

MONTESSORI-BASED ENGLISH LANGUAGE EDUCATION FOR YOUNG
LEARNERS: A CRITICAL SYNTHESIS OF EMPIRICAL EVIDENCE

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Abstract

This study critically synthesizes empirical evidence on the use of Montessori-based and Montessori-inspired approaches in English language education for young learners. A structured narrative review was conducted to examine empirical studies published between 2020 and 2025. Literature searches were performed in Google Scholar, ERIC, and Semantic Scholar using combinations of keywords related to Montessori education, English language learning, young learners, early childhood education, reading, vocabulary, and language skills. Following screening and eligibility assessment, 15 empirical studies were included in the qualitative synthesis. The findings indicate that Montessori-based English instruction has been associated with reported improvements in vocabulary development, early reading, oral communication, language awareness, learner engagement, and participation. However, the evidence base is methodologically heterogeneous, comprising experimental and quasi-experimental studies, classroom action research, qualitative case studies, practitioner research, and interview-based investigations. Vocabulary outcomes were most frequently described in terms of recognition, retention, productive use, and contextual application, whereas reading-related studies addressed different components of early literacy, including phonological awareness, letter-sound correspondence, decoding, and emerging comprehension. The synthesis also identifies recurring limitations, including small samples, short intervention periods, limited comparison groups, inconsistent outcome measures, and insufficient reporting of effect sizes. Overall, the evidence suggests promising but not yet conclusive support for Montessori-based English education, highlighting the need for larger, longitudinal, and methodologically rigorous studies with clearly operationalized language outcomes and comparable assessment procedures.

Keywords: Montessori education; Montessori-based English instruction; young learners; English language education; early literacy; vocabulary development; language outcomes; empirical evidence.

1. INTRODUCTION

Learning English at an early age has become increasingly common in many educational settings. Young children, however, learn a new language through processes

closely connected with movement, interaction, sensory experience, curiosity, play, and exploration (Lightbown & Spada, 2013). Early English education therefore requires approaches that take learners' developmental characteristics into account rather than relying primarily on teacher explanation and repetition. The question is not only how much English young learners encounter, but also how they experience and use the language during the learning process.

One approach that has attracted attention in this context is Montessori education. Based on purposeful activity, independence, and interaction with a carefully prepared environment, Montessori education provides opportunities for children to choose activities, work with concrete materials, repeat tasks, and gradually assume greater responsibility for their learning. These principles can also be adapted to foreign language education, positioning young learners as active participants rather than passive recipients of language input. Recent research has explored the application of Montessori principles to English language education, although the available evidence remains dispersed across different educational contexts and research designs (Cindrić & Klubička, 2024).

Empirical studies conducted in different countries have examined several dimensions of English language development among young learners. Amelia and Ngadiso (2020), for example, investigated Montessori-based vocabulary instruction in an Indonesian kindergarten and reported improvements in vocabulary meaning and pronunciation, together with increased learner confidence and participation. Aghajani and Salehi (2020) examined 95 Iranian EFL learners aged 5–6 using experimental and control groups over 12 instructional sessions and reported a statistically significant difference in writing performance between the groups. In Ecuador, Caballero et al. (2022) conducted a six-month action-research intervention with ten second-grade children and reported improvement in English communication. Similarly, Yakovleva (2023) described a long-term preschool English project in Taiwan involving Montessori materials such as sandpaper letters and vowel-matching cards in activities related to early reading and writing, alongside phonics, sound blending, syntax, and morphology. These studies demonstrate the breadth of empirical inquiry into Montessori-based English education, but they also reveal substantial variation in learners, sample sizes, intervention periods, instructional practices, research designs, and assessment procedures.

This methodological and contextual diversity makes it difficult to determine which findings are consistent across studies and which may be specific to particular instructional conditions. Existing research also addresses different aspects of English development, with some studies emphasizing vocabulary and oral communication while others examine writing, reading, or broader language skills. Consequently, a systematic synthesis of the empirical evidence is needed to identify recurring instructional patterns, methodological limitations, and areas that remain insufficiently investigated. Such a synthesis can provide a clearer understanding of the current empirical basis for Montessori-based English

language education while avoiding the assumption that Montessori-based instruction represents a single standardized intervention.

Against this background, the present review synthesizes empirical research on Montessori-based English language education for young learners. It examines what types of interventions have been investigated, which English language outcomes have been reported, how these studies have been designed and evaluated, and what methodological and research gaps remain. Rather than treating Montessori-based English instruction as a uniform treatment, the review considers the diversity of instructional approaches, learners, educational contexts, and research designs represented in the available literature. By bringing these strands of evidence together, the review aims to identify broader patterns and clarify priorities for future empirical research.

Accordingly, the review addresses the following research questions:

RQ1. What types of Montessori-based English language interventions have been investigated among young learners?

RQ2. What English language learning outcomes have been reported following Montessori-based interventions?

RQ3. What methodological characteristics and limitations characterize the existing empirical studies?

RQ4. What research gaps and directions for future research can be identified from the available empirical evidence?

2. Methodology

2.1. Review Design

This study employed a structured narrative review informed by PRISMA 2020 reporting principles to critically synthesize recent empirical evidence on Montessori-based and Montessori-inspired approaches to English language education among young learners. The review examined four interrelated dimensions: (1) the types of Montessori-based instructional approaches and practices reported in the literature; (2) the English language learning outcomes associated with these approaches; (3) the methodological characteristics and limitations of the available evidence; and (4) gaps requiring further empirical investigation.

A structured narrative approach was considered appropriate because the identified evidence base was substantially heterogeneous in terms of participants, educational contexts, instructional practices, study designs, intervention duration, outcome measures, and data-collection procedures. The included studies comprised experimental and comparative investigations, classroom action research, qualitative case studies, practitioner-based research, and interview- or observation-based studies. Consequently, statistical aggregation of findings or calculation of a pooled effect estimate was not considered

appropriate. Instead, the evidence was synthesized through systematic organization, cross-study comparison, and thematic analysis.

The review was guided by the four research questions presented in the Introduction. Particular attention was given to learner characteristics and educational contexts, the nature and duration of Montessori-based practices, the English language domains examined, the methods used to assess or document language development, and the methodological limitations of the available studies. This approach enabled recurring patterns and differences across the evidence base to be identified while avoiding the assumption that findings generated through fundamentally different research designs were directly equivalent.

The reporting of the review process was informed by the transparency principles of PRISMA 2020 and PRISMA-S, particularly with respect to information sources, search procedures, study identification, screening, eligibility assessment, and reporting of the selection process. The present study is therefore positioned as a structured narrative review rather than a systematic review or meta-analysis. This distinction reflects the heterogeneous nature of the evidence base and the absence of statistical pooling across the included studies.

2.2. Search Strategy and Information Sources

A structured literature search was undertaken to identify empirical studies examining Montessori-based or Montessori-inspired approaches to English language education among young learners. The search was completed in September 2025 and covered studies published from January 2020 through September 2025. The 2020–2025 period was selected to capture recent empirical research while maintaining a focused evidence base for the review. For the purposes of this study, young learners were defined as children enrolled in preschool, kindergarten, or the early years of primary education, approximately 3–9 years of age.

The search was conducted using three academic search platforms: Google Scholar, ERIC (Education Resources Information Center), and Semantic Scholar. These sources were selected to provide complementary coverage of educational, language-teaching, and interdisciplinary research relevant to the intersection of Montessori education and English language learning.

The search strategy was organized around three core concept groups. The first comprised Montessori-related terms, including *“Montessori,” “Montessori-based,” “Montessori-inspired,”* and *“Montessori method.”* The second comprised English language education terms, including *“English language,” “English teaching,” “English as a foreign language,” “EFL,”* and *“second language.”* The third comprised young-learner and language-domain terms, including *“young learners,” “preschool,” “kindergarten,” “primary school,” “reading,”* and *“vocabulary.”* Representative combinations included *“Montessori” AND “English language”* AND *“young learners,” “Montessori” AND “English teaching,” “Montessori” AND “EFL” AND preschool, “Montessori” AND “English” AND reading,* and *“Montessori”*

AND “English” AND vocabulary. Search terms were varied across platforms where necessary to accommodate differences in terminology, search syntax, and indexing practices.

In Google Scholar, the principal combined search, “Montessori” AND (“English language” OR “English teaching” OR EFL) AND (“young learners” OR preschool OR kindergarten OR “primary school”), returned 5,550 results at the time of searching. Three additional query combinations targeting Montessori-related terminology, English-language terminology, and specific language areas returned 51, 18,400, and 119 results, respectively. These figures were treated as query-level retrieval indicators rather than unique records and were therefore not summed because substantial overlap among the searches was expected.

In ERIC, corresponding searches returned 31, 151, and 5 results, while the principal combined search returned 5 results. The available publication-year filters were applied to restrict the search to studies published between 2020 and 2025.

In Semantic Scholar, the corresponding searches returned 42, 38, and 48 results, while the principal combined search returned 51 results. As with the other search platforms, these figures represent query-level retrieval counts rather than unique records and were not interpreted as the number of unique studies.

The retrieved records were subsequently consolidated and screened against the predefined eligibility criteria. Because multiple queries were conducted within and across search platforms, substantial overlap among records was expected. The query-level retrieval counts were therefore distinguished from the record-level screening process. The detailed database-specific search strategies, search dates, filters, and retrieval indicators are reported in Supplementary Table S1. The complete screening record is provided as supplementary material to enhance transparency and reproducibility.

2.3. Eligibility Criteria

Eligibility criteria were established in accordance with the objectives and research questions of the review and were applied throughout the screening and full-text assessment stages.

Studies were considered eligible when they satisfied all of the following criteria:

1. **Instructional focus.** The study investigated a Montessori-based, Montessori-inspired, or explicitly Montessori-informed approach, practice, material, activity, or learning environment in relation to English language education or English language learning.

2. **Learner population.** Participants were young learners enrolled in preschool, kindergarten, or the early years of primary education, approximately 3–9 years of age, or an equivalent educational stage.

3. **Language focus.** The study addressed at least one aspect of English language learning or development, including vocabulary, reading, writing, speaking, listening,

phonological awareness, pronunciation, communication, language awareness, or related English-language abilities.

4. **Empirical basis.** The study reported original empirical evidence collected from learners, teachers, classrooms, parents, or other participants directly involved in the educational context.

5. **Methodological transparency.** Sufficient information was available to identify the research context, participants, instructional or intervention conditions, data-collection procedures, and principal findings.

6. **Relevance to the review questions.** The study provided evidence relevant to at least one of the review questions concerning Montessori-based English language practices, reported language-learning outcomes, methodological characteristics, or research gaps.

Studies were excluded when they:

- ☐ focused exclusively on Montessori education without a substantive English-language component;
- ☐ examined learners substantially outside the defined young-learner population;
- ☐ were theoretical, conceptual, or literature-based publications without original empirical data;
- ☐ described Montessori teaching practices or provided pedagogical recommendations without an empirical investigation;
- ☐ did not provide sufficient methodological information to interpret the reported evidence;
- ☐ were duplicate publications or duplicate records of the same study; or
- ☐ were conference abstracts, opinion pieces, promotional materials, or other publications that did not provide sufficient empirical evidence for analysis.

The review primarily targeted peer-reviewed empirical studies. One master's dissertation was also retained because it met the same substantive eligibility criteria and provided original empirical evidence directly relevant to the review questions. It was retained as a distinct publication type and was not treated as methodologically equivalent to a peer-reviewed journal article.

2.4. Study Selection

The study identification and selection process is presented in Figure 1. A structured multi-stage screening procedure was used to identify empirical studies that met the predefined eligibility criteria. The search process was conducted across Google Scholar, ERIC, and Semantic Scholar and was completed in September 2025.

The database searches yielded **5,507 records** in total, including 5,550 records from Google Scholar, 5 from ERIC, and 51 from Semantic Scholar. Because the searches involved

multiple databases and several search queries, the initial retrieval count represents the total search yield rather than the number of unique studies.

Before title and abstract screening, **3,891 records were removed**. This included **83 duplicate records** identified across the retrieved results. The remaining **3,808 records were removed for other predefined reasons** during the initial consolidation and filtering stage. These reasons included records that were outside the predefined publication period, clearly unrelated to the review scope, non-English records, and other records that could not proceed to substantive screening. The detailed distribution of these exclusions is documented in the supplementary screening record.

Following this initial filtering stage, **1,715 records were screened** on the basis of their titles and abstracts. Records were excluded at this stage when they were clearly inconsistent with one or more of the predefined eligibility criteria. These included records that:

- did not address **English language teaching, learning, or development** (n = 81);
- involved learners outside the predefined **young learner age range (approximately 3–9 years)** (n = 53);
- did not address an **English language outcome or language-related learning domain** relevant to the review questions (n = 12);
- were clearly unrelated to the review topic or research questions (n = 20);
- were non-English publications, where applicable under the review's language criterion (n = 321);
- were other records that did not contain sufficient relevance to warrant full-text assessment (n = 1219).

A total of **1,553 records were excluded at the title and abstract screening stage**, leaving **53 reports for full-text eligibility assessment**. The individual exclusion categories above should be reported using mutually exclusive counts so that their total corresponds to the number of records excluded at this stage.

The full texts of the **53 reports** were then assessed against the predefined inclusion and exclusion criteria. Reports were excluded at the full-text stage when detailed examination demonstrated that they did not satisfy one or more eligibility requirements. The reasons for full-text exclusion were recorded systematically and included:

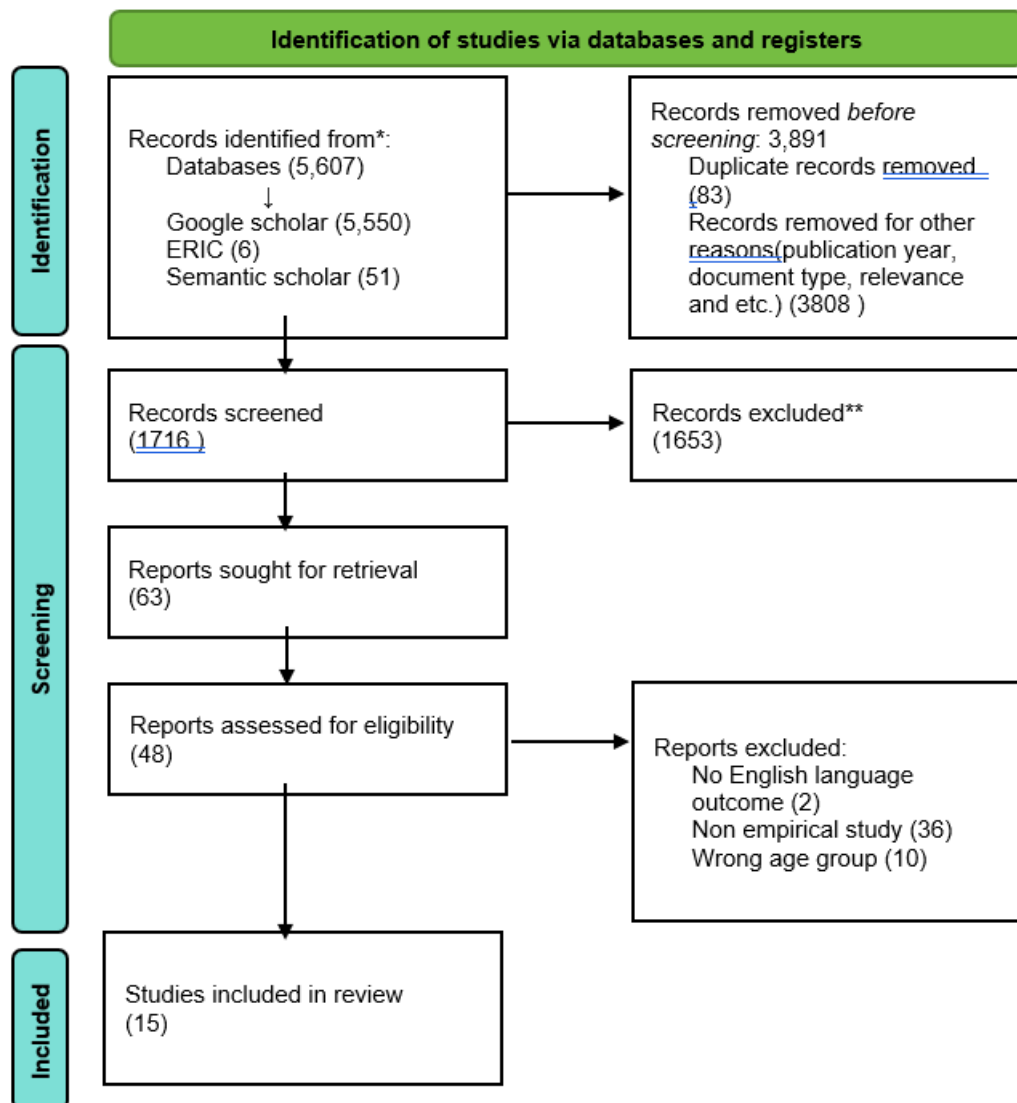
- **Non-empirical study or absence of original empirical data** (n = 15);
- **Insufficient methodological information to establish eligibility or interpret the empirical evidence** (n = 15);
- **Study type not meeting the predefined publication/evidence criteria** (n = 10);
- **Other eligibility criterion not satisfied** (n = 7).

A total of **48 reports were excluded following full-text assessment**. The numbers assigned to the individual exclusion reasons are mutually exclusive and sum to 48. The

remaining **15 empirical studies** satisfied all predefined eligibility criteria and were included in the final qualitative synthesis.

The numerical sequence of the selection process was internally consistent: **5,507 records were identified; 3,891 were removed before screening; 1,715 records were screened; 1,553 were excluded at the title and abstract stage; 53 reports underwent full-text eligibility assessment; 48 were excluded following full-text assessment; and 15 empirical studies were included in the final synthesis.** A detailed screening and eligibility record is provided in the supplementary material.

Figure 1. PRISMA 2020 flow diagram of the study identification and selection process.



2.5. Data Extraction and Synthesis

Data were extracted from the 15 included studies using a structured evidence-extraction framework. For each study, the following information was recorded: author(s) and publication year, country and educational context, participant characteristics and sample size, learner age or grade level, Montessori-based instructional approach or components, intervention or observation duration, English language domain, research design, data-collection or assessment procedures, publication type, and principal reported findings.

The extracted information was organized into a comparative evidence matrix and subsequently examined both descriptively and thematically. Studies were grouped according to the primary English language domains investigated, including vocabulary, reading and early literacy, writing, speaking, listening, phonological awareness, communication, pronunciation, and language awareness. The synthesis also considered the relationship between the Montessori-based instructional practices reported and the language outcomes examined.

For quantitative and comparative studies, reported differences between groups or across measurement points were considered where such information was available. For qualitative, classroom action research, practitioner-based, and case-study investigations, the synthesis focused on patterns and outcomes explicitly reported in the original studies. Particular care was taken to distinguish reported perceptions, classroom observations, and qualitative evidence from findings supported by comparative quantitative designs.

The analysis was conducted at two complementary levels. First, studies were compared within major language-outcome domains, particularly vocabulary and reading/early literacy. Second, cross-study patterns were examined to identify recurring instructional practices, learner-related outcomes, methodological characteristics, and evidence limitations.

For vocabulary, the synthesis considered outcomes along a developmental continuum ranging from receptive recognition and discrimination to graphic identification, semantic categorization, productive retrieval, contextual use, and emerging learner autonomy. For reading and early literacy, the synthesis considered evidence relating to phonological awareness, letter-sound correspondence, decoding, word recognition, fluency, and comprehension. This analytical framework allowed the review to distinguish broad claims of language improvement from more specifically defined language outcomes.

Given the substantial heterogeneity of the included studies in terms of research design, sample characteristics, intervention conditions, outcome measures, and reporting practices, statistical meta-analysis was not undertaken. Instead, the evidence was synthesized narratively and thematically. The synthesis therefore emphasizes convergence, variation, and gaps across studies rather than producing a single pooled estimate of the effectiveness of Montessori-based English language education.

2.5. Methodological Characteristics and Evidence Limitations

The methodological characteristics of the included studies were examined as an integral component of the synthesis. Attention was given to research design, sample size, presence or absence of comparison groups, intervention or observation duration, outcome measurement, data-collection procedures, and the transparency of reporting.

Because the included studies represented different forms of empirical inquiry, their findings were not treated as equivalent in evidential strength. Experimental and comparative studies were considered separately from qualitative case studies, classroom action research, practitioner investigations, and interview- or observation-based studies. This distinction was particularly important when interpreting claims concerning language improvement, learner engagement, autonomy, or instructional effectiveness.

The methodological limitations identified across the evidence base were also considered in the interpretation of findings. These included small or context-specific samples, limited or absent comparison groups, relatively short intervention periods, reliance on researcher-developed or non-standardized assessment procedures, variation in outcome definitions, and limited reporting of statistical effect estimates in quantitative studies. These characteristics were not used to exclude otherwise eligible studies but were incorporated into the synthesis to provide a more appropriately qualified interpretation of the available evidence.

Accordingly, the review distinguishes between **reported improvements or associations within individual studies** and evidence that can support broader causal conclusions. This methodological distinction is central to the interpretation of the present evidence base, particularly because the included studies vary considerably in design, measurement, and contextual scope.

3. FINDINGS

3.1. Characteristics of the Selected Studies

The empirical studies included in the review vary considerably in terms of educational context, participant characteristics, research design, intervention duration, Montessori-based instructional components, and English language outcomes. The available evidence encompasses classroom action research, qualitative case studies, experimental and quasi-experimental studies, and longer-term classroom-based projects. The studies also address different dimensions of English language development, including vocabulary, reading, writing, speaking, communication, and broader language-related outcomes.

Table 1 presents the main characteristics of the empirical studies identified in the review.

Table 1. Characteristics of Empirical Studies on Montessori-Based English Language Education

Author(s)	Year	Country	Participants	Research design	English language area	Main reported outcome
Amelia & Ngadiso	2020	Indonesia	B1 kindergarten learners	Classroom action research; 2 cycles; 2 months	Vocabulary	Improvement in vocabulary mastery, particularly word meaning and pronunciation; increased confidence and classroom participation.
Aghajani & Salehi	2020	Iran	95 learners, aged 5–5; 50 experimental, 45 control	Experimental/control-group design; 12 sessions	Writing	Statistically significant difference between experimental and control groups on the writing post-test.
Caballero, Vera Macias & Villafuerte-Holguín	2022	Ecuador	10 second-grade children and their parents	Action research; mixed qualitative and quantitative methods; 5 months	Communication/vocabulary	Reported improvement in English communication skills and vocabulary acquisition.
Yakovleva	2023	Taiwan	Children aged approx. 4–5 years	Long-term educational project involving Montessori and non-Montessori approaches	Reading, writing, speaking, listening; phonology	Reported development of early English literacy and broader language abilities, including phonics and sound blending.
Simanjuntak & Sinaga	2025/2025	Indonesia	Approx. 30 young learners per program cycle; 15 children cycle; 15 children and parents interviewed	Qualitative study; two semesters; deductive thematic analysis	Vocabulary / bilingual awareness / productive language use	Increased learner enthusiasm and vocabulary retention; a gap between receptive and productive language use was also identified.
Jinabe, Margana, Sukarno & Sugirin	2025	Indonesia	Young learners in a Montessori classroom	Qualitative case study	English language acquisition / oral language	Identified autonomy, low-anxiety interaction and meaningful language input as conditions associated with language development and spontaneous production.
Apria Gina, Tarihoran & Perdana	2025	Indonesia	Young learners	Descriptive qualitative study	Speaking / communication	Reported development of confidence and communication skills within an interactive Montessori learning environment.
Marhamah, Rahayu,	2025	Indonesia	15 children, aged 5–5 years	Classroom action	General English	English-language performance increased from 29.0% (Cycle I) to 55.0% (Cycle II) and 74.8% (Cycle

Hidayati & Prasatyo				research; 3 cycles	language skills	III); participation reached 77.4% in Cycle III.
Rosales Chavarria	2021	Mexico	Preschool children aged 3–5; practitioner–researcher	Qualitative practitioner research	L2/bilingualism	The English Corner model became increasingly integrated into the Montessori learning environment, supporting a more Montessori-aligned approach to L2 English learning.
Houachine	2024	Algeria	EFL young learners aged 5–8	Exploratory intrinsic case study; semi-structured interview/achievement test	Early reading	The Montessori approach was reported to enhance learners' reading skills, including word and sentence decoding and understanding written instructions, while also fostering autonomy and critical thinking.
Kletzenbauer & Fürstenberg	2025	Austria	15 learners aged 5–9	Workshop & interviews	Language awareness/English	The workshop fostered learners' enthusiasm, curiosity, and awareness of English, including its role as a global lingua franca, while also encouraging metalinguistic and sociolinguistic reflection.
Wanja et al.	2025	Indonesia	2 kindergarten teachers	Qualitative exploratory	Vocabulary recognition	Teachers used multisensory activities, guided repetition, and the Three-Period Lesson to support vocabulary recognition and learner engagement.
Kusrini, Amalia, & Khoiriyat	2020	Indonesia	5 early childhood English teachers	Qualitative case study	Listening, speaking, reading, writing, pron-n, vocabulary.	Montessori-based English activities supported children's language development, engagement, enthusiasm, and active participation.
Osayande, Ogbeide, & Solomon-Alufohai	2025	Nigeria	12 early-years educators, 5 school administrators, and 9 preschool classrooms	Qualitative case study; interviews, classroom observations, and document review; thematic analysis	English language acquisition; phonemic awareness, vocabulary, speaking, listening, and early reading	Montessori-based instruction was reported to support phonemic awareness, vocabulary retention, learner confidence, and communication; however, teacher training, limited materials, and sociocultural barriers constrained implementation.
Sari, Zuhairi & Ashari	2025	Indonesia	2 preschool teachers and 1 principal	Qualitative case study; classroom observations and semi-structured interviews; thematic analysis	English language acquisition / young learners' EFL	Teachers used songs, movement, modeling, hands-on activities, repetition, and visual/gestural support to facilitate English comprehension, participation, and vocabulary learning.

As shown in Table 1, the identified studies have examined different aspects of English language development, including vocabulary, reading, writing, speaking,

communication, and broader language-related skills. The studies also differ substantially in the ways in which these outcomes have been assessed, ranging from classroom observations and interviews to language tests and pre-test/post-test measures. Methodologically, the evidence includes experimental and control-group designs as well as classroom action research and qualitative case studies. These differences in research design, sample size, intervention conditions, and assessment procedures are important for interpreting the findings, as results obtained from different methodological approaches should not be interpreted as providing directly comparable levels of evidence. The following sections therefore examine the reported findings by language area and subsequently consider the broader patterns and methodological limitations of the available research.

3.2. Montessori-Based Vocabulary Instruction

Vocabulary is one of the most frequently examined English language outcomes in the empirical literature identified in this review. Amelia and Ngadiso (2020) examined vocabulary development among kindergarten learners in Indonesia and reported improvement in word meaning and pronunciation following two cycles of Montessori-based classroom instruction conducted over two months. The study also documented increased learner participation and confidence during the instructional process. Because the investigation employed classroom action research rather than a controlled comparative design, however, the findings primarily document changes within the participating classroom and do not allow the independent contribution of the Montessori approach to be established.

Vocabulary development was also examined by Caballero et al. (2022) in Ecuador. Vocabulary acquisition was assessed as one component of a six-month Montessori-based English intervention involving ten second-grade children. The study employed an action-research design and combined qualitative and quantitative approaches. The researchers reported improvement in the participants' English communication and language performance following the intervention. Nevertheless, the small sample and absence of a control group limit the generalizability of the findings and make it difficult to separate the contribution of the Montessori-based intervention from other classroom factors.

Vocabulary learning involves more than initial recognition; effective lexical development also requires repeated encounters with words and opportunities for retrieval and meaningful use (Nation, 2001).

More recent qualitative evidence provides additional insight into the processes involved in vocabulary learning. Simanjuntak and Sinaga (2025) examined Montessori-based English learning activities and reported that hands-on and multimodal practices supported vocabulary learning and learner engagement. Their findings also drew attention to the distinction between receptive vocabulary knowledge and productive language use, particularly when learners were expected to use newly learned vocabulary orally. This distinction is important because recognition or retention of lexical items does not necessarily

indicate the ability to retrieve and use the same vocabulary spontaneously in communication.

Wanja et al. (2025) provided further qualitative evidence concerning vocabulary recognition in an Indonesian kindergarten context. Their study examined the implementation of Montessori-based flashcards through multisensory activities, guided repetition, the Large Movable Alphabet, and the Three-Period Lesson. Rather than measuring vocabulary gains statistically, the study focused on how teachers implemented these instructional strategies through interviews, classroom documentation, and student learning records. The findings indicated that the practices were used to support vocabulary recognition and consolidation, while also showing the importance of teacher responsiveness to differences in learner readiness and attention. Consequently, the study contributes primarily to understanding instructional processes rather than to estimating the magnitude of vocabulary learning gains.

Taken together, vocabulary represents one of the more consistently reported areas of English language development in Montessori-based settings. At the same time, the available evidence is predominantly based on small-scale classroom investigations and qualitative or action-research designs. Relatively few studies have employed standardized vocabulary measures, larger samples, comparison groups, or delayed post-tests. Consequently, the existing literature provides evidence of reported vocabulary development and vocabulary-related instructional processes, but remains limited in its ability to determine the magnitude, durability, or specific instructional sources of such development.

3.3. Montessori-Based Reading Instruction

Compared with vocabulary, empirical research specifically examining English reading within Montessori-based instruction is considerably more limited. One relevant study is Yakovleva's (2023) investigation of a long-term Montessori-based English education project in Taiwan involving preschool learners. The study documented the use of Montessori materials and activities, including sandpaper letters, vowel-matching cards, and sentence-analysis signs, in the development of early English literacy. The reported learning processes included phonics, sound blending, reading, writing, and aspects of language awareness among young learners. Early reading development involves interconnected processes such as phonological awareness, letter-sound correspondence, decoding, word recognition, fluency, and comprehension (Ehri, 2014; Gough & Tunmer, 1985; Hoover & Gough, 1990).

Yakovleva's (2023) study is particularly relevant to the present review because it illustrates how Montessori materials can be incorporated into the development of early English literacy. At the same time, the study describes a broader long-term educational project rather than a narrowly controlled reading intervention. Its findings therefore provide evidence concerning instructional practices and learning processes rather than a direct estimate of the independent effect of Montessori instruction on reading achievement.

Another relevant source is Houachine's (2024) master's dissertation, which examined the Montessori approach in relation to the early reading process among EFL learners aged 5–8 at a language centre in Oran, Algeria. The study employed an exploratory intrinsic case-study design and used a semi-structured interview and an achievement test. The reported findings concerned learners' development in decoding words and sentences, understanding written instructions, and learner autonomy. As a case study without a controlled comparison condition, however, the findings are best interpreted as context-specific evidence concerning the implementation and reported outcomes of Montessori-based early reading instruction rather than as a controlled estimate of intervention effects.

A number of studies have also examined Montessori materials and beginning reading more generally. Such studies were not treated as core evidence in the present review when English language learning was not a substantive component of the intervention. This distinction is important because findings concerning early literacy in a learner's first language cannot automatically be interpreted as evidence concerning English as a foreign language. Accordingly, the empirical evidence specifically addressing Montessori-based English reading remains narrower than that available for vocabulary.

3.4. Other English Language Skills

The selected empirical literature also addresses writing, speaking, communication, and broader language development, although these areas have received less systematic attention than vocabulary.

Writing is represented by Aghajani and Salehi (2020), whose experimental study involved 95 Iranian EFL learners aged 5–5. The participants had no previous English-language background and were randomly assigned to experimental and control groups. Following twelve instructional sessions, the researchers reported a statistically significant difference in writing post-test performance between the Montessori and control groups. The study used inferential statistical procedures, including ANCOVA, and therefore provides a more controlled basis for interpreting between-group differences than the small-scale action-research studies included in the review. Nevertheless, the relatively short intervention period and the specific characteristics of the Iranian beginner EFL population limit the extent to which the findings can be generalized to other young English learners.

Speaking and broader oral communication were examined by Caballero et al. (2022) as part of their six-month action-research intervention in Ecuador. The study involved ten second-grade children and their parents and combined qualitative and quantitative approaches. The researchers reported improvement in English communication following the Montessori-based intervention. Because the study was conducted with a small group and did not include a control condition, the findings are most appropriately interpreted as evidence of observed classroom development rather than as evidence of a specific causal effect attributable solely to Montessori instruction.

Apria Gina et al. (2025) investigated English-speaking development in a Montessori learning setting in Indonesia using qualitative methods, including observations and interviews. The study reported perceived improvements in learners' confidence and communication. These findings contribute to an understanding of learners' oral participation and classroom experiences, although the qualitative design and absence of standardized speaking measures limit direct comparison with quantitatively assessed language outcomes.

Jinabe et al. (2025) examined English language acquisition in an Indonesian Montessori classroom through a qualitative case study. The study focused on the relationship between Montessori philosophy, self-directed learning, and English language acquisition in an Islamic school context. The findings highlighted learner autonomy and classroom conditions associated with language development and described observable pathways of language acquisition within the particular educational setting. These findings primarily contribute to an understanding of instructional processes and learner participation rather than providing a quantitative estimate of language gains.

Kletzenbauer and Fürstenberg (2025) provided further evidence concerning early foreign-language learning and language awareness in an Austrian Montessori school. Their study involved 15 learners aged 5–9 who participated in an intensive linguistic-landscape workshop followed by semi-structured interviews. The findings indicated learner enthusiasm and engagement as well as increased awareness of the role and functions of English and interest in aspects of pronunciation and word formation. The study extends the empirical literature beyond conventional vocabulary and literacy outcomes to include language awareness and emerging metalinguistic reflection. However, its small-scale qualitative design limits the extent to which the findings can be generalized to broader populations of young English learners.

Listening has received comparatively little independent attention in the selected empirical literature. In several studies, listening appears to be embedded within broader communication, speaking, or language-acquisition activities rather than being assessed as a separate outcome using a dedicated measure. This represents an important gap in the current evidence base, particularly because receptive language development is a central component of early foreign-language learning. The limited independent assessment of listening makes it difficult to determine how Montessori-based instruction may contribute specifically to listening comprehension or other aspects of receptive oral language development. In foreign-language contexts, these processes may be further complicated by differences between learners' first-language and English orthographic and phonological systems (Grabe, 2009).

3.5. Reported Outcomes of Montessori-Based Interventions

Across the selected studies, Montessori-based English language instruction was associated with reported development in several areas of young learners' English learning,

including vocabulary, pronunciation, writing, communication, participation, confidence, and learner engagement. However, the nature of the reported outcomes and the methodological basis on which they were established varied substantially across the studies.

The most directly comparative evidence was provided by Aghajani and Salehi (2020), whose experimental and control-group design identified a statistically significant difference in writing post-test performance following twelve instructional sessions. The study therefore provides a comparatively controlled basis for examining differences between Montessori-based and routine instruction. Other intervention studies used classroom action-research designs. Amelia and Ngadiso (2020) reported improvement in vocabulary meaning and pronunciation, while Caballero et al. (2022) documented improvement in English communication and vocabulary-related performance following a six-month intervention. Similarly, Marhamah et al. (2025) reported progressive increases in general English-language performance across three cycles of classroom action research involving 15 children aged 5–5. These findings indicate reported improvement within the respective instructional contexts, but their designs do not allow the magnitude of a Montessori-specific effect to be established independently of other classroom factors.

The qualitative studies add a different dimension to the evidence by documenting learner experiences, classroom processes, and conditions associated with language use. Simanjuntak and Sinaga (2025) reported learner engagement and vocabulary retention in Montessori-inspired multimodal activities, while also identifying difficulties in transferring receptive vocabulary knowledge into productive oral use. Jinabe et al. (2025) described learner autonomy, self-directed learning, meaningful language input, and opportunities for spontaneous language production in an Indonesian Montessori classroom. Apria Gina et al. (2025) similarly reported perceived improvements in learners' confidence and communication through qualitative classroom evidence. These studies contribute important process-oriented evidence, although their designs do not provide standardized estimates of language proficiency gains.

Across the studies, several recurring patterns can therefore be identified. First, reported improvements are most visible in vocabulary and early language use, while writing, speaking, communication, and broader language development have also been investigated. Second, the evidence suggests that Montessori-based English instruction has been implemented through diverse combinations of hands-on materials, structured activities, repetition, learner choice, teacher guidance, and multimodal interaction rather than through a single standardized intervention. Third, learner engagement, participation, autonomy, and confidence frequently appear alongside language-related outcomes, indicating that some studies have examined not only what learners achieved but also how they participated in the learning process.

At the same time, these findings should not be interpreted as establishing a universal or uniform effect of Montessori-based English instruction. The studies differ substantially

in sample size, learner characteristics, intervention duration, instructional components, research design, assessment procedures, and comparison conditions. In addition, several interventions incorporated multiple pedagogical elements simultaneously, making it difficult to determine which specific Montessori principles or instructional components contributed to the reported outcomes. The available evidence therefore supports the identification of recurring positive outcomes and potentially relevant instructional processes, but remains insufficient for drawing a general causal conclusion across different young-learner contexts.

3.5. Methodological Patterns and Limitations

Several methodological patterns emerge from the selected evidence.

First, **small samples are common**. A number of studies involved individual classrooms or fewer than 20 learners, while qualitative studies often focused on a single Montessori setting. This provides detailed information about classroom processes but limits statistical power and generalizability. For example, Caballero et al. worked with ten children, while Marhamah et al. involved 15 kindergarten learners.

Second, **research designs vary considerably in evidential strength**. The reviewed literature includes experimental/control designs, classroom action research, qualitative case studies, and descriptive qualitative studies. These designs serve different purposes and should not be treated as equivalent forms of evidence. The experimental study by Aghajani and Salehi provides a stronger basis for comparative interpretation than a one-group classroom action-research project, whereas qualitative case studies are particularly useful for examining instructional processes and learner experiences.

Third, **intervention conditions are not standardized**. Montessori-based English instruction may include hands-on materials, learner choice, repetition, teacher observation, movement, multimodal activities, prepared environments, or other pedagogical components. In some studies, Montessori is presented as the central instructional framework, whereas in others it is combined with broader multimodal or context-specific approaches. Consequently, the term "Montessori-based intervention" refers to a heterogeneous group of practices rather than a single standardized treatment.

Fourth, **language outcomes are assessed using different instruments**. Vocabulary, writing, communication, speaking, and general English skills have been measured through researcher-developed tests, observations, interviews, classroom records, and other instruments. The lack of common assessment procedures makes direct comparison across studies difficult.

Fifth, **long-term follow-up is limited**. Although some studies report interventions lasting several months or two semesters, relatively little evidence is available concerning whether observed improvements are maintained after the intervention ends. Delayed post-tests and longitudinal follow-up are largely absent from the available evidence.

Finally, **some areas of English development remain under-researched**. Vocabulary and oral communication appear relatively visible in the literature, while independently assessed reading, listening, phonological awareness, and longer-term language development have received substantially less empirical attention. The evidence therefore supports the identification of promising instructional patterns, but it remains insufficient for broad causal conclusions about the effectiveness of Montessori-based English language education across different populations and educational contexts.

4. DISCUSSION.

The empirical evidence reviewed in this study suggests that Montessori-based approaches have been associated with positive developments in several areas of English language learning among young learners, including vocabulary, writing, communication, speaking, reading, and broader language-related skills. At the same time, the evidence does not support treating Montessori-based English education as a single standardized intervention with a uniform set of outcomes. The studies included in this review represent different instructional practices, educational contexts, learner groups, intervention durations, and research designs. Therefore, the findings are more appropriately interpreted as evidence of recurring instructional patterns than as evidence of a single, generalizable Montessori effect.

One recurring pattern concerns the role of active, concrete, and multimodal learning experiences. Amelia and Ngadiso (2020), for example, reported improvements in vocabulary meaning and pronunciation in a two-cycle classroom action research project, together with increased learner participation and self-confidence. Similarly, Marhamah et al. (2025) reported progressive improvement in English language performance across three classroom action research cycles involving structured play, repeated vocabulary exposure, and teacher scaffolding. These findings are broadly consistent with Montessori principles emphasizing purposeful activity, concrete experience, repetition, and active learner participation. Recent qualitative evidence from Indonesian Montessori settings similarly describes modeling, hands-on activities, repetition, and visual or gestural support as recurring features of English instruction. However, because these practices are often implemented together with other pedagogical components, their individual contributions cannot be isolated from the available evidence.

The reviewed literature also includes evidence from a comparative quantitative design. Aghajani and Salehi (2020) examined 95 learners aged 5–5 who were divided into experimental and control groups and received 12 sessions of instruction using Montessori materials. Their post-test analysis indicated a statistically significant between-group difference in writing performance. This design provides a more direct basis for comparing instructional conditions than qualitative case studies or single-group classroom action research. Nevertheless, the relatively short intervention period limits conclusions about the persistence of the reported difference over time. Other studies illustrate the contextual

diversity of the evidence. Caballero et al. (2022), working with ten second-grade children in Ecuador, reported improvement in English communication following a six-month Montessori-based intervention, while Yakovleva (2023) described a longer-term preschool English project in Taiwan involving reading, writing, speaking, listening, phonics, sound blending, syntax, and morphology. Together, these studies indicate that Montessori-based English activities have been applied across multiple dimensions of language development, although the differences in design and measurement make direct comparison difficult.

The findings are particularly relevant to vocabulary and early literacy, which appear as important but unevenly investigated areas of the existing evidence base. Amelia and Ngadiso (2020) reported improvement in vocabulary meaning and pronunciation, while Caballero et al. (2022) incorporated vocabulary development into their assessment of English communication. Other recent studies have emphasized repeated vocabulary exposure, hands-on activities, and multimodal support. Such findings are compatible with the Montessori emphasis on concrete experience and repeated interaction with learning materials. Nevertheless, vocabulary outcomes have been operationalized differently across studies, with some focusing on general vocabulary mastery or recognition and others addressing productive language use. This variation limits the extent to which the existing literature can explain changes in specific dimensions of lexical knowledge.

Reading provides a related but less systematically investigated area. Yakovleva (2023), for example, described the use of Montessori materials such as sandpaper letters and vowel-matching cards in activities related to early reading and writing, alongside phonics and sound blending. These practices are potentially relevant to early English literacy because learners must establish connections among visual symbols, sounds, words, and meaning. However, few studies distinguish systematically among phonological awareness, letter-sound correspondence, decoding, word recognition, fluency, and comprehension. Similarly, vocabulary research rarely differentiates clearly between receptive recognition, productive retrieval, and contextual use. Consequently, the available evidence provides indications of language development but does not yet explain in sufficient detail how particular Montessori-based practices may relate to particular stages of reading or lexical development.

The interpretation of these findings is further constrained by methodological heterogeneity. The reviewed literature includes experimental and control-group research, classroom action research, qualitative case studies, practitioner research, and descriptive qualitative studies. Sample sizes also vary considerably, from very small classroom-based groups to the 95 participants examined by Aghajani and Salehi (2020). Small samples can provide valuable information about instructional processes and learner experiences, but they limit generalizability. Intervention duration varies from short instructional periods to projects extending across several months or academic terms, while assessment procedures range from researcher-developed tests and writing measures to observations, interviews,

and classroom records. These differences prevent direct statistical comparison and make a meta-analytic synthesis inappropriate for the present evidence base.

Another important consideration is the heterogeneity of what is described as a “Montessori-based” intervention. In some studies, Montessori functions as the central pedagogical framework, whereas in others selected materials or principles are incorporated into broader English-language activities. Montessori practices may occur alongside play, movement, visual support, repetition, teacher scaffolding, and other multimodal strategies. This reflects the way Montessori-inspired practices may operate in authentic educational settings, but it also makes it difficult to determine whether reported outcomes are attributable specifically to Montessori features or to the combined influence of several developmentally appropriate instructional practices. More explicit reporting of Montessori materials, procedures, teacher preparation, instructional frequency, and fidelity of implementation would therefore strengthen future research.

Several research gaps emerge from this synthesis. First, the available evidence remains geographically and educationally limited despite including studies from countries such as Indonesia, Iran, Ecuador, Taiwan, Mexico, Algeria, Austria, and Nigeria. Further research across different linguistic and educational contexts is needed to examine the transferability of the reported patterns. Second, future studies would benefit from more precise and comparable outcome measures. Vocabulary research could distinguish receptive recognition, semantic discrimination, word identification, productive retrieval, and contextual use, while reading research could separately assess phonological awareness, letter-sound correspondence, decoding, word recognition, fluency, and comprehension. Third, longitudinal and comparative research is needed to determine whether observed changes are maintained over time and to clarify the contribution of specific Montessori components. Studies that compare Montessori-based activities with other instructional conditions while controlling instructional time and language content could provide more informative evidence concerning the role of Montessori-specific practices.

Overall, the reviewed literature indicates that Montessori-based English education is associated with a range of reported outcomes in young learners, particularly in vocabulary, early literacy, communication, and learner engagement. However, the current evidence base remains heterogeneous in terms of intervention characteristics, samples, assessment procedures, and research designs. The most important direction for future research is therefore not simply to establish whether Montessori-based English instruction produces improvement, but to examine how particular practices operate, for which learners, under which conditions, and for which dimensions of language development. Such research would contribute to a more precise and evidence-informed understanding of Montessori-based English language education for young learners.

5. Conclusion

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This review synthesized empirical evidence on Montessori-based English language education for young learners, focusing on instructional approaches, reported language-learning outcomes, methodological characteristics, and research gaps. The findings indicate that Montessori-based approaches have been associated with reported improvements in vocabulary, early literacy, writing, speaking, communication, and related language skills across diverse educational contexts. However, the evidence base remains limited and methodologically heterogeneous.

The review also shows that Montessori-based English education does not represent a single standardized instructional model. Studies have combined Montessori materials and principles with hands-on and multisensory activities, repetition, learner choice, teacher guidance, and opportunities for independent learning. Vocabulary and early literacy emerge as particularly relevant areas for further investigation, although existing evidence is insufficient to establish how specific Montessori practices contribute to particular stages of language development.

Overall, the available evidence supports continued empirical investigation while highlighting the need for greater methodological precision. Future studies should employ clearly defined interventions, appropriate comparison conditions, validated skill-specific measures, larger and more diverse samples, and longitudinal designs. Particular attention should be given to identifying how specific Montessori practices and teacher scaffolding relate to particular English language outcomes among young learners.

5. LIMITATIONS OF THE REVIEW

Several limitations should be considered when interpreting the findings.

First, this review adopted a narrative rather than systematic or meta-analytic design. Although studies were identified and synthesized using predefined criteria and a structured extraction framework, the evidence was not statistically aggregated. Moreover, substantial heterogeneity in research designs, participants, intervention characteristics, outcome measures, and reporting practices limited direct comparison across studies.

Second, the empirical literature on Montessori-based English language education remains relatively limited and unevenly distributed across educational contexts. Differences in sample size, learner age, instructional settings, intervention duration, and targeted language skills constrain the generalizability of the identified patterns. Variation in assessment procedures, including teacher-developed tests, observations, interviews, and pre-test/post-test measures, further limits the comparability of reported outcomes.

Third, the search process may not have captured all relevant evidence, particularly studies published in less accessible journals, institutional repositories, theses, or languages outside the search scope. Publication and retrieval bias should therefore be acknowledged.

Finally, the findings should not be interpreted as establishing a general causal effect of Montessori education on English language development. The reviewed evidence

includes experimental, action-research, case-study, and descriptive designs; therefore, the review identifies patterns in the available evidence rather than estimating an overall intervention effect. Future research would benefit from larger and more consistently reported studies, clearer descriptions of Montessori-based interventions, standardized outcome measures, and systematic or meta-analytic synthesis when a sufficiently comparable evidence base becomes available.

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