhaustive retrieval, and no formal risk-of-bias instrument was applied across the heterogeneous evidence base. Third, several Philippine studies document translanguaging or teacher perceptions rather than causal effects on achievement, long-term language proficiency, or teacher career outcomes. The discussion therefore treats these studies as evidence of functions and institutional meanings, not as proof of universal learning gains.

The review also closes its main evidence window on December 31, 2025. Senior high school policy remained in transition during this period, so consultation-stage curriculum arrangements should not be confused with later finalized or revised implementation. In addition, urban schools differ substantially by sector, selectivity, resources, language composition, and institutional mission. A science high school, a private metropolitan school, and a large public comprehensive high school may all be STEM-oriented in different ways. Finally, Filipino is not equivalent to every learner's mother tongue. The review distinguishes Filipino from regional Philippine languages, but the available evidence does not permit detailed analysis of how the marginalization or elevation of Filipino interacts with each regional linguistic community.

VI. CONCLUSION

The marginalization of Filipino in STEM-centric urban secondary education is not adequately captured by the question of whether the subject remains on the timetable. The more consequential issue is whether Filipino is protected as a discipline, recognized as a language of complex knowledge, and connected to the high-status intellectual work through which schools define excellence. Contemporary evidence shows that subject hierarchies favor disciplines associated with future economic utility, while Philippine language history gives English substantial academic prestige. At the same time, classroom research demonstrates that multilingual repertoires, including Filipino or Tagalog, already contribute to mathematical explanation, scientific discussion, laboratory problem solving, argumentation, and conceptual access. A high-quality STEM school therefore does not need to choose between global competence and Filipino. It can sustain rigorous English and STEM instruction while giving Filipino protected curricular space and a legitimate role in research, explanation, translation, public science communication, and interdisciplinary inquiry. The aim is not to displace English or dilute STEM. It is to prevent a hierarchy in which only one language is treated as capable of carrying advanced knowledge.

Author Contributions

The author conceptualized the review, developed the search strategy, synthesized the evidence, interpreted the findings, prepared the language support framework, and approved the final manuscript.

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Ethics Approval and Informed Consent

Ethics approval and informed consent were not required because this study reviewed and synthesized previously published literature and publicly available curriculum materials and did not involve direct participation of human subjects.

Competing Interests

The author declares no competing interests.

Data Availability

All evidence discussed in this review is available in the cited publications and official sources. The structured evidence matrix used for synthesis can be made available by the author upon reasonable request.

Declaration of AI Use

A generative artificial intelligence tool was used to assist with language refinement, structural organization, and consistency checking during manuscript preparation. Scholarly claims and bibliographic details were checked against source records, and responsibility for the final content rests with the author.

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