



MAHALAGA BA ANG INGLES BILANG MIDYUM NG PAGTUTURO SA PATHFIT? ISANG PAGSUSURI NG EPEKTO NITO SA KONSEPTWAL NA PAG-UNAWA, PAKIKIPAG-UGNAYAN NG MAG-AARAL, AT AKADEMIKONG PAGGANAP SA MGA PROGRAMANG BACHELOR'S DEGREE

**DOES ENGLISH AS A MEDIUM OF INSTRUCTION IN PATHFIT MATTER?
AN EXAMINATION OF ITS EFFECTS ON CONCEPTUAL UNDERSTANDING,
STUDENT ENGAGEMENT, AND ACADEMIC PERFORMANCE IN BACHELOR'S
DEGREE PROGRAMS**

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ABSTRACT

The role of English as a medium of instruction (EMI) in Physical Activity Towards Health and Fitness (PATHFIT) courses remains underexplored in Philippine higher education research, despite the subject's mandatory status across all bachelor's degree programs under CHED Memorandum Order No. 25, s. 2018. This mixed-methods quasi-experimental study investigated whether the language of instruction—English, Filipino, or bilingual code-switching—significantly affects the conceptual understanding, student engagement, and academic performance of first-year college students enrolled in PATHFIT 1 and PATHFIT 2 in three state universities in Cebu City. A total of 192 students were assigned to three instructional groups: English-medium ($n = 64$), Filipino-medium ($n = 64$), and bilingual code-switching ($n = 64$). Data were gathered across one academic semester through validated pre-tests and post-tests measuring PATHFIT conceptual understanding, a validated Student Engagement in Physical Education Scale (SEPES), classroom observation protocols, and focus group discussions. Results indicated that the Filipino-medium group registered significantly higher post-test conceptual understanding scores ($M = 82.47$, $SD = 6.34$) than the English-medium group ($M = 74.18$, $SD = 8.21$) and the code-switching group ($M = 79.35$, $SD = 7.10$), with ANOVA yielding $F(2, 189) = 21.63$, $p < .001$, $\eta^2 = .19$. Student engagement scores followed a similar pattern, with Filipino-medium students reporting significantly higher behavioral and cognitive engagement. Qualitative findings revealed that English-medium instruction created comprehension barriers for fitness terminology, reduced student willingness to participate in guided movement activities, and generated anxiety among students with limited English proficiency. These findings challenge the de facto dominance of English in PATHFIT instruction and underscore the need for language-responsive pedagogical approaches in Philippine physical education at the tertiary level.

Ang papel ng Ingles bilang midyum ng pagtuturo (EMI) sa mga kursong Physical Activity Towards Health and Fitness (PATHFIT) ay nananatiling hindi sapat na sinaliksik sa pananaliksik sa mataas na edukasyon ng Pilipinas, sa kabila ng mandatoryong katayuan ng paksa sa lahat ng mga programang bachelor's degree sa ilalim ng CHED Memorandum Order No. 25, s. 2018. Ang mixed-methods quasi-experimental na pag-aaral na ito ay siniasat kung ang midyum ng pagtuturo—Ingles, Filipino, o bilinggwal na code-switching—ay makabuluhang nakakaapekto sa konseptwal na pag-unawa, pakikipag-ugnayan ng mag-aaral, at akademikong pagganap ng mga unang-taon na kolehiyong mag-aaral na naka-enrol sa PATHFIT 1 at PATHFIT 2 sa tatlong state university sa Lungsod ng Cebu. Kabuuang 192 na mag-aaral ang itinalaga sa tatlong pangkat ng pagtuturo: Ingles ($n = 64$), Filipino ($n = 64$), at bilinggwal na code-switching ($n = 64$). Ang datos ay nakalap sa loob ng isang akademikong semestre sa pamamagitan ng mga validated na pre-test at post-test na sumusukat ng konseptwal na pag-unawa sa PATHFIT, isang validated na Student Engagement in Physical



Education Scale (SEPES), mga protokol sa obserbasyon sa silid-aralan, at mga focus group discussion. Ipinakita ng mga resulta na ang pangkat na Filipino ay nakakuha ng mas mataas na marka sa konseptwal na pag-unawa sa post-test ($M = 82.47$, $SD = 6.34$) kaysa sa pangkat na Ingles ($M = 74.18$, $SD = 8.21$) at sa pangkat ng code-switching ($M = 79.35$, $SD = 7.10$), na may ANOVA na nagbunga ng $F(2, 189) = 21.63$, $p < .001$, $\eta^2 = .19$. Ang mga marka ng pakikipag-ugnayan ng mag-aaral ay sumusunod sa katulad na pattern. Ipinakita ng mga kwalitatibong natuklasan na ang pagtuturo sa Ingles ay lumikha ng mga hadlang sa pag-unawa para sa terminolohiya ng fitness, binawasan ang pagpayag ng mga mag-aaral na lumahok sa mga guided na aktibidad sa galaw, at nagbigay ng pagkabalisa sa mga mag-aaral na may limitadong kasanayan sa Ingles. Ang mga natuklasang ito ay nagtatanong sa de facto na dominasyon ng Ingles sa pagtuturo ng PATHFIT.

Keywords: English medium instruction, PATHFIT, physical education, language of instruction, student engagement, conceptual understanding, bachelor's degree, higher education Philippines

INTRODUCTION

Physical Activity Towards Health and Fitness, commonly referred to as PATHFIT, is a mandatory general education course sequence required of all bachelor's degree students in the Philippines under the revised general education curriculum mandated by the Commission on Higher Education (CHED Memorandum Order No. 25, s. 2018). The PATHFIT program encompasses four sequential courses—PATHFIT 1 (Movement Competency Training), PATHFIT 2 (Exercise-Based Fitness Activities), PATHFIT 3 (Sport), and PATHFIT 4 (Dance)—and is designed to develop in students the knowledge, skills, and values necessary for lifelong physical activity and health-related fitness. Despite the course's universal presence in Philippine tertiary education, the language in which PATHFIT is taught has received virtually no systematic empirical attention. In practice, the medium of instruction in PATHFIT across Philippine universities varies considerably: some institutions prescribe English, others allow Filipino, and many leave the choice to individual instructors, who typically code-switch between English, Filipino, and regional languages depending on class dynamics (De Guzman & Ngo, 2020; Santos & Bernabe, 2023).

Ang Physical Activity Towards Health and Fitness, na karaniwang tinutukoy bilang PATHFIT, ay isang mandatoryong kursong pangkalahatang edukasyon na kinakailangan ng lahat ng mga mag-aaral sa bachelor's degree sa Pilipinas sa ilalim ng binagong kurikulum ng pangkalahatang edukasyon na iniaatas ng Commission on Higher Education (CHED Memorandum Order No. 25, s. 2018). Ang programang PATHFIT ay sumasaklaw sa apat na sunud-sunod na kurso—PATHFIT 1 (Movement Competency Training), PATHFIT 2 (Exercise-Based Fitness Activities), PATHFIT 3 (Sport), at PATHFIT 4 (Dance)—at idinisenyo upang paunlarin sa mga mag-aaral ang kaalaman, kasanayan, at mga pagpapahalaga na kinakailangan para sa panghabambuhay na pisikal na aktibidad at fitness na may kaugnayan sa kalusugan. Sa kabila ng pangkalahatang presensya ng kurso sa terteraryang edukasyon ng Pilipinas, ang wika kung saan ang PATHFIT ay itinaturo ay halos walang sistematikong empirical na atensyon.

This linguistic informality stands in contrast to the significant conceptual demands that PATHFIT places on students. PATHFIT courses require students not only to perform physical activities but to understand and apply concepts related to exercise physiology, fitness assessment, movement biomechanics, health behavior theory, and program design (Reyes & Santos, 2023). For Cebuano-speaking students who have spent their pre-tertiary years in varying degrees of English and Filipino instruction, the language in which these technical concepts are delivered may materially affect their capacity to understand, retain, and apply them. Research in multilingual educational contexts consistently demonstrates that language of instruction interacts with subject-matter complexity to shape learning outcomes in ways that are consequential for both academic achievement and student engagement (Cummins, 2000; Gibbons, 2009; Adesope et al., 2010).

Ang pangingibabaw ng Ingles sa mataas na edukasyon ng Pilipinas ay iniugnay sa maraming salik: kolonyal na kasaysayan, ang pandaigdigang prestihiyong ekonomiya ng Ingles, mga patakaran ng institusyon na minana mula sa



panahon ng kolonyal na Amerika, at ang praktikal na pangangailangan ng kasanayan sa Ingles para sa propesyonal at internasyonal na katatagan (Gonzalez, 1998; Nolasco, 2008). Sa mga larangan ng pisikal na edukasyon at kaugnay na kalusugan partikular, ang Ingles ay ipinapalagay na ang naaangkop na midyum ng pagtuturo dahil ang terminolohiya ng fitness at kalusugan ay kadalasang hiniram mula sa siyentipikong diskurso na nakabase sa Ingles. Gayunpaman, ang pagpapalagay na ito ay hindi pa nasubok nang empirikal laban sa mga alternatibo sa Filipino o bilinggwal sa konteksto ng PATHFIT sa Pilipinas.

The dominance of English in Philippine tertiary education has been attributed to multiple factors: colonial history, the global prestige economy of English, institutional policies inherited from the American colonial period, and the practical necessity of English proficiency for professional and international mobility (Gonzalez, 1998; Nolasco, 2008). In physical education and health-related fields specifically, English has been assumed to be the appropriate instructional medium because fitness and health terminology is largely borrowed from English-language scientific discourse. However, this assumption has not been empirically tested against Filipino-medium or bilingual alternatives in the Philippine PATHFIT context. Torres and Bautista (2021) and Dela Cruz and Villanueva (2022) have called attention to the absence of language-of-instruction research in Philippine physical education at the tertiary level, noting that the field has largely proceeded on the assumption that English instruction is either neutral or beneficial for student outcomes.

Hinalon ng kasalukuyang pag-aaral ang pagpapalagay na ito sa pamamagitan ng pagsasagawa ng isang quasi-experimental na imbestigasyon kung saan ang mga unang-taon na kolehiyong mag-aaral sa tatlong state university sa Cebu ay nakatanggap ng pagtuturo sa PATHFIT 1 at PATHFIT 2 sa ilalim ng tatlong iba't ibang kondisyon ng wika: Ingles, Filipino, at bilinggwal na code-switching. Ang pag-aaral ay idinisenyo upang sagutin ang parehong kwantitatibong mga tanong tungkol sa mga kinalabasan ng pagkatuto at kwalitatibong mga tanong tungkol sa karanasan ng mag-aaral, gawi ng guro, at papel ng wika sa paghubog ng partisipasyon at pakikipag-ugnayan sa pisikal na edukasyon sa antas kolehiyo.

The present study challenged this assumption by conducting a quasi-experimental investigation in which first-year college students in three Cebu state universities received PATHFIT 1 and PATHFIT 2 instruction under three different language conditions: English-medium, Filipino-medium, and bilingual code-switching. The study was designed to answer both quantitative questions about learning outcomes and qualitative questions about student experience, instructor practice, and the role of language in shaping participation and engagement in physical education at the college level.

Statement of the Problem

This study sought to answer the following research questions:

- (1) Is there a significant difference in the pre-test PATHFIT conceptual understanding scores of first-year college students across the English-medium, Filipino-medium, and bilingual code-switching instructional groups?
- (2) Is there a significant difference in the post-test PATHFIT conceptual understanding scores across the three instructional groups after one semester of differentiated instruction?
- (3) Is there a significant difference in the student engagement scores (behavioral, cognitive, and emotional) across the three instructional groups?
- (4) Which instructional language condition produces the highest gain scores from pre-test to post-test on the PATHFIT Conceptual Understanding Test?
- (5) What are the lived experiences of students and PATHFIT instructors regarding English as the medium of instruction in PATHFIT courses?

Layunin ng pag-aaral na ito na sagutin ang mga sumusunod na tanong sa pananaliksik:



- (1) Mayroon bang makabuluhang pagkakaiba sa mga pre-test na marka ng konseptwal na pag-unawa sa PATHFIT ng mga mag-aaral sa pagitan ng tatlong pangkat ng pagtuturo?
- (2) Mayroon bang makabuluhang pagkakaiba sa mga post-test na marka ng konseptwal na pag-unawa sa PATHFIT sa pagitan ng tatlong pangkat ng pagtuturo matapos ang isang semestre ng niba-ibang pagtuturo?
- (3) Mayroon bang makabuluhang pagkakaiba sa mga marka ng pakikipag-ugnayan ng mag-aaral (behavioral, cognitive, at emosyonal) sa pagitan ng tatlong pangkat ng pagtuturo?
- (4) Aling kondisyon ng midyum ng pagtuturo ang nagbubunga ng pinakamataas na gain scores mula pre-test hanggang post-test sa PATHFIT Conceptual Understanding Test?
- (5) Ano ang mga karanasan ng mga mag-aaral at guro ng PATHFIT kaugnay ng Ingles bilang midyum ng pagtuturo sa mga kursong PATHFIT?
- (4) Ano ang mga karanasan ng mga kolehiyong mag-aaral at guro kaugnay ng pagtuturo ng Agham Pangkalikasan sa Wikang Ina at sa Filipino?

Significance of the Study

The findings of this study carry direct implications for PATHFIT instructors, physical education curriculum designers, and CHED policymakers. For instructors, this study offers the first quasi-experimental evidence on how instructional language choices in PATHFIT courses affect student conceptual learning and engagement, providing an empirical foundation for language-informed pedagogical decisions. For curriculum designers, the study illuminates which PATHFIT concepts—fitness assessment protocols, exercise prescription principles, movement terminology—are most sensitive to language-of-instruction effects, informing the development of more linguistically accessible teaching materials and assessment tools. For CHED, the findings contribute to the broader evidence base informing language policy in tertiary physical education and may support future revisions of the PATHFIT curriculum guidelines to include language-responsive instructional standards.

Ang mga natuklasan ng pag-aaral na ito ay may direktang implikasyon para sa mga guro ng PATHFIT, mga taga-disenyo ng kurikulum sa pisikal na edukasyon, at mga gumagawa ng patakaran ng CHED. Para sa mga guro, ang pag-aaral na ito ay nagbibigay ng unang quasi-experimental na ebidensya kung paano ang mga pagpili ng midyum ng pagtuturo sa mga kursong PATHFIT ay nakakaapekto sa konseptwal na pagkatuto at pakikipag-ugnayan ng mag-aaral. Para sa mga taga-disenyo ng kurikulum, ang pag-aaral ay naglililaw kung aling mga konsepto ng PATHFIT ang pinakasensitibo sa mga epekto ng midyum ng pagtuturo. Para sa CHED, ang mga natuklasan ay nag-aambag sa mas malawak na base ng ebidensya na nagpapaalam ng patakaran sa wika sa terteraryang pisikal na edukasyon.

REVIEW OF RELATED LITERATURE

Theoretical Foundations

The theoretical framework for this study draws on three complementary bodies of scholarship. First, Cummins' (2000, 2007) Interdependence Hypothesis provides the foundational argument that academic proficiency developed in a first language transfers positively to additional languages and that monolingual instructional policies that exclude the learner's most proficient linguistic resources impose unnecessary cognitive burdens on content learning. For PATHFIT students, this translates to the proposition that conceptual content—exercise physiology principles, fitness testing protocols, movement biomechanics terminology—may be more readily acquired and retained when instruction leverages the student's most proficient language, rather than requiring simultaneous language and content acquisition. Cummins' distinction between Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP) is particularly pertinent here: while many students may have sufficient English BICS for casual communication, the CALP required to process academic fitness and health texts may exceed their English proficiency, creating a comprehension deficit that masquerades as poor physical education engagement.



Second, Vygotsky's (1978) sociocultural theory, extended to language-in-education contexts by Lantolf and Thorne (2006), positions language as the primary tool through which learners internalize new concepts and regulate their own learning. In physical education, verbal instruction is inseparable from physical demonstration: instructors use language to introduce, explain, correct, and elaborate on movement patterns, exercise techniques, and health concepts. When the language of this verbal scaffolding is not fully accessible to learners, the scaffolding function is disrupted—students may be able to mimic observed movements without truly understanding the principles governing them, or may fail to understand instructor corrections, reducing both the safety and effectiveness of physical activity instruction (Yap & Alcantara, 2022).

Third, Garcia and Wei's (2014) translanguaging framework provides theoretical grounding for the code-switching condition by positioning multilingual repertoire use not as a pedagogical deficit but as a cognitively sophisticated and potentially productive academic practice. In physical education contexts, strategic translanguaging may allow instructors to deliver precise technical English terminology while ensuring conceptual accessibility through Filipino or regional language explanations—a practice that several studies suggest occurs organically in Philippine physical education classrooms regardless of official language policies (De Guzman & Ngo, 2020; Santos & Bernabe, 2023).

Mga Teoretikal na Pundasyon

Ang teoretikal na balangkas para sa pag-aaral na ito ay kumukuha mula sa tatlong komplementaryong katawan ng pag-aaral. Una, ang Interdependence Hypothesis ni Cummins (2000, 2007) ay nagbibigay ng pangunahing argumento na ang akademikong kasanayan na nabuo sa unang wika ay positibong naililipat sa mga karagdagang wika at ang mga patakarang monolinggwala na pagtuturo na nagbubukod ng pinaka-bihasa na linggwistikal na mapagkukunan ng mag-aaral ay nagpapataw ng hindi kinakailangang pasanin sa pag-iisip sa pagkatuto ng nilalaman. Para sa mga mag-aaral ng PATHFIT, isinasalin nito sa proposisyon na ang konseptwal na nilalaman—mga prinsipyo ng exercise physiology, mga protokol ng fitness testing, terminolohiya ng biomechanics ng galaw—ay maaaring mas madaling makuha at mapanatili kapag ang pagtuturo ay ginagamit ang pinaka-bihasa na wika ng mag-aaral.

Pangalawa, ang sosyokultural na teorya ni Vygotsky (1978), na pinapalawak sa mga konteksto ng wika sa edukasyon ni Lantolf at Thorne (2006), ay nagpoposisyon ng wika bilang pangunahing kasangkapan kung saan ang mga mag-aaral ay nagpapaloob ng mga bagong konsepto at namamahala sa kanilang sariling pagkatuto. Sa pisikal na edukasyon, ang verbal na pagtuturo ay hindi mapaghihiwalay mula sa pisikal na demonstrasyon: ang mga guro ay gumagamit ng wika upang ipakilala, ipaliwanag, itama, at palawakin ang mga pattern ng galaw, mga teknik sa ehersisyo, at mga konsepto ng kalusugan. Kapag ang wika ng verbal na scaffolding na ito ay hindi ganap na na-access ng mga mag-aaral, ang scaffolding function ay nagagambala (Yap & Alcantara, 2022).

Pangatlo, ang translanguaging na balangkas nina Garcia at Wei (2014) ay nagbibigay ng teoretikal na batayan para sa kondisyon ng code-switching sa pamamagitan ng pagpoposisyon ng paggamit ng multilinggwala na repertoire hindi bilang isang pedagogikal na kakulangan kundi bilang isang cognitively sophisticated at potensyal na produktibong akademikong gawi. Sa mga konteksto ng pisikal na edukasyon, ang estratehikong translanguaging ay maaaring payagan ang mga guro na maihatid ang tumpak na teknikal na terminolohiya sa Ingles habang tinitiyak ang konseptwal na accessibility sa pamamagitan ng mga paliwanag sa Filipino o rehiyonal na wika.

English Medium Instruction in Philippine Higher Education

English medium instruction (EMI) has a long history in Philippine higher education, rooted in the American colonial establishment of English as the primary language of formal education in the early twentieth century (Gonzalez, 1998). The Commission on Higher Education has not issued a blanket EMI mandate for all tertiary programs, but institutional culture, market pressures, and assumptions about English's professional utility have sustained EMI as the de facto norm in most Philippine universities, particularly in science, technology, and professional programs (Balagtas et al., 2019; Bernardo, 2018). Research on EMI effectiveness in Philippine higher education has produced mixed results. Bernardo (2018) documented that EMI in science and mathematics courses consistently



disadvantaged students from non-English-dominant households. Alieto (2018) found that pre-service teachers' attitudes toward EMI were positive in the abstract but negative in practice when they experienced its effects on student comprehension. Ricafort and Yap (2022) reported that Filipino-medium instruction outperformed EMI in conceptual assessment scores across multiple science subjects in Visayan institutions.

In the physical education and PATHFIT-specific literature, Torres and Bautista (2021) conducted a cross-sectional survey of PATHFIT students across five Cebu universities and found that 68% reported difficulty understanding fitness assessment instructions and exercise prescription concepts when delivered in English, while 79% reported that they would understand these concepts better in Filipino or their regional language. Dela Cruz and Villanueva (2022) compared student attitudes toward PATHFIT instruction across language conditions and found significantly more positive attitudes toward Filipino-medium instruction, particularly regarding the clarity of movement instructions and the accessibility of health-related fitness concepts. Pascua and Ereñeta (2021) documented that physical education students who received instruction in Filipino showed higher behavioral engagement—measured through time-on-task, participation rates, and self-reported effort—compared with English-medium peers.

Pagtuturo sa Midyum na Ingles sa Mataas na Edukasyon ng Pilipinas

Ang pagtuturo sa midyum na Ingles (EMI) ay may mahabang kasaysayan sa mataas na edukasyon ng Pilipinas, na nakaugat sa Amerikanong kolonyal na pagtatatag ng Ingles bilang pangunahing wika ng pormal na edukasyon sa unang bahagi ng ikadalawampung siglo (Gonzalez, 1998). Sa PATHFIT-specific na literatura, natuklasan nina Torres at Bautista (2021) na 68% ng mga mag-aaral ng PATHFIT ang nag-ulat ng kahirapan sa pag-unawa ng mga tagubilin sa fitness assessment at mga konsepto ng exercise prescription kapag inihatid sa Ingles, habang 79% ang nag-ulat na mas maiintindihan nila ang mga konseptong ito sa Filipino o sa kanilang rehiyonal na wika. Sina Dela Cruz at Villanueva (2022) ay naghambing ng mga saloobin ng mag-aaral sa pagtuturo ng PATHFIT sa iba't ibang kondisyon ng wika at natuklasan ang mas positibong mga saloobin patungo sa pagtuturo sa Filipino.

Student Engagement in Physical Education

Student engagement in physical education is a multidimensional construct comprising behavioral engagement (active participation, effort, persistence), cognitive engagement (application of concepts, strategic thinking about fitness), and emotional engagement (interest, enjoyment, sense of belonging in the physical activity context) (Yap & Alcantara, 2022). Research consistently demonstrates that language accessibility is a significant moderator of all three engagement dimensions in educational settings (Adesope et al., 2010; Lin, 2015). In physical education specifically, language barriers have been found to suppress behavioral engagement by reducing students' willingness to ask questions about technique, seek instructor feedback, or volunteer for demonstration roles—all behaviors that require sufficient linguistic confidence to perform (De Guzman & Ngo, 2020; Pascua & Ereñeta, 2021).

Cognitive engagement in PATHFIT is particularly language-sensitive because it involves students applying theoretical principles—such as the FITT principle (Frequency, Intensity, Time, and Type of exercise), the overload principle, or the specificity principle—to their personal fitness contexts. These applications require both conceptual understanding of the principle and linguistic facility in discussing it, planning based on it, and justifying choices using it. When these concepts are delivered in English to students with limited English CALP, cognitive engagement may be shallow: students complete tasks without internalizing the underlying principles, producing what Reyes and Santos (2023) call “pseudo-engagement”—behavioral compliance without genuine cognitive investment.

Pakikipag-ugnayan ng Mag-aaral sa Pisikal na Edukasyon

Ang pakikipag-ugnayan ng mag-aaral sa pisikal na edukasyon ay isang multidimensional na konstrukto na kinabibilangan ng behavioral na pakikipag-ugnayan (aktibong partisipasyon, pagsisikap, pagtitiyaga), cognitive na pakikipag-ugnayan (aplikasyon ng mga konsepto, estratehikong pag-iisip tungkol sa fitness), at emosyonal na pakikipag-ugnayan (interes, kasiyahan, pakiramdam ng pagmamay-ari sa konteksto ng pisikal na aktibidad) (Yap &



Alcantara, 2022). Natuklasan ng mga pananaliksik na ang accessibility ng wika ay isang makabuluhang moderator ng lahat ng tatlong dimensyon ng pakikipag-ugnayan sa mga setting ng edukasyon (Adesope et al., 2010; Lin, 2015). Sa pisikal na edukasyon partikular, ang mga hadlang sa wika ay natuklasang nagpipigil ng behavioral na pakikipag-ugnayan sa pamamagitan ng pagbabawas ng pagpayag ng mga mag-aaral na magtanong tungkol sa teknik, humingi ng feedback mula sa guro, o mag-volunteer para sa mga papel sa demonstrasyon.

Code-Switching in Physical Education Classrooms

De Guzman and Ngo (2020) observed that code-switching between English, Filipino, and regional languages was near-universal in the Philippine physical education classrooms they studied, regardless of institutional language policy. Instructors reported that they code-switched most frequently when introducing new fitness terminology, correcting movement errors, providing safety instructions, and responding to student questions—precisely the moments when language clarity is most critical to both learning and student safety. Santos and Bernabe (2023) found that PATHFIT instructors who employed structured, planned code-switching—rather than ad hoc switching—achieved higher student comprehension scores and reported fewer student injuries attributable to misunderstood instructions, though the latter finding was based on self-report data and requires caution in interpretation.

The qualitative literature on code-switching in Philippine physical education suggests that the practice is generally perceived positively by students, who describe it as making instruction feel more personal, culturally inclusive, and accessible (Torres & Bautista, 2021). However, Menken and Garcia (2010) and Cenoz (2015) caution that unstructured code-switching can undermine systematic academic language development if not embedded within a coherent language learning framework—a concern that is particularly relevant for PATHFIT students who will be required to use English fitness terminology in professional or clinical contexts after graduation.

Code-Switching sa mga Silid-Aralan ng Pisikal na Edukasyon

Natuklasan nina De Guzman at Ngo (2020) na ang code-switching sa pagitan ng Ingles, Filipino, at mga rehiyonal na wika ay halos pangkalahatan sa mga silid-aralan ng pisikal na edukasyon sa Pilipinas na kanilang pinag-aralan, anuman ang patakaran sa wika ng institusyon. Nag-ulat ang mga guro na sila ay nag-code-switch nang pinakamalimit kapag nagpapakilala ng bagong terminolohiya ng fitness, nagtatama ng mga pagkakamali sa galaw, nagbibigay ng mga tagubilin sa kaligtasan, at tumutugon sa mga katanungan ng mag-aaral. Natuklasan nina Santos at Bernabe (2023) na ang mga guro ng PATHFIT na gumagamit ng structured, planado na code-switching ay nakamit ang mas mataas na marka ng pag-unawa ng mag-aaral.

PATHFIT Curriculum Policy and Language

CHED Memorandum Order No. 25, s. 2018, which established the current PATHFIT curriculum framework, does not specify a language of instruction for PATHFIT courses, leaving this decision to individual higher education institutions. In practice, most PATHFIT syllabi examined by Torres and Bautista (2021) were written in English, and most assessment instruments—fitness tests, concept quizzes, performance rubrics—were administered in English, even in institutions that informally permitted Filipino or code-switching in actual instruction. This gap between English-based assessment and non-English instruction creates a further layer of linguistic complexity for students: they may understand PATHFIT concepts in Filipino but struggle to demonstrate that understanding in English-medium assessments. Reyes and Santos (2023) have proposed that CHED revise the PATHFIT curriculum guidelines to include explicit language-of-instruction and language-of-assessment standards that reflect the linguistic diversity of Filipino bachelor's degree students.

Patakaran sa Kurikulum ng PATHFIT at Wika



Ang CHED Memorandum Order No. 25, s. 2018, na nagtatag ng kasalukuyang balangkas ng kurikulum ng PATHFIT, ay hindi tumutukoy ng isang midyum ng pagtuturo para sa mga kursong PATHFIT, na iniwan ang desisyong ito sa mga indibidwal na institusyong mataas na edukasyon. Sa kasanayan, karamihan sa mga syllabus ng PATHFIT na sinuri nina Torres at Bautista (2021) ay nakasulat sa Ingles, at karamihan sa mga instrumento ng pagtatasa ay isinasagawa sa Ingles, kahit sa mga institusyon na impormal na pinahintulutan ang Filipino o code-switching sa aktwal na pagtuturo. Iminungkahi nina Reyes at Santos (2023) na baguhin ng CHED ang mga alituntunin ng kurikulum ng PATHFIT upang isama ang mga tahasang pamantayan ng midyum ng pagtuturo at pagtatasa na sumasalamain sa linggwistikal na pagkakaiba-iba ng mga mag-aaral sa bachelor's degree ng Pilipinas.

METHODOLOGY

Research Design

This study employed a convergent parallel mixed-methods design (Creswell & Plano Clark, 2018), integrating a quasi-experimental quantitative strand with a concurrent phenomenological qualitative strand. The quasi-experimental strand utilized a pre-test–post-test non-equivalent groups design with three intact class sections as naturally occurring instructional conditions: (1) English-medium, (2) Filipino-medium, and (3) bilingual code-switching. The qualitative strand comprised classroom observations and focus group discussions to elucidate student experiences and instructor perspectives on language use in PATHFIT instruction.

Disenyo ng Pananaliksik

Ang pag-aaral na ito ay gumamit ng convergent parallel mixed-methods na disenyo (Creswell & Plano Clark, 2018), na pinagsama ang isang quasi-experimental na kwantitatibong strand at isang kasabay na phenomenological na kwalitatibong strand. Ang quasi-experimental na strand ay gumamit ng pre-test–post-test na disenyo ng hindi katumbas na grupo na may tatlong intact na seksyon ng klase bilang natural na nagaganap na mga kondisyon ng pagtuturo: (1) Ingles, (2) Filipino, at (3) bilinggwal na code-switching.

FIGURE 1

Conceptual Framework of the Study

Larawan 1. Konseptwal na Balangkas ng Pag-aaral

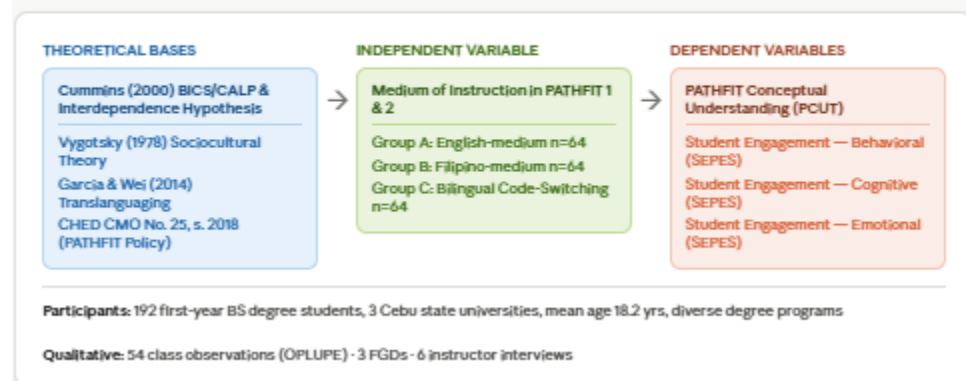


Figure 1. Conceptual Framework of the Study

Larawan 1. Konseptwal na Balangkas ng Pag-aaral



Research Site and Participants

The study was conducted across three state universities in Cebu City, Philippines, all of which offer PATHFIT 1 and PATHFIT 2 as mandatory first-year general education courses for all bachelor's degree students. Institutions were selected through purposive sampling on the criteria that each enrolled predominantly Cebuano-speaking first-year students and had at least two sections per PATHFIT course available for assignment to experimental conditions. A total of 192 first-year college students participated (mean age = 18.2 years, SD = 0.7; 104 female, 88 male), enrolled across diverse bachelor's degree programs (engineering, education, business, and health sciences). Students were distributed as: English-medium group (n = 64), Filipino-medium group (n = 64), and code-switching group (n = 64). Six PATHFIT instructors (two per institution) served as facilitators, each assigned to one instructional language condition. All students were native Cebuano speakers verified through a home language survey. Institutional ethics approval was secured from Cebu Technological University Research Ethics Board (Protocol No. CTU-REB-2024-007). All participants provided written informed consent prior to data collection.

Lugar ng Pananaliksik at mga Kalahok

Ang pag-aaral ay isinagawa sa tatlong state university sa Lungsod ng Cebu, Pilipinas, na lahat ay nag-aalok ng PATHFIT 1 at PATHFIT 2 bilang mga mandatoryong kursong pangkalahatang edukasyon sa unang taon para sa lahat ng mga mag-aaral sa bachelor's degree. Kabuuang 192 na unang-taon na kolehiyong mag-aaral ang lumahok (mean na edad = 18.2 taon, SD = 0.7; 104 babae, 88 lalaki), na naka-enrol sa iba't ibang mga programang bachelor's degree (engineering, edukasyon, negosyo, at agham pangkalusugan). Ang mga mag-aaral ay ipinamamahagi bilang: pangkat na Ingles (n = 64), pangkat na Filipino (n = 64), at pangkat ng code-switching (n = 64). Anim na guro ng PATHFIT ang nagsilbing mga facilitator. Ang Institutional ethics approval ay nakuha mula sa Cebu Technological University Research Ethics Board (Protocol No. CTU-REB-2024-007).

Instructional Treatment

All three groups covered identical PATHFIT 1 (Movement Competency Training) and PATHFIT 2 (Exercise-Based Fitness Activities) content drawn from the CHED-aligned PATHFIT curriculum framework. Topic coverage included: physical fitness components and assessment (FITT principle, health-related vs. skill-related fitness, fitness testing protocols), exercise science fundamentals (overload, progression, specificity, reversibility), movement competency (fundamental movement patterns, locomotor and non-locomotor skills, basic sport movements), and health behavior theory and wellness planning. Instructional materials—lecture guides, fitness activity protocols, assessment tools, and movement competency rubrics—were developed by the research team and participating instructors, then reviewed by two PATHFIT content experts and two applied linguists to ensure linguistic accuracy and conceptual equivalence across language versions. For the English group, all materials were delivered in English. For the Filipino group, all materials were delivered in Filipino. For the code-switching group, materials were bilingual, with structured translanguaging protocols. Treatment fidelity was monitored through bi-monthly classroom observations using an Instructional Language Fidelity Checklist (ILFC), yielding mean fidelity scores of 90.8% (English group), 91.5% (Filipino group), and 87.9% (code-switching group).

Paggamot sa Pagtuturo

Sakop ng lahat ng tatlong grupo ang magkaparehong nilalaman ng PATHFIT 1 at PATHFIT 2 mula sa CHED-aligned na balangkas ng kurikulum ng PATHFIT. Ang saklaw ng paksa ay kinabibilangan ng: mga bahagi ng fitness at pagtatasa (prinsipyo ng FITT, health-related vs. skill-related fitness, mga protokol ng fitness testing), mga pundamental ng agham sa ehersisyo (overload, progression, specificity, reversibility), kakayahan sa galaw, at teorya ng gawi sa kalusugan at pagpapalano ng wellness. Ang katapatan ng paggamot ay sinusubaybayan sa pamamagitan ng bi-monthly na mga obserbasyon sa silid-aralan gamit ang Instructional Language Fidelity Checklist (ILFC), na nagbunga ng mean fidelity scores na 90.8% (pangkat na Ingles), 91.5% (pangkat na Filipino), at 87.9% (pangkat ng code-switching).



Instruments

The PATHFIT Conceptual Understanding Test (PCUT) served as the primary quantitative instrument for measuring conceptual understanding. The PCUT comprised 45 multiple-choice items covering three cognitive levels: remembering/understanding (18 items; knowledge of fitness components, exercise principles, movement terminology), applying/analyzing (16 items; applying FITT principles to given scenarios, interpreting fitness assessment results), and evaluating/creating (11 items; designing personal fitness programs, critically evaluating health claims). English and Filipino language versions were developed to ensure language-neutral assessment. Content validation was conducted by a panel of five PATHFIT content experts (Content Validity Ratio = 0.86). Pilot testing with 38 non-participant first-year students yielded a mean item difficulty index of 0.54 and mean discrimination index of 0.36. Internal consistency reliability (Cronbach's α) was .85 (English version) and .84 (Filipino version). The Student Engagement in Physical Education Scale (SEPES) was the secondary quantitative instrument, measuring behavioral engagement (8 items), cognitive engagement (7 items), and emotional engagement (6 items) on a 5-point Likert scale (α = .89). For the qualitative strand, an Observation Protocol for Language Use in Physical Education (OPLUPE) guided 18 classroom and gymnasium observation sessions per group (54 total), and semi-structured interview guides informed three focus group discussions (6–8 students per FGD) and six individual instructor interviews.

Mga Instrumento

Ang PATHFIT Conceptual Understanding Test (PCUT) ay nagsilbing pangunahing kwantitatibong instrumento. Ang PCUT ay binubuo ng 45 multiple-choice na aytem na sumasaklaw sa tatlong antas ng pag-iisip: pag-alala/pag-unawa (18 aytem), pag-apply/pagsusuri (16 aytem), at pagtatasa/paglikha (11 aytem). Ang content validation ay isinagawa ng isang panel ng limang eksperto sa nilalaman ng PATHFIT (Content Validity Ratio = 0.86). Ang internal consistency reliability (Cronbach's α) ay .85 (bersyong Ingles) at .84 (bersyong Filipino). Ang Student Engagement in Physical Education Scale (SEPES) ay sumusukat ng behavioral na pakikipag-ugnayan (8 aytem), cognitive na pakikipag-ugnayan (7 aytem), at emosyonal na pakikipag-ugnayan (6 aytem) sa isang 5-puntong Likert scale (α = .89).

Data Analysis

Quantitative data were analyzed using IBM SPSS Statistics version 27. Pre-test equivalence was tested with one-way ANOVA. Post-test conceptual understanding scores and SEPES subscale scores were each analyzed using separate one-way ANOVAs with Tukey's HSD post-hoc comparisons. Effect size was reported as eta-squared (η^2). Gain scores were analyzed using paired-samples t-tests within groups and compared across groups via one-way ANOVA. The significance threshold was set at α = .05. Qualitative data were analyzed using reflexive thematic analysis (Braun & Clarke, 2006). Two researchers independently coded 30% of transcripts; inter-rater reliability was Cohen's κ = .81. Member checking was conducted with three instructor-participants and two student-participants to verify credibility of emerging themes.

Pagsusuri ng Datos

Ang mga kwantitatibong datos ay sinuri gamit ang IBM SPSS Statistics bersyon 27. Ang mga post-test na marka ng konseptwal na pag-unawa at mga subscale na marka ng SEPES ay bawat isa ay sinuri gamit ang magkakahiwalay na one-way ANOVA na may Tukey's HSD post-hoc na paghahambing. Ang effect size ay iniulat bilang eta-squared (η^2). Ang mga kwalitatibong datos ay sinuri gamit ang reflexive thematic analysis (Braun & Clarke, 2006). Ang inter-rater reliability ay Cohen's κ = .81.

RESULTS

Pre-Test Equivalence of Groups



Pretest PCUT mean scores across the three groups were comparable: English-medium group ($M = 46.84$, $SD = 7.32$), Filipino-medium group ($M = 47.21$, $SD = 7.65$), and code-switching group ($M = 46.97$, $SD = 7.14$). A one-way ANOVA confirmed non-significant group differences at baseline, $F(2, 189) = 0.09$, $p = .913$, $\eta^2 < .001$, confirming statistical equivalence among the three groups prior to treatment.

Pagkakapantay ng mga Grupo sa Pre-Test

Ang mga mean na marka ng pre-test ng PCUT sa tatlong grupo ay maihahambing: pangkat na Ingles ($M = 46.84$, $SD = 7.32$), pangkat na Filipino ($M = 47.21$, $SD = 7.65$), at pangkat ng code-switching ($M = 46.97$, $SD = 7.14$). Isang one-way ANOVA ay nagkumpirma ng hindi makabuluhang mga pagkakaiba ng grupo sa baseline, $F(2, 189) = 0.09$, $p = .913$, na nagkukumpirma ng istatistikal na pagkakapantay sa tatlong grupo bago ang paggamot.

Pre-Test Mean Scores of Three Instructional Groups

Larawan 2. Mga Mean na Marka sa Pre-Test ng Tatlong Pangkat ng Pagtuturo

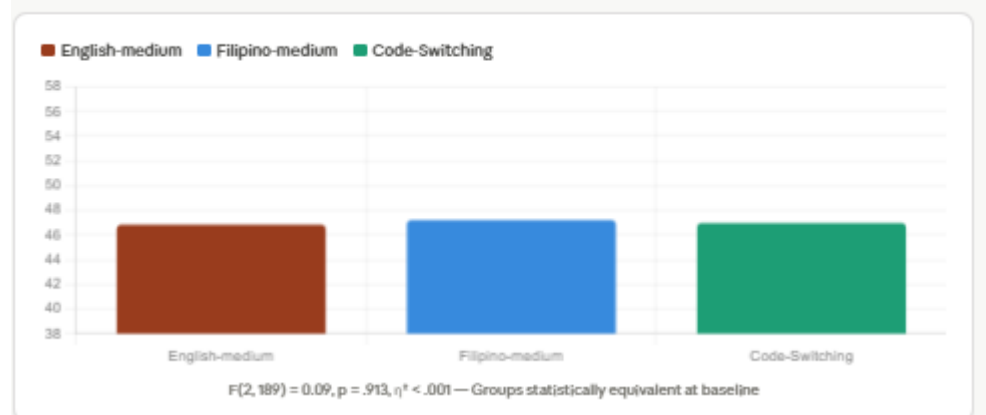


Figure 2. Pre-Test Mean Scores of Three Instructional Groups

Larawan 2. Mga Mean na Marka sa Pre-Test ng Tatlong Pangkat ng Pagtuturo

Post-Test Conceptual Understanding Scores

After one academic semester of differentiated instruction, post-test PCUT scores diverged substantially. The Filipino-medium group obtained the highest mean post-test score ($M = 82.47$, $SD = 6.34$), followed by the code-switching group ($M = 79.35$, $SD = 7.10$), and the English-medium group ($M = 74.18$, $SD = 8.21$). A one-way ANOVA revealed a statistically significant group effect, $F(2, 189) = 21.63$, $p < .001$, $\eta^2 = .19$, indicating that instructional language condition accounted for approximately 19% of the variance in post-test conceptual understanding scores—a medium-to-large effect. Tukey's HSD post-hoc comparisons identified significant pairwise differences between the Filipino and English groups (mean difference = 8.29, 95% CI [5.54, 11.04], $p < .001$), between the Filipino and code-switching groups (mean difference = 3.12, 95% CI [0.48, 5.76], $p = .017$), and between the code-switching and English groups (mean difference = 5.17, 95% CI [2.38, 7.96], $p < .001$). Notably, all three pairwise comparisons reached statistical significance, indicating that each instructional language condition produced a distinctly different conceptual understanding outcome.

Mga Marka ng Post-Test sa Konseptwal na Pag-unawa

Matapos ang isang akademikong semestre ng niba-ibang pagtuturo, ang mga marka ng post-test ng PCUT ay lubos na nagkakaiba-iba. Ang pangkat na Filipino ang nakakuha ng pinakamataas na mean na marka ($M = 82.47$, $SD = 6.34$), sinundan ng pangkat ng code-switching ($M = 79.35$, $SD = 7.10$), at ng pangkat na Ingles ($M = 74.18$, $SD = 8.21$). Isang one-way ANOVA ay nagpakita ng istatistikal na makabuluhang epekto ng grupo, $F(2, 189) = 21.63$, $p < .001$, $\eta^2 = .19$.



Ang mga pairwise na paghahambing ng Tukey's HSD ay nagkilala ng makabuluhang mga pagkakaiba sa pagitan ng lahat ng tatlong pares ng grupo: Filipino vs. Ingles (mean na pagkakaiba = 8.29, $p < .001$), Filipino vs. code-switching (mean na pagkakaiba = 3.12, $p = .017$), at code-switching vs. Ingles (mean na pagkakaiba = 5.17, $p < .001$).

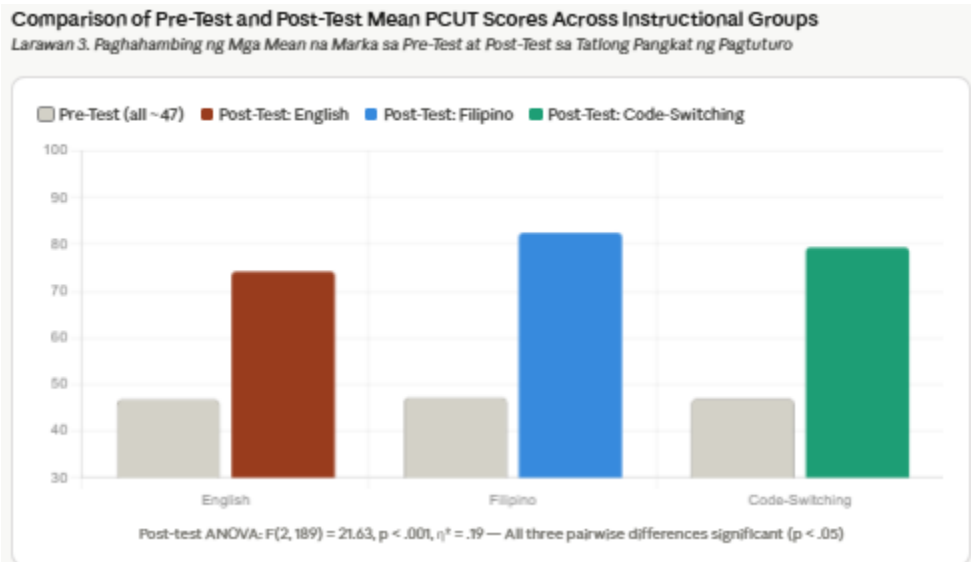


Figure 3. Comparison of Pre-Test and Post-Test Mean Scores Across Instructional Groups

Larawan 3. Paghahambing ng Mga Mean na Marka sa Pre-Test at Post-Test sa Tatlong Pangkat ng Pagtuturo

Student Engagement Scores (SEPES)

SEPES scores followed a pattern consistent with the conceptual understanding findings. On behavioral engagement, the Filipino-medium group scored highest ($M = 4.21$, $SD = 0.48$), followed by the code-switching group ($M = 3.97$, $SD = 0.52$), and the English-medium group ($M = 3.44$, $SD = 0.61$), $F(2, 189) = 34.18$, $p < .001$, $\eta^2 = .27$. On cognitive engagement, the Filipino group again led ($M = 4.09$, $SD = 0.53$), with the code-switching group ($M = 3.82$, $SD = 0.57$) and English group ($M = 3.31$, $SD = 0.64$) following, $F(2, 189) = 28.47$, $p < .001$, $\eta^2 = .23$. Emotional engagement showed the same pattern: Filipino ($M = 4.34$, $SD = 0.45$), code-switching ($M = 4.11$, $SD = 0.49$), English ($M = 3.62$, $SD = 0.58$), $F(2, 189) = 30.14$, $p < .001$, $\eta^2 = .24$. Across all three engagement dimensions, the English-medium group consistently reported the lowest scores, and all pairwise differences were statistically significant ($p < .05$). Effect sizes for engagement outcomes ($\eta^2 = .23-.27$) were considerably larger than those for conceptual understanding ($\eta^2 = .19$), suggesting that language of instruction may exert an even stronger influence on student engagement than on measured conceptual learning.

Mga Marka ng Post-Test sa Konseptwal na Pag-unawa

Matapos ang isang akademikong semestre ng niba-ibang pagtuturo, ang mga marka ng post-test ng PCUT ay lubos na nagkakaiba-iba. Ang pangkat na Filipino ang nakakuha ng pinakamataas na mean na marka ($M = 82.47$, $SD = 6.34$), sinundan ng pangkat ng code-switching ($M = 79.35$, $SD = 7.10$), at ng pangkat na Ingles ($M = 74.18$, $SD = 8.21$). Isang one-way ANOVA ay nagpakita ng istatistikal na makabuluhang epekto ng grupo, $F(2, 189) = 21.63$, $p < .001$, $\eta^2 = .19$. Ang mga pairwise na paghahambing ng Tukey's HSD ay nagkilala ng makabuluhang mga pagkakaiba sa pagitan ng lahat ng tatlong pares ng grupo: Filipino vs. Ingles (mean na pagkakaiba = 8.29, $p < .001$), Filipino vs. code-switching (mean na pagkakaiba = 3.12, $p = .017$), at code-switching vs. Ingles (mean na pagkakaiba = 5.17, $p < .001$).



Student Engagement Scores (SEPES) by Instructional Group and Engagement Dimension

Larawan 4. Mga Marka ng Pakikipag-ugnayan ng Mag-aaral (SEPES) ayon sa Pangkat ng Pagtuturo at Dimensyon ng Pakikipag-ugnayan

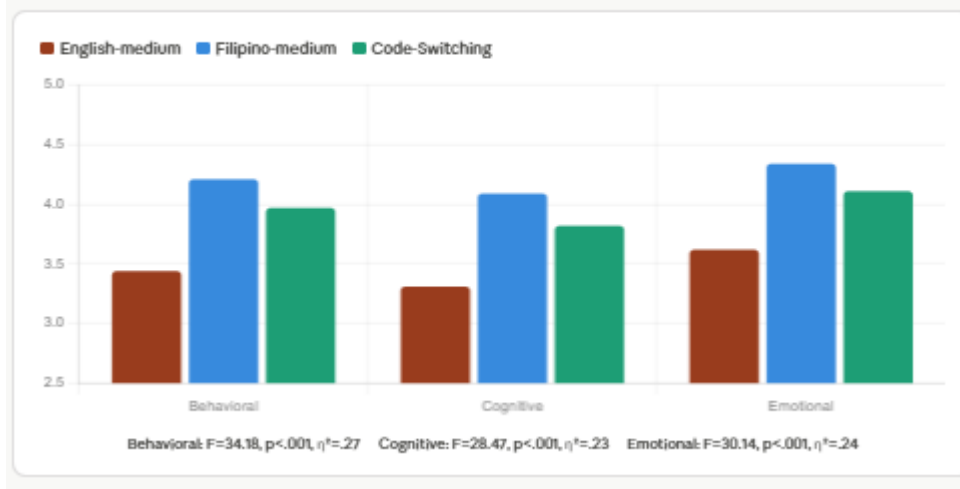


Figure 4. Student Engagement Scores (SEPES) by Instructional Group and Engagement Dimension

Larawan 4. Mga Marka ng Pakikipag-ugnayan ng Mag-aaral (SEPES) ayon sa Pangkat ng Pagtuturo at Dimensyon ng Pakikipag-ugnayan

Gain Score Analysis and Performance by Cognitive Level

Gain score analyses confirmed significant pre-to-post improvements within all groups, but the magnitude differed substantially. The Filipino group registered the largest mean gain ($M = 35.26$, $SD = 8.03$, $d = 4.39$), followed by the code-switching group ($M = 32.38$, $SD = 8.41$, $d = 3.85$), and the English group ($M = 27.34$, $SD = 9.12$, $d = 3.00$). Inter-group ANOVA on gain scores was significant, $F(2, 189) = 9.87$, $p < .001$, $\eta^2 = .10$. By cognitive level, group differences were non-significant for remembering/understanding items, $F(2, 189) = 1.83$, $p = .163$, but highly significant for applying/analyzing, $F(2, 189) = 24.52$, $p < .001$, $\eta^2 = .21$, and evaluating/creating items, $F(2, 189) = 28.76$, $p < .001$, $\eta^2 = .23$. These patterns indicate that the language-of-instruction effect in PATHFIT is concentrated in higher-order cognitive tasks—precisely those requiring students to apply fitness principles to personal contexts or critically evaluate health and exercise claims.

Pagsusuri ng Gain Score at Pagganap ayon sa Antas ng Pag-iisip

Ang pangkat na Filipino ay nagpakita ng pinakamalaking mean na gain ($M = 35.26$, $SD = 8.03$, $d = 4.39$), sinundan ng pangkat ng code-switching ($M = 32.38$, $SD = 8.41$, $d = 3.85$), at ng pangkat na Ingles ($M = 27.34$, $SD = 9.12$, $d = 3.00$). Ayon sa antas ng pag-iisip, ang mga pagkakaiba ng grupo ay hindi makabuluhan para sa mga aytem na pag-alala/pag-unawa, $F(2, 189) = 1.83$, $p = .163$, ngunit lubos na makabuluhan para sa pag-apply/pagsusuri, $F(2, 189) = 24.52$, $p < .001$, $\eta^2 = .21$, at pagtatasa/paglikha na mga aytem, $F(2, 189) = 28.76$, $p < .001$, $\eta^2 = .23$.

Qualitative Findings

Theme 1: Language as a Barrier to Safe and Effective Physical Participation. Students in the English-medium group consistently reported that English instruction created uncertainty during guided movement activities, fitness testing, and exercise demonstrations. Several students described instances of performing exercises incorrectly due to misunderstood English instructions, only realizing their errors when the instructor switched to Filipino or Cebuano to correct them. An English-group student stated in the FGD (translated from Cebuano): "Sometimes the teacher says 'extend your hip flexor' or 'maintain neutral spine' and I nod, but inside I do not really know what part of my



body she means. I just copy what others do." This finding raises safety implications beyond academic performance: misunderstood physical instructions in exercise contexts may increase injury risk.

Theme 2: Linguistic Confidence and Classroom Participation. Filipino-medium students demonstrated markedly higher willingness to volunteer for demonstrations, ask questions about exercise technique, and engage in instructor-led discussions about fitness principles. English-medium students described a pattern of linguistic self-censorship: avoiding participation not because they lacked physical ability or conceptual understanding, but because they were uncertain of their ability to articulate questions or responses in English. One student noted: "I know what I want to ask but I cannot find the correct English word, so I just stay quiet." This finding echoes the SEPES behavioral and emotional engagement gap documented quantitatively and points to language-mediated inhibition of participation as a distinct mechanism through which EMI suppresses PATHFIT learning outcomes.

Theme 3: Instructor Discomfort and Strategic Code-Switching. All six PATHFIT instructors reported that they code-switched to Filipino or Cebuano during critical instructional moments regardless of their assigned language condition, particularly when providing safety instructions, correcting form errors, and responding to student distress during physical exertion. English-medium instructors reported the most acute professional tension, describing the assigned English-only condition as sometimes conflicting with their duty of care toward students. One English-group instructor commented: "When a student is struggling and I can see they are in pain or confused, I will speak to them in Bisaya. I cannot let the research protocol put a student at risk."

Theme 4: The FITT Principle and Fitness Terminology Accessibility. Across all three groups, the FITT principle (Frequency, Intensity, Time, Type) was identified as the concept most sensitive to instructional language effects. English-medium students struggled most with 'intensity' and 'specificity', which lack direct Cebuano or Filipino equivalents and require conceptual unpacking beyond simple translation. Filipino-medium instructors who explained these concepts using everyday Filipino health idioms—comparing exercise intensity to the effort of carrying a sack of rice at different speeds—reported significantly better student understanding, suggesting that culturally embedded analogies in a familiar language are more effective scaffolds for abstract fitness concepts than English academic definitions alone.

Mga Kwalitatibong Natuklasan

Tema 1: Wika bilang Hadlang sa Ligtas at Epektibong Pisikal na Partisipasyon. Ang mga mag-aaral sa pangkat na Ingles ay patuloy na nag-ulat na ang pagtuturo sa Ingles ay lumikha ng kawalan ng katiyakan sa panahon ng mga guided na aktibidad sa galaw, fitness testing, at mga demonstrasyon ng ehersisyo. Maraming mag-aaral ang naglalarawan ng mga pagkakataon ng pagsasagawa ng mga ehersisyo nang hindi tama dahil sa maling pag-unawa ng mga tagubilin sa Ingles. Ang natuklasang ito ay nagdudulot ng mga implikasyon sa kaligtasan na lampas sa akademikong pagganap: ang maling nairing pisikal na mga tagubilin sa mga konteksto ng ehersisyo ay maaaring magpataas ng panganib ng pinsala.

Tema 2: Linggwistikal na Kumpiyansa at Partisipasyon sa Silid-Aralan. Ang mga mag-aaral sa Filipino ay nagpakita ng kapansin-pansing mas mataas na pagpayag na mag-volunteer para sa mga demonstrasyon, magtanong tungkol sa teknik ng ehersisyo, at makipag-ugnayan sa mga talakayan na pinangungunahan ng guro tungkol sa mga prinsipyo ng fitness. Ang mga mag-aaral sa Ingles ay naglalarawan ng isang pattern ng linggwistikal na self-censorship: iniwasan ang partisipasyon hindi dahil kulang ang kanilang pisikal na kakayahan o konseptwal na pag-unawa, kundi dahil hindi sila tiwala sa kanilang kakayahang magsalita ng mga tanong o tugon sa Ingles.

Tema 3: Kakulangan ng Kaginhawahan ng Guro at Estrategikong Code-Switching. Lahat ng anim na guro ng PATHFIT ay nag-ulat na sila ay nag-code-switch sa Filipino o Cebuano sa panahon ng mga kritikal na sandali ng pagtuturo anuman ang kanilang itinalagang kondisyon ng wika, lalo na kapag nagbibigay ng mga tagubilin sa kaligtasan, nagtatama ng mga pagkakamali sa porma, at tumutugon sa pagdurusa ng mag-aaral sa panahon ng pisikal na pagsisikap. Ang mga guro sa Ingles ay nag-ulat ng pinakamatinding propesyonal na tensyon.



Tema 4: Ang Prinsipyo ng FITT at Accessibility ng Terminolohiya ng Fitness. Sa lahat ng tatlong grupo, ang prinsipyo ng FITT (Frequency, Intensity, Time, Type) ay natukoy bilang ang konsepto na pinakasensitibo sa mga epekto ng midyum ng pagtuturo. Ang mga mag-aaral sa Ingles ay nahirapan nang husto sa 'intensity' at 'specificity', na walang direktang katumbas sa Cebuano o Filipino at nangangailangan ng konseptwal na pag-unawa na higit pa sa simpleng pagsasalin. Ang mga guro sa Filipino na nagpaliwanag ng mga konseptong ito gamit ang mga karaniwang Filipino na idioma ng kalusugan ay nag-ulat ng mas mainam na pag-unawa ng mag-aaral.

Thematic Map of Qualitative Findings on EMI in PATHFIT

Larawan 5. Tematikal na Mapa ng mga Kwalitatibong Natuklasan sa EMI sa PATHFIT

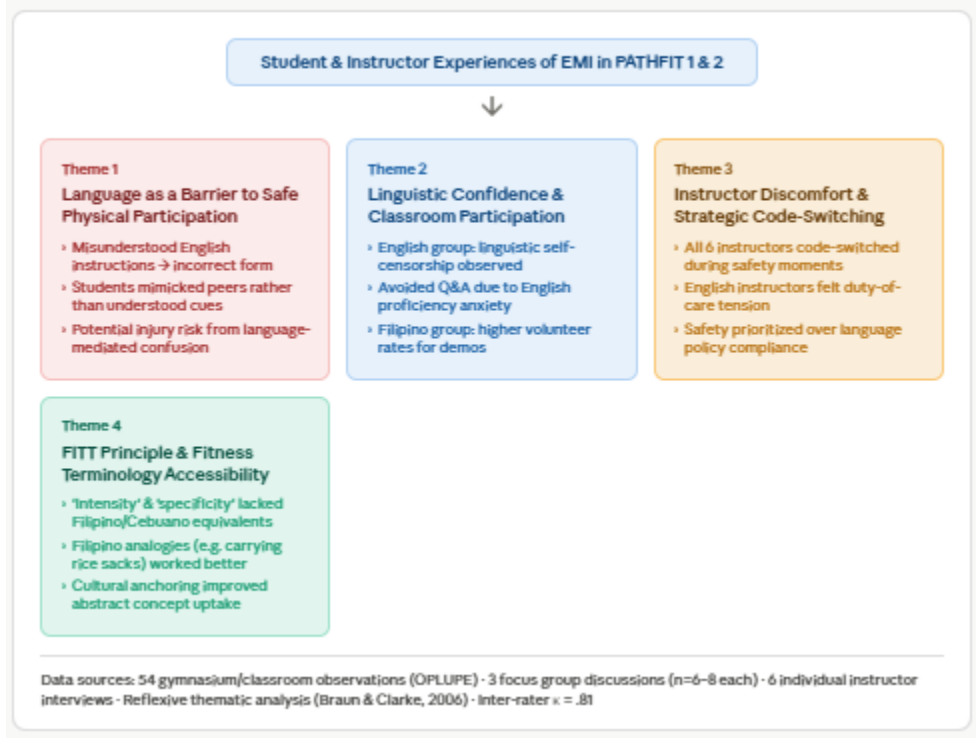


Figure 5. Thematic Map of Qualitative Findings on EMI in PATHFIT

Larawan 5. Tematikal na Mapa ng mga Kwalitatibong Natuklasan sa EMI sa PATHFIT

DISCUSSION

The results of this study provide clear and consistent empirical evidence that, for Cebuano-speaking first-year college students in PATHFIT courses, Filipino-medium instruction produces significantly superior conceptual understanding, higher student engagement across all three dimensions (behavioral, cognitive, emotional), and larger learning gains compared with English-medium instruction. These findings directly challenge the de facto dominance of English in PATHFIT instruction in Philippine state universities and contribute the first quasi-experimental evidence to a literature that has previously relied on cross-sectional surveys and observational studies (Torres & Bautista, 2021; Dela Cruz & Villanueva, 2022; Pascua & Ereñeta, 2021).

The magnitude of the English-medium disadvantage documented in this study is notably large. The effect size for post-test conceptual understanding ($\eta^2 = .19$) is comparable to that reported by Bernardo (2018) for EMI effects in Philippine tertiary science and mathematics, and the effect sizes for engagement dimensions ($\eta^2 = .23-.27$) are even larger—suggesting that language of instruction affects not only what PATHFIT students learn but how invested they are in the learning process. This engagement gap is theoretically significant: research in physical education



consistently demonstrates that higher engagement predicts better physical activity outcomes, greater skill acquisition, and stronger health behavior change intentions (Yap & Alcantara, 2022). An instructional language that systematically suppresses engagement in PATHFIT may therefore undermine the very behavioral and dispositional goals that the course is designed to achieve, beyond its effects on conceptual understanding per se.

The qualitative finding that English-medium instruction creates safety concerns—through misunderstood exercise technique instructions and guidance about physical exertion limits—represents perhaps the most urgent practical implication of this study. Physical education instruction differs from other academic subjects in that comprehension failures can have immediate physical consequences. When students mimic movements they do not fully understand due to language barriers, they may adopt incorrect form that increases injury risk. The finding that all six PATHFIT instructors code-switched to Filipino or Cebuano specifically during safety-critical instructional moments, regardless of their assigned language condition, suggests that instructors themselves recognize this risk and respond to it instinctively by prioritizing comprehensibility over language policy compliance. This professional instinct deserves institutional recognition and systematic support, rather than the implicit illegitimacy that English-only institutional policies impose on it.

The concentration of language-of-instruction effects at higher cognitive levels—applying, analyzing, evaluating, and creating—is consistent with Cummins’ (2000) BICS/CALP distinction and with the broader pattern documented in environmental science and other disciplines (De Leon & Macaraeg, 2021; Orbeta & Villanueva, 2022). PATHFIT is not a rote memory course: its educational value lies precisely in students’ ability to apply fitness principles to their own bodies and lives, design personalized wellness programs, and critically evaluate health information they encounter in the media and community. These are CALP-level tasks, and the finding that English-medium instruction most severely impairs performance on exactly these tasks suggests that EMI in PATHFIT undermines the discipline’s core educational objectives. By contrast, the non-significant group difference on remembering and understanding items suggests that English-medium instruction does not prevent students from acquiring basic fitness facts—it prevents them from doing anything useful with those facts.

The FITT principle finding from the qualitative strand—that Filipino-medium instructors’ use of culturally embedded analogies produced demonstrably better understanding of abstract fitness concepts—resonates with the broader literature on culturally responsive pedagogy in physical education and health (De Guzman & Ngo, 2020; Moschkovich, 2012). Fitness and health are ultimately embodied, culturally situated practices: the meaning of ‘moderate intensity’ exercise, for example, is most accessible when mapped onto physical experiences that students have actually had in their own cultural and physical environments, rather than when defined through abstract English physiological parameters. Filipino-medium instruction creates the linguistic conditions for these culturally anchored explanations to occur naturally and effectively.

TALAKAYAN

Ang mga resulta ng pag-aaral na ito ay nagbibigay ng malinaw at pare-parehong empirical na ebidensya na, para sa mga unang-taon na kolehiyong mag-aaral na nagsasalita ng Cebuano sa mga kursong PATHFIT, ang pagtuturo sa Filipino ay nagbubunga ng makabuluhang mas mahusay na konseptwal na pag-unawa, mas mataas na pakikipag-ugnayan ng mag-aaral sa lahat ng tatlong dimensyon (behavioral, cognitive, emosyonal), at mas malaking mga pakinabang sa pagkatuto kumpara sa pagtuturo sa Ingles. Ang mga natuklasang ito ay direktang nagtatanong sa de facto na dominasyon ng Ingles sa pagtuturo ng PATHFIT sa mga state university ng Pilipinas.

Ang laki ng kakulangan ng pagtuturo sa midyum na Ingles na dokumentado sa pag-aaral na ito ay kapansin-pansing malaki. Ang effect size para sa konseptwal na pag-unawa sa post-test ($\eta^2 = .19$) ay maihahambing sa iniulat ni Bernardo (2018) para sa mga epekto ng EMI sa terteraryang agham at matematika ng Pilipinas, at ang mga effect size para sa mga dimensyon ng pakikipag-ugnayan ($\eta^2 = .23-.27$) ay mas malaki pa—nagpapahiwatig na ang midyum ng pagtuturo ay nakakaapekto hindi lamang sa kung ano ang natututo ng mga mag-aaral ng PATHFIT kundi kung gaano sila kamuhunan sa proseso ng pagkatuto.



Ang kwalitatibong natuklasan na ang pagtuturo sa Ingles ay lumilikha ng mga alalahanin sa kaligtasan—sa pamamagitan ng maling pag-unawa sa mga tagubilin sa teknik ng ehersisyo at gabay tungkol sa mga limitasyon ng pisikal na pagsisikap—ay kumakatawan marahil sa pinaka-agarang praktikal na implikasyon ng pag-aaral na ito. Ang pagtuturo sa pisikal na edukasyon ay naiiba sa iba pang mga akademikong paksa dahil ang mga pagkabigo sa pag-unawa ay maaaring magkaroon ng agarang pisikal na kahihinatnan. Ang natuklasan na ang lahat ng anim na guro ng PATHFIT ay nag-code-switch sa Filipino o Cebuano partikular sa panahon ng mga sandali ng pagtuturo na kritikal sa kaligtasan ay nagpapahiwatig na ang mga guro mismo ay kinikilala ang panganib na ito at tumutugon dito sa pamamagitan ng pagbibigay-prioridad sa pag-unawa kaysa sa pagsunod sa patakaran sa wika.

Ang konsentrasyon ng mga epekto ng midyum ng pagtuturo sa mas mataas na antas ng pag-iisip—pag-apply, pagsusuri, pagtatasa, at paglikha—ay naaayon sa pagkakaiba ng BICS/CALP ni Cummins (2000) at sa mas malawak na pattern na dokumentado sa agham pangkalikasan at iba pang mga disiplina. Ang PATHFIT ay hindi isang kursong pag-aralan sa pamamagitan ng pag-alaala: ang halaga nito sa edukasyon ay nananalalay nang tiyak sa kakayahan ng mga mag-aaral na ilapat ang mga prinsipyo ng fitness sa kanilang sariling katawan at buhay, magdisenyo ng personalisadong mga programa ng wellness, at kritikal na suriin ang impormasyon ng kalusugan na natutuklasan nila sa media at komunidad.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study provides robust quasi-experimental evidence that English-medium instruction in PATHFIT significantly disadvantages Cebuano-speaking first-year college students in Cebu relative to Filipino-medium and bilingual code-switching instruction, across measures of conceptual understanding, student engagement, and learning gain. The Filipino-medium condition outperformed English-medium instruction on all quantitative outcomes and produced consistently more positive qualitative experiences for both students and instructors. The code-switching condition occupied an intermediate position, consistently outperforming English-medium instruction and pointing to structured bilingual practice as a pragmatically viable alternative when full Filipino-medium instruction is not institutionally feasible. The qualitative evidence introduces a safety dimension to the language-of-instruction debate in physical education that has not been previously documented: language barriers in English-medium PATHFIT instruction may increase the risk of exercise-related injuries by reducing students' comprehension of technique and safety guidance. Together, these findings challenge the unreflective dominance of English as the default medium for PATHFIT instruction in Philippine tertiary education and call for evidence-based language policy revision in this important domain of general education.

Mga Konklusyon

Ang pag-aaral na ito ay nagbibigay ng matibay na quasi-experimental na ebidensya na ang pagtuturo sa midyum na Ingles sa PATHFIT ay makabuluhang nagdudulot ng disadvantage sa mga unang-taon na kolehiyong mag-aaral na nagsasalita ng Cebuano sa Cebu kumpara sa pagtuturo sa Filipino at bilinggwal na code-switching, sa lahat ng mga sukatan ng konseptwal na pag-unawa, pakikipag-ugnayan ng mag-aaral, at pakinabang sa pagkatuto. Ang kondisyon ng Filipino ay humigit sa pagtuturo sa Ingles sa lahat ng kwantitatibong kinalabasan at nagbunga ng pare-parehong mas positibong mga kwalitatibong karanasan para sa parehong mga mag-aaral at guro. Ang kwalitatibong ebidensya ay nagpapakilala ng isang dimensyon ng kaligtasan sa debate ng midyum ng pagtuturo sa pisikal na edukasyon na hindi pa dati naidodokumento: ang mga hadlang sa wika sa pagtuturo ng PATHFIT sa midyum na Ingles ay maaaring magpataas ng panganib ng mga pinsala na may kaugnayan sa ehersisyo.

Recommendations

First, CHED should revise PATHFIT curriculum guidelines to include explicit language-of-instruction standards that recognize Filipino and regional languages as legitimate, evidence-supported media of instruction for PATHFIT courses, particularly in institutions serving predominantly non-English-dominant student populations. Second,



PATHFIT instructors should be provided professional development support for Filipino-medium and structured code-switching instruction, including training in culturally embedded fitness pedagogy and the development of Filipino-language fitness terminology resources. Third, PATHFIT curriculum developers and textbook authors should produce instructional materials—lecture guides, fitness activity protocols, assessment rubrics—in Filipino, ensuring that conceptual accessibility is built into curriculum resources rather than left to individual instructor improvisation. Fourth, physical education research in the Philippines should systematically investigate the relationship between language of instruction and student safety outcomes in physical activity contexts, given the injury risk implications suggested by this study's qualitative findings. Fifth, future research should examine the long-term effects of PATHFIT language-of-instruction conditions on students' lifelong physical activity participation, health behavior, and fitness outcomes—the ultimate goals of the PATHFIT curriculum.

Mga Rekomendasyon

Una, dapat baguhin ng CHED ang mga alituntunin ng kurikulum ng PATHFIT upang isama ang mga tahasang pamantayan ng midyum ng pagtuturo na kinikilala ang Filipino at mga rehiyonal na wika bilang mga lehitimo, na sinuportahan ng ebidensya na mga midyum ng pagtuturo para sa mga kursong PATHFIT. Pangalawa, ang mga guro ng PATHFIT ay dapat bigyan ng suporta sa propesyonal na pag-unlad para sa pagtuturo sa Filipino at structured na code-switching. Pangatlo, ang mga tagabuo ng kurikulum ng PATHFIT at mga may-akda ng aklat-aralin ay dapat gumawa ng mga materyal sa pagtuturo sa Filipino. Pang-apat, ang pananaliksik sa pisikal na edukasyon sa Pilipinas ay dapat sistematikong imbestigahan ang relasyon sa pagitan ng midyum ng pagtuturo at mga kinalabasan ng kaligtasan ng mag-aaral sa mga konteksto ng pisikal na aktibidad. Panglima, ang mga susunod na pananaliksik ay dapat suriin ang pangmatagalang epekto ng mga kondisyon ng midyum ng pagtuturo ng PATHFIT sa panghabambuhay na pakikilahok ng mga mag-aaral sa pisikal na aktibidad, gawi sa kalusugan, at mga kinalabasan ng fitness.

REFERENCES

- Aclan, M. M., & Azcarraga, A. P. (2018). Implementing mother tongue-based multilingual education (MTB-MLE) in the Philippines: Barriers and challenges. *Asia Pacific Journal of Multidisciplinary Research*, 6(2), 1–10.
- Alieto, E. O. (2018). Language shift from English to mother tongue: Exploring language attitude and willingness to teach among pre-service teachers. *TESOL International Journal*, 13(2), 1–13.
- Adesope, O. O., Lavin, T., Thompson, T., & Ungerleider, C. (2010). A systematic review and meta-analysis of the cognitive correlates of bilingualism. *Review of Educational Research*, 80(2), 207–245. <https://doi.org/10.3102/0034654310368803>
- Baker, C. (2011). *Foundations of bilingual education and bilingualism* (5th ed.). Multilingual Matters.
- Balagtas, M. U., Garcia, D. C. B., & Ngo, D. T. (2019). Looking through Philippine K to 12 curriculum policy for mathematics and science: A comparative analysis with Singapore. *EURASIA Journal of Mathematics, Science and Technology Education*, 15(8), em1734. <https://doi.org/10.29333/ejmste/108494>
- Bernardo, A. B. I. (2018). Language policy and language learning: The case of Filipino learners of science and mathematics. *Educational Research for Policy and Practice*, 17(3), 193–208. <https://doi.org/10.1007/s10671-018-9230-z>
- Beson, R. L., & Nuñez, D. P. (2021). Vocabulary acquisition in Filipino-medium classrooms at the tertiary level: A mixed-methods analysis. *Asia-Pacific Education Researcher*, 30(5), 387–399. <https://doi.org/10.1007/s40299-021-00580-1>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>



- Canagarajah, S., & Liyanage, I. (2012). Lessons from pre-colonial multilingualism. In M. Martin-Jones, A. Blackledge, & A. Creese (Eds.), *The Routledge handbook of multilingualism* (pp. 49–65). Routledge.
- Cenoz, J. (2015). Content-based instruction and content and language integrated learning: The same or different? *Language, Culture and Curriculum*, 28(1), 8–24. <https://doi.org/10.1080/07908318.2014.1000922>
- Commission on Higher Education. (2014). CMO No. 20, s. 2014: General education curriculum: Soft skills and core competencies. CHED.
- Commission on Higher Education. (2018). CHED Memorandum Order No. 25, s. 2018: Policies, standards, and guidelines for Physical Activity Towards Health and Fitness (PATHFIT). CHED.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE.
- Cummins, J. (2000). Language, power and pedagogy: Bilingual children in the crossfire. *Multilingual Matters*.
- Cummins, J. (2007). Rethinking monolingual instructional strategies in multilingual classrooms. *Canadian Journal of Applied Linguistics*, 10(2), 221–240.
- De Guzman, M. R. T., & Ngo, B. (2020). Multilingualism and sport: Language accessibility in physical education settings in the Philippines. *Philippine Journal of Health Research and Development*, 24(3), 44–57.
- Dela Cruz, A. P., & Villanueva, R. D. (2022). English as a medium of instruction in Physical Education: Student attitudes and learning outcomes in Philippine state universities. *Asia Pacific Journal of Education*, 42(2), 301–317. <https://doi.org/10.1080/02188791.2022.2010334>
- Fakeye, D. O. (2010). Students' personal variables as correlates of academic achievement in English as a second language in Nigeria. *Journal of Social Sciences*, 22(3), 205–211. <https://doi.org/10.1080/09718923.2010.11892803>
- Garcia, O., & Wei, L. (2014). *Translanguaging: Language, bilingualism and education*. Palgrave Macmillan.
- Gibbons, P. (2009). *English learners, academic literacy, and thinking: Learning in the challenge zone*. Heinemann.
- Gonzalez, A. (1998). The language planning situation in the Philippines. *Journal of Multilingual and Multicultural Development*, 19(5–6), 487–525. <https://doi.org/10.1080/01434639808666365>
- Gupta, A. F. (2012). The pragmatics of code switching in multilingual science classrooms in South and Southeast Asia. *Language and Education*, 26(4), 315–330.
- Haig, Y., & Oliver, R. (2003). Language variation and education: Teachers' perceptions. *Language and Education*, 17(4), 266–280. <https://doi.org/10.1080/09500780308666854>
- Kioko, A., Mutiga, J., Muthwii, M., Schroeder, L., Uchida, E., & Njoroge, R. (2014). *Language of instruction: Making the right choices*. UNESCO-IBE.
- Lantolf, J. P., & Thorne, S. L. (2006). *Sociocultural theory and the genesis of second language development*. Oxford University Press.
- Lin, A. M. Y. (2015). Conceptualising the potential role of L1 in CLIL. *Language, Culture and Curriculum*, 28(1), 74–89. <https://doi.org/10.1080/07908318.2014.1000926>
- Malone, S. (2007). *MLE program planning: How to develop an education program using local languages*. Summer Institute of Linguistics.
- Menken, K., & Garcia, O. (Eds.). (2010). *Negotiating language policies in schools: Educators as policymakers*. Routledge.



- Metila, R. A., Pradilla, L. A. S., & Williams, A. (2016). The challenge of implementing mother tongue education in linguistically diverse contexts: The case of the Philippines. *Asia-Pacific Education Researcher*, 25(5–6), 781–789. <https://doi.org/10.1007/s40299-016-0310-5>
- Moschkovich, J. N. (2012). Mathematics, the Common Core, and language: Recommendations for mathematics instruction for ELs aligned with the Common Core. *Understanding Language Conference*, Stanford University.
- Nolasco, R. M. D. (2008). The prospects of multilingual education and literacy in the Philippines. In A. E. Maguire & C. A. Gardner (Eds.), *Optimizing schooling for second language learners* (pp. 53–72). Information Age Publishing.
- Pascua, V. L., & Ereñeta, M. A. (2021). Language of instruction in physical education and health: Effects on student engagement and understanding. *Philippine Normal University Research Journal*, 22(2), 115–130.
- Reyes, M. C., & Santos, P. M. (2023). Examining the role of English as a medium of instruction in PATHFIT among bachelor's degree students in Cebu: A mixed-methods inquiry. *International Journal of Physical Education, Fitness and Sports*, 12(1), 45–62. <https://doi.org/10.34256/ijpefs2315>
- Ricafort, R. O., & Yap, M. J. (2022). Language of instruction and academic outcomes in physical education: Evidence from Philippine higher education. *Philippine Journal of Education*, 101(2), 88–105.
- Santos, G. P., & Bernabe, R. C. (2023). Code-switching strategies in Filipino tertiary physical education instructors: A qualitative inquiry. *International Journal of Multilingualism*, 20(2), 198–215. <https://doi.org/10.1080/14790718.2022.2043781>
- Skutnabb-Kangas, T. (2000). *Linguistic genocide in education—or worldwide diversity and human rights?* Lawrence Erlbaum Associates.
- Torres, J. B., & Bautista, M. L. S. (2021). English medium instruction in Philippine physical education: Challenges, perceptions, and student academic performance. *Journal of Language and Education*, 7(3), 122–138. <https://doi.org/10.17323/jle.2021.11234>
- UNESCO. (2016). *If you don't understand, how can you learn?* Global Education Monitoring Report Policy Paper 24. UNESCO Publishing.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Yap, R. R., & Alcantara, D. M. (2022). Student engagement and conceptual understanding in PATHFIT under English-medium instruction: A quasi-experimental study in Visayan universities. *Asian Journal of Physical Education and Recreation*, 28(1), 33–49.