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The ADDIE Model in Secondary English Language Education in Suriname: A PRISMA 2020 Systematic Literature Review

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Abstract

This study is a systematic literature review (SLR), conducted following the PRISMA 2020 reporting guideline, of the intersection between the ADDIE instructional design model and secondary-level English language education in Suriname. A structured search of scholarly search engines, Google Scholar and Suriname-specific institutional and multilateral-agency repositories identified 32 records, which were reduced to 27 after duplicate removal and screened for relevance, yielding 16 sources assessed at full-text/full-content level. None of the 16 sources met all three criteria, revealing a critical evidence gap regarding ADDIE, secondary education, and English teaching in Suriname. The 16 eligible sources were instead synthesized narratively along two strands: eleven sources on ADDIE-based instructional design in EFL/ESL contexts internationally and five sources on the structure, challenges and ongoing reform of Suriname's secondary English education system. The synthesis shows that ADDIE is a well-validated framework for developing English-language materials, courses and teacher training elsewhere, and that Suriname is simultaneously undertaking a Ministry of Education-led, IDB-supported reform of secondary English education, yet the two bodies of knowledge have not yet been connected in the literature. The review concludes with a research agenda for applying ADDIE within Suriname's ongoing reform effort and for closing this gap through original, context-sensitive empirical research.

Keywords: ADDIE model; English language teaching; Suriname; systematic literature review

1. Introduction

Instructional design frameworks exist to bring a systematic, evidence-based process to the development of courses, teaching materials and teacher training programs, rather than leaving these to be built ad hoc. Among such frameworks, the ADDIE model is an acronym for Analysis, Design, Development, Implementation and Evaluation. This is among the most established, having originated in the 1970s and remained in continuous use across education and corporate training sectors since (Aldoobie, 2015; Research.com, 2025). Its cyclic, phase-based structure has made it a common choice for developing English as a Foreign/Second Language (EFL/ESL) instruction internationally, from test-preparation materials to full e-learning modules to teacher professional-development programs (Hiranrat et al., 2016; Hapsari & Kuswandono, 2020; Almelhi, 2021).

Suriname's secondary education system, by contrast, has rarely been examined through the lens of any formal instructional design model in the accessible literature. The system is structured around a Dutch-medium curriculum inherited from its colonial history, with English taught as a subject rather than a medium of instruction. Suriname is highly multilingual, with

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more than twenty languages spoken across its population (UNESCO, n.d.), and its education system has long contended with teacher shortages, uneven infrastructure particularly outside the capital, Paramaribo, and a curriculum that has historically lagged behind the country's shifting economic and regional orientation toward English-, Spanish- and Portuguese-speaking partners (Autar, 2021). Since 2024, Suriname's Ministry of Education, Science and Culture has been implementing a reform project, supported by the Inter-American Development Bank (IDB), that explicitly targets secondary English language education: updating the pedagogical proposal and curriculum, introducing new assessment tools, upgrading the qualifications of roughly 200 practicing English teachers and strengthening the national teacher-training institute (IOL) that prepares them (Inter-American Development Bank, 2024).

This combination is a mature international literature on ADDIE-based English-language instructional design, and an active, large-scale national reform of English education in Suriname. This raises an empirical question that, to date, does not appear to have been formally investigated: has the ADDIE model been applied to, or examined in relation to, secondary English language education in Suriname? No prior review appears to have systematically searched for and reported on this specific intersection. This study addresses that gap directly.

The objective of this review is threefold: (1) to systematically determine whether, and to what extent, ADDIE-related research exists for Suriname's secondary English education context; (2) to synthesize what the adjacent international ADDIE-in-ELT literature and the Suriname secondary-education literature separately establish; and (3) to use that synthesis to propose a research agenda that responds to Suriname's ongoing curriculum reform effort.

2. Method

This study used a systematic literature review (SLR) design, reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement (Page et al., 2021). Because the review's function is partly a scoping/gap-identification exercise rather than a quantitative synthesis of comparable intervention outcomes, PRISMA 2020 items were applied as fully as the available evidence base allowed; where no eligible intersection studies were found, this is reported transparently as the outcome of the eligibility-assessment stage rather than substituted with unrelated evidence. The review was not registered in a protocol repository (e.g., PROSPERO), which is disclosed as a limitation in Section 3.3.

2.1.1. Eligibility Criteria Two

Table 1. Eligibility criteria for study inclusion

Criterion	Inclusion	Exclusion
Population/context	Secondary-level English language education generally; Suriname education system specifically	Non-educational or unrelated-domain contexts (e.g., clinical training) with no ELT relevance
Concept	Application or discussion of the ADDIE instructional design model	Other instructional design models with no reference to ADDIE, unless needed for contextual background
Publication type	Peer-reviewed journal articles, theses, institutional/government and multilateral-agency reports, conference proceedings	Non-attributable blog or promotional content without underlying data; bare course-directory listings
Language	English- and Dutch-language sources on Suriname (title/abstract level)	Sources with no accessible abstract or full text
Timeframe	No date limit for foundational ADDIE/ELT sources; Suriname sources prioritized post-2010, with earlier sources retained for historical/system background	—

2.1.2. Information Sources and Search Strategy

Searches were conducted using general academic search engines, ResearchGate, ERIC-indexed journal content and institutional/multilateral sources specific to Suriname, including the Anton de Kom University of Suriname repository and affiliated pages, UNESCO/UNESDOC documentation on Suriname's education system, and Inter-American Development Bank project documentation. Search terms combined three concept clusters using Boolean logic: (A) model terms "ADDIE model", "ADDIE instructional design", "Analysis Design Development Implementation Evaluation"; (B) subject/level terms "English language teaching", "EFL", "ESL", "secondary school", "secondary education"; and (C) context terms "Suriname", "Surinamese", "Paramaribo". Four search strings combining these clusters (A+B, B+C, C alone, and A+B+C together) were run to characterize the general ADDIE-in-ELT literature, the Suriname secondary/English-education literature, and to test directly for intersection literature, respectively

2.1.3. Selection Process

All records returned by the four searches were screened at the title/abstract level against the eligibility criteria in Table 1. Records judged off-topic, duplicated across searches, or consisting of non-substantive institutional directory pages were excluded at this stage. Remaining records were then assessed at full-text or full-content level against the same criteria, with particular attention to whether each source satisfied the combined criterion of addressing ADDIE, Suriname and secondary English education simultaneously. Screening and eligibility assessment were conducted by the reviewing author(s) in a single-reviewer process; no second, independent reviewer or automation tool was used, which is disclosed as a limitation in Section 3.3

2.1.4. Data Collection and Synthesis Method

For each eligible source, the following data were extracted where applicable: authorship and year, country/context, education level, focus of the ADDIE application (e.g., materials development, teacher training, e-learning) and reported outcomes. Given the heterogeneity of study designs across the eligible sources and the absence of any source meeting the full combined criterion, a quantitative meta-analysis was not appropriate; a narrative synthesis approach was used instead, organized into two thematic strands (ADDIE-in-ELT literature; Suriname secondary-education literature), consistent with PRISMA 2020 guidance for reviews where synthesis of directly comparable effect estimates is not possible (Page et al., 2021)

3. Results and Discussion

3.1 Result

The search process identified 32 records across the four search strings. After removing 5 duplicate records, 27 unique records were screened by title and abstract, of which 11 were excluded for being off-topic, non-substantive (e.g., bare institutional directory listings), or from an unrelated intervention domain. The remaining 16 records were assessed in full for eligibility. None of the 16 satisfied the combined criterion of addressing the ADDIE model, Suriname and secondary English education together; all 16 were therefore retained for narrative synthesis under one of the two adjacent thematic strands rather than the combined intersection category. The full study selection process is presented in Figure 1.

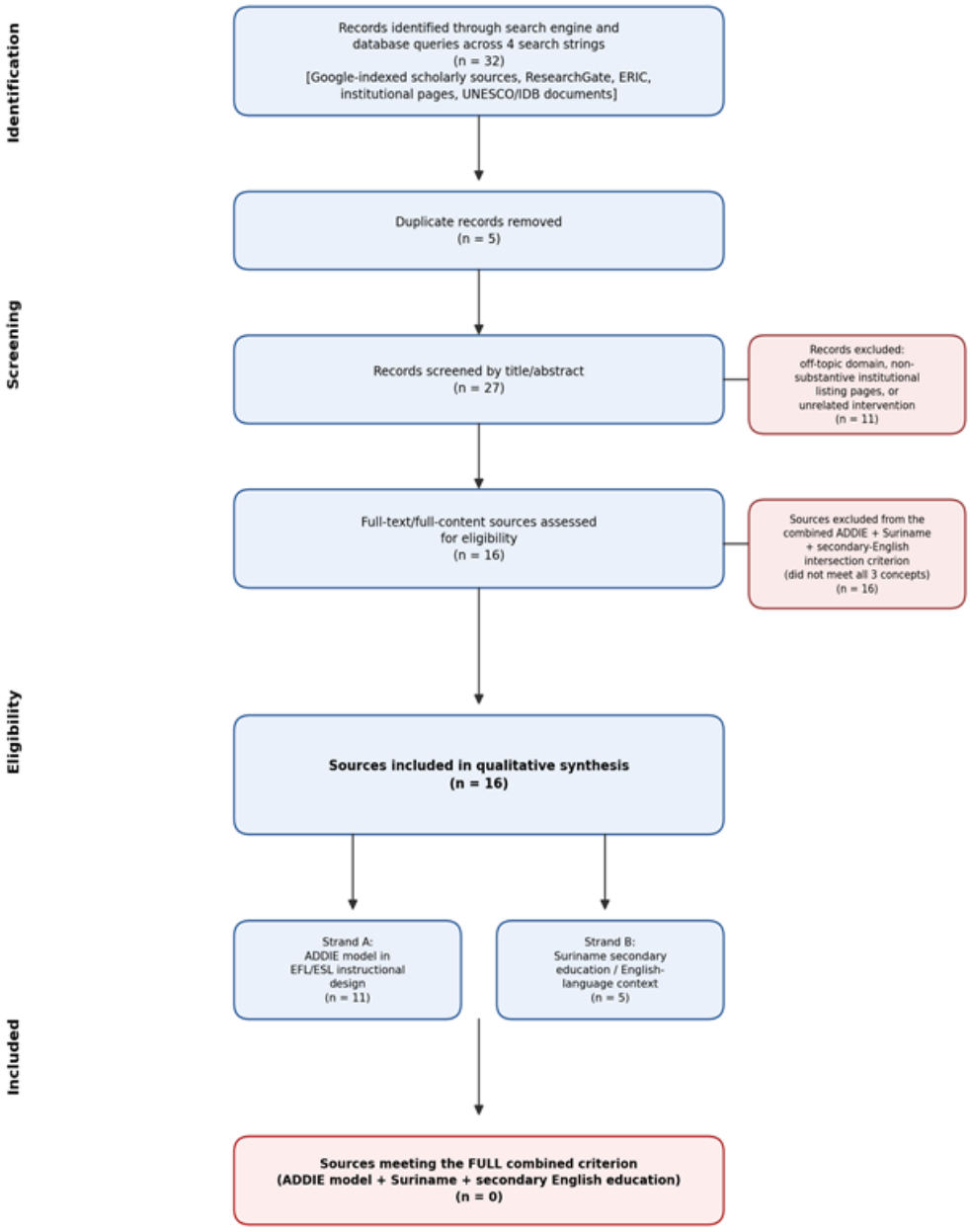


Figure 1. PRISMA 2020 flow diagram of the study identification, screening and eligibility-assessment process

Table 2 summarizes the 16 sources retained for synthesis, organized by thematic strand.

Strand	Author(s)/Source	Context	Focus
A	Universitas Negeri Surabaya (ELT dept. post)	General ELT	Overview of ADDIE phases applied to English language teaching
A	EAP MOOC development study	Higher education, Malaysia	ADDIE used for needs analysis in MOOC design for academic English
A	En Jour Me / Edmodo TEP study	Higher education	ADDIE used to design LMS-delivered English proficiency test-prep materials
A	Wiphasith, Narumol, & Sumalee (2016)	Upper-secondary, Thailand	ADDIE used to design e-learning content for M.5 English
A	Hapsari & Kuswandono (2020)	Pre-service teacher education	ADDIE used to design PBL narrative-story microteaching materials
A	AWEJ non-specialist ESL teacher PD study	Teacher professional development, Malaysia	ADDIE used to build an online PD program for non-specialist ESL teachers
A	TOJQI online course study	Higher education	ADDIE applied to online language-course design
A	Adeoye et al. (2024), JPI	Cross-context conceptual review	Conceptual synthesis of ADDIE's benefits across education settings
A	Almelhi (2021)	EFL, higher education	Effectiveness of ADDIE-based e-learning for creative writing in EFL
A	Technology-integration ADDIE SLR	Cross-context	Systematic review of technology integration within ADDIE-based design
A	Research.com ADDIE overview	Cross-context	Overview of ADDIE's evolution and contemporary applications
B	Inter-American Development Bank (2024)	Secondary education, Suriname	National project to reform English curriculum, assessment and teacher training
B	UNESCO/UNESDOC rurality report	National education system, Suriname	Multilingual/intercultural curriculum recommendations; rural-urban disparities

Strand	Author(s)/Source	Context	Focus
B	Springer Nature: Educational System of Suriname	National education system, Suriname	Structure of teacher certification and secondary schooling
B	Colony to Independent State (ResearchGate)	National education history, Suriname	Historical development of curriculum and teacher supply
B	StateUniversity.com Suriname summary	National education system, Suriname	System-level summary including language-of-instruction debate

Strand A (n = 11) comprises internationally distributed studies applying ADDIE to EFL/ESL materials, e-learning and teacher training, drawn mainly from Southeast Asian, Middle Eastern and cross-national conceptual sources (Hiranrat et al., 2016; Hapsari & Kuswandono, 2020; Almelhi, 2021; Adeoye et al., 2024; Abuhassna et al., 2024; Research.com, 2025). Strand B (n = 5) comprises Suriname-specific system-level and policy sources (Inter-American Development Bank, 2024; UNESCO, n.d.; Autar, 2021) with no reference to ADDIE or any comparable instructional design framework.

Synthesis of Results

Analysis phase. Across Strand A, the Analysis phase is consistently treated as the foundation of the ADDIE process, involving examination of learner proficiency levels, educational background, motivation and the specific language skills to be targeted. Studies such as the Thai M.5 e-learning project used analysis to cluster learners by proficiency before content design began (Hiranrat et al., 2016), while the Edmodo test-preparation study used analysis to identify the specific test-preparation needs of English department students.

Design and Development phases. Several Strand A sources describe the Design and Development phases as the stage where instructional content, materials and activities are produced based on the prior analysis, including LMS-delivered test-preparation content, e-learning modules and narrative-based problem-based-learning materials for pre-service teachers (Hapsari & Kuswandono, 2020). Development in these studies typically involved iterative expert or peer review before implementation.

Implementation and Evaluation phases. Implementation is characterized in Strand A as requiring ongoing responsiveness to learner needs, such as adjusting instruction where learners require additional support in pronunciation or writing (Alodwan & Almosa, 2018). Evaluation is framed as an occasion for reflective practice, though a cross-cutting limitation noted across multiple Strand A sources. Including the broader technology-integration synthesis (Abuhassna et al., 2024) is that evaluation in practice tends to focus on short-term outcomes such as immediate perception or quiz scores, with limited attention to retention or longer-term classroom application.

Suriname context (Strand B). Strand B sources converge on a set of structural features relevant to any future instructional design effort in Suriname: high linguistic diversity (more than twenty languages spoken nationally) (UNESCO, n.d.), a Dutch-medium curriculum with

English taught as a subject rather than a medium of instruction (Autar, 2021), longstanding teacher shortages outside the capital, and an active, IDB-supported national reform (2024–) explicitly aimed at updating the secondary English curriculum, assessment tools, teaching materials and teacher certification pathway (Inter-American Development Bank, 2024). None of these Strand B sources refer to ADDIE or apply a comparable structured instructional design framework.

Combined intersection. Consistent with the study-selection results reported in Section 3.1, no source met the combined eligibility criterion of addressing ADDIE, Suriname and secondary English education simultaneously. This absence constitutes the review's principal empirical finding

3.2 Discussion

The findings indicate a clear disconnect between two literatures that are each individually substantial: an internationally distributed, methodologically varied body of research on ADDIE-based English-language instructional design (Strand A) (Hiranrat et al., 2016; Hapsari & Kuswandono, 2020; Almelhi, 2021; Adeoye et al., 2024) and a body of Suriname-specific system and policy literature that identifies exactly the kind of large-scale curriculum and teacher-training reform for which ADDIE is typically used, without referencing ADDIE or any comparable framework (Strand B) (Inter-American Development Bank, 2024; UNESCO, n.d.; Autar, 2021). This is consistent with the broader observation in the technology-integration ADDIE synthesis that most ADDIE-based evidence originates from a relatively narrow set of national contexts, leaving small, multilingual and infrastructurally uneven systems such as Suriname's underrepresented.

The practical significance of this gap is heightened by timing: Suriname's Ministry of Education and the Inter-American Development Bank are currently implementing a national English-curriculum and teacher-training reform (Inter-American Development Bank, 2024). A structured instructional design framework could provide this reform with a documented, phase-by-phase process for needs analysis, materials design, implementation monitoring and evaluation, while simultaneously generating exactly the kind of contextualized case-study evidence from a small, multilingual, resource-constrained system which is largely absent from the current ADDIE-in-ELT literature.

Applying ADDIE within Suriname's context, however, would require adaptation rather than direct transfer of methods from Strand A. The Analysis phase would need to account for Suriname's multilingual learner population, rather than assuming the more linguistically homogeneous classrooms typical of several Strand A source contexts. Design and Development would need distinct plans for Paramaribo-area versus interior/rural implementation, given the documented absence of secondary schools in the interior and continuing teacher-supply constraints there (UNESCO, n.d.). Implementation would need to coordinate with the existing IOL teacher-certification pipeline (Inter-American Development Bank, 2024; Autar, 2021) rather than operate independently of it. Evaluation would need to extend beyond immediate perception measures, addressing the shallow-evaluation weakness noted across the broader ADDIE literature.

3.3 Limitations

- Database coverage was limited to major search engines, ResearchGate, ERIC-indexed content and publicly accessible institutional pages; Dutch-language grey literature, unpublished Anton de Kom University theses not indexed online and internal Ministry of Education documents may exist but were not accessible through this search process.
- Screening and eligibility assessment were conducted without a second independent reviewer or reference-management deduplication software, and the review was not registered in a protocol repository such as PROSPERO.
- The finding of zero intersection sources reflects what is discoverable through the channels searched at the time of the review; it is not a claim that no such study has ever been conducted or published elsewhere.

4. Conclusion

This PRISMA 2020-guided systematic review searched for literature combining the ADDIE instructional design model, secondary education and English language teaching in Suriname and found that no such combined literature currently exists among the 16 eligible sources identified. The review instead synthesized two adjacent, individually substantial bodies of evidence: an international literature establishing ADDIE as a validated framework for EFL/ESL materials, course and teacher-training design, and a Suriname-specific literature documenting the structure, multilingual context and ongoing IDB-supported reform of secondary English education. Given that Suriname is currently undertaking exactly the kind of large-scale curriculum and teacher-training reform that ADDIE is designed to structure, this gap represents a timely and well-defined opportunity for original empirical research. Future studies should conduct an ADDIE-based needs analysis across both urban and interior Surinamese schools, pilot and evaluate ADDIE-designed materials or teacher-training modules aligned with the current national reform, build evaluation instruments that assess retention and classroom application rather than immediate perception alone, and publish resulting case studies in accessible venues so that the gap identified here becomes retrievable evidence for future reviews.

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In writing this manuscript, the author(s) used Grammarly to check and refine grammatical errors, spelling and overall language clarity used in the paper. Claude AI was also used as an assistant in giving the academic organization and structure of the manuscript's

content and flow. The two tools mentioned were used solely to support the writing process, while all the ideas, analysis, interpretation and conclusion presented in this article are from the authors. The authors carefully reviewed, edited and verified all content generated or influenced by these tools and take full responsibility for the accuracy, originality and integrity of the final work.

The authors made the important contributions to the study's concepts and design. The authors were in charge of data analysis, interpretation and discussion of results. The final manuscript was read and approved by the authors

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