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Curricular Adaptation for Children in Early Education with Learning Problems. Integrative Review

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Abstract

The purpose of this integrative review of the literature is to identify and analyze curricular adaptation strategies aimed at supporting the learning of early childhood children with learning difficulties. Scientific publications were collected between 2019 and 2024 from Anglo-Saxon, Asian and Latin American contexts, integrating empirical and theoretical contributions in the field of inclusive education. The review followed the methodological framework of Whittemore and Knafelz, including systematic search, critical evaluation, and thematic synthesis of ten selected studies. The findings reveal five main categories of curricular adaptation: Universal Design for Learning (UDL), flexibility of content and methodologies, differentiated and formative assessment, adapted teaching resources, and organization of the physical and socio-emotional environment. While the Anglo-Saxon literature emphasizes UDL and differentiated assessment, Asian studies emphasize playful methodologies and technological integration. Latin American research provides contextualized strategies, often developed in conditions of vulnerability and with community support. The review underscores the importance of teacher training, inter-institutional coordination, and the creation of emotionally safe environments. It also identifies barriers such as limited infrastructure, absence of systematic psychoeducational assessment, and scarcity of validated instruments. These findings offer guidance for pedagogical practice and the development of education policies that promote more equitable, responsive, and inclusive early education systems.

Keywords: Educational strategies, Learning difficulties, School adjustment, Early childhood education, Inclusive education.

Introduction

Early education represents a critical stage for the integral development of children, especially for those who face learning difficulties. In this context, curricular adaptations emerge as a key strategy to ensure equitable access, meaningful participation, and the achievement of relevant learning in inclusive environments. Various studies agree that early attention to special educational needs through pedagogical, methodological, and evaluative adjustments can prevent later delays and promote successful school trajectories (Special Education Notes, 2022; Ullauri et al., 2024).

From the Anglo-Saxon perspective, the Universal Design for Learning (UDL) approach has been consolidated as a framework for the diversification of teaching. This model promotes multiple forms of representation, expression, and engagement, allowing children with cognitive,

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linguistic, or socio-emotional difficulties to access the curriculum without lowering academic expectations (de la Fuente-González et al., 2025; Sánchez Fuentes, 2022). In Asian countries such as India and China, recent literature emphasizes the need to combine curricular adaptations with continuous teacher training, use of accessible technologies, and collaboration between family and school to respond to diversity in the classroom (Special Education Notes, 2022).

In Latin America, research highlights both normative advances in inclusion and persistent challenges in the effective implementation of adaptations. Studies carried out in Chile and Brazil, for example, underline the importance of strategies such as content flexibility, the use of visual and manipulative resources, and differentiated assessment, especially in areas such as Language and Literature (Cortés Díaz et al., 2021; Parody et al., 2022). However, there are also gaps in teacher training, the availability of adapted materials, and inter-institutional coordination (Sánchez-Serrano, 2022).

Within the framework of the research project "Comprehensive curricular adaptation in the learning deficit in early childhood education students" that is being carried out at the State University of the South of Manabí in Ecuador – as part of the theoretical basis – this integrative review was carried out with the purpose of identifying, analyzing and synthesizing the curricular adaptation strategies documented in the scientific literature of the last five years. with emphasis on its applicability in early education contexts. By integrating findings from different regions of the world, it seeks to provide a comprehensive and contextualized vision that guides pedagogical and political decision-making in favor of a fairer and more inclusive education for children with learning disabilities.

Method

This integrative review was developed following the methodological guidelines proposed by Whittemore & Knafl (2005), which allow the inclusion of empirical and theoretical studies with different methodological approaches (Whittemore & Knafl, 2005). The process was structured in five stages: Formulation of the question, search for the literature, definition of the criteria for inclusion and exclusion of the studies, critical evaluation of the studies, and finally their analysis and synthesis.

The guiding question was defined: What curricular adaptation strategies have been documented in recent scientific literature to care for children in early childhood education with learning difficulties?

A systematic search was conducted in academic databases such as Scopus, Web of Science, ERIC, SciELO and Redalyc, using descriptors in English and Spanish such as curricular adaptation, early childhood education, learning difficulties, inclusive education, curricular adaptation strategies, initial education, learning difficulties. Articles published between 2019 and 2024, with peer review, in English and Spanish were selected.

We included studies focused on early childhood education (0-6 years), which describe or evaluate curricular adaptation strategies for children with learning difficulties. Research focused on primary or secondary education was excluded, with no explicit mention of curricular adaptations. To evaluate the selected studies, methodological quality criteria adapted to each type of study (quantitative, qualitative or mixed) were applied, considering aspects such as clarity of objectives, rigor in the design, and relevance of the findings, and for their analysis and synthesis. A thematic approach was used to group the identified strategies into emerging categories, considering similarities and differences between geographical regions and theoretical frameworks. This is represented in Figure 1 PRISMA flowchart (Moher et al., 2009).

Results

Identification, screening and selection of included studies.

A total of 587 studies were initially identified. After reading the titles and thoroughly reviewing the sources, 115 studies were eliminated because they were duplicates. We eliminated 398 studies that did not meet the inclusion criteria. 74 studies were read in their entirety, of which 64 were excluded because they did not describe the curricular adaptation strategy, because they were not focused on early education and because of insufficient methodological quality. This review included a total of 10 studies.

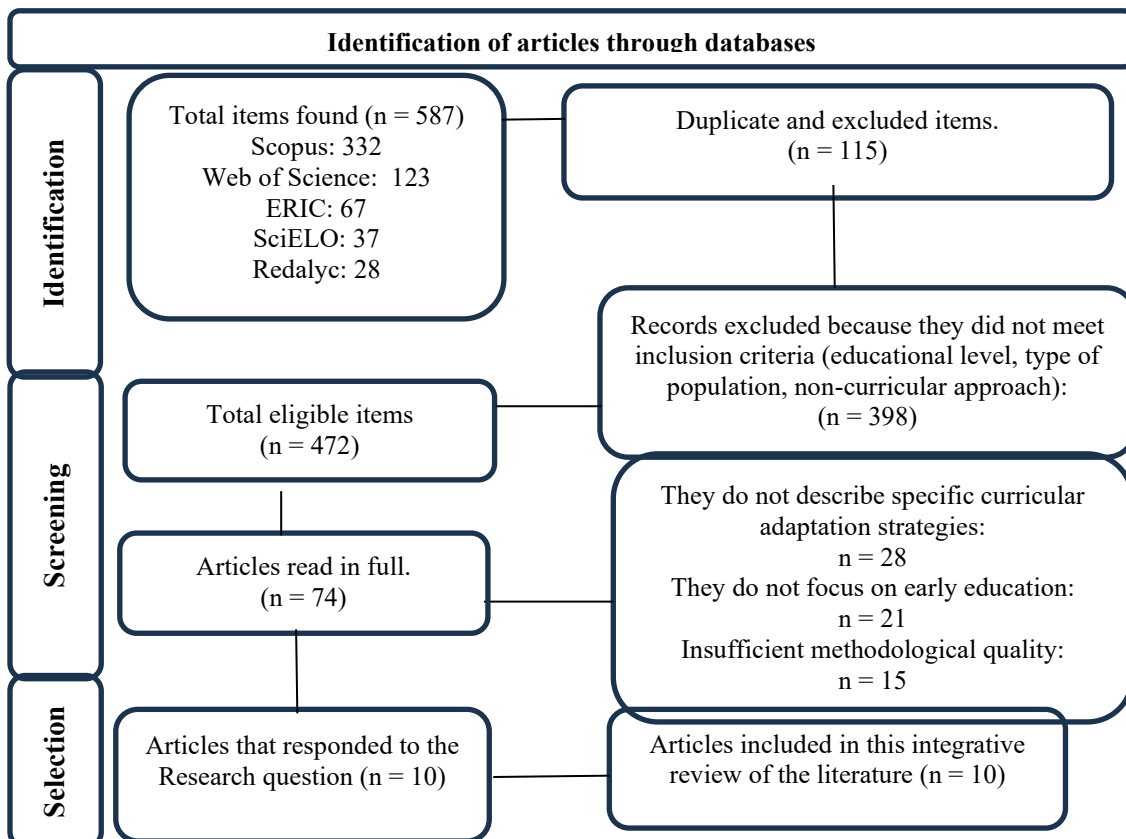


Figure 1 - Flowchart of the study selection process according to Preferred Reporting Items for Systematic reviews and Meta-Analyses, 2022

Synthesizes the main findings of the integrative review conducted.

Table 1 presents the data extraction matrix that synthesizes the main findings of the integrative review conducted. This systematization allows us to visualize common patterns, differentiated approaches, and gaps in knowledge relevant to the strengthening of inclusive practices in early education. In addition, it provides a comparative basis for critical analysis and contextualized recommendations.

Table 1. Matrix of Curricular Adaptation Strategies in Early Childhood Education

Author (s) / Year	Type of study	Curriculum Adaptation Category	Main strategies	Facilitators	Barriers identified
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(G. Coogle et al., 2022)	Quantitative	Universal Design for Learning (UDL)	Use of multiple forms of representation, expression, and motivation	Teacher training in UDL, institutional support	Resistance to change, lack of technological resources
(Kumar Rajak & Gopal Dey, 2025)	Qualitative	Differentiated assessment.	Tailored portfolios, flexible rubrics	Parent involvement, continuing education	Administrative overhead
(Cade, 2023)	Mixed	Methodological adaptation	Game-based learning, visual supports	ICT integration, family-school collaboration	Lack of specialized training
(Shahzad et al., 2023)	Quantitative	Content flexibility	Tight Sequencing, Goal Simplification	Inclusive policies, community support networks	Poor pedagogical supervision
(Hosokawa et al., 2023)	Quasi-experimental	Social-Emotional Learning	Fun FRIENDS Program: Group Sessions for Emotional Regulation and Resilience	Cognitive-behavioral approach, whole-classroom intervention	Need for longitudinal monitoring
(Gonzalez, 2025)	Qualitative	Adapted teaching resources	Manipulative materials, pictograms	Teaching creativity, support from specialist	Budget constraints
(Castro et al., 2024)	Mixed	Formative assessment	Continuous observation, personalized feedback	Teaching commitment, humanistic approach	Lack of validated instruments
(Silva, 2024)	Qualitative	Organization of the environment	Differentiated learning zones, inclusive signage	Student Engagement	Inadequate infrastructure
(Pacheco et al., 2024)	Bibliographic	Inclusive Language and Literature	Diversity of assessment resources, teacher-family collaboration, use of ICT	Access to scientific databases, teaching experience	Diverse diagnoses, lack of curricular standardization

(Jijon et al., 2023)	Qualitative	Comprehensive adaptation of the curriculum	Adjustments in content, times, evaluation and physical environment	Collaborative work between teachers and families	Lack of systematic psychoeducational evaluation
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Authors, 2025

Discussion

The integrative review made it possible to identify various curricular adaptation strategies aimed at favoring the learning of children in early education with learning difficulties. Next, the findings are discussed, grouped into five emerging categories, contrasting approaches and practices across regions.

Universal Design for Learning (UDL)

The Anglo-Saxon literature, especially in the United States and the United Kingdom, highlights UDL as the dominant conceptual framework for inclusion. This approach proposes multiple forms of representation, expression and motivation, allowing children to access the curriculum without reducing learning standards. Studies such as those by Coogle et al. (2022) show improvements in child participation and autonomy when UDL principles are applied, although barriers such as teacher resistance and lack of technological resources persist. In contrast, this category does not appear strongly in Asian or Latin American studies, which suggests an opportunity for its dissemination and contextualization in these environments.

Flexibility of Content and Methodologies

In Asia, research such as that by Cade (2023) and Shahzad et al. (2023) emphasizes goal simplification, tight sequencing, and the use of playful methodologies as key strategies. These practices are linked to emerging inclusive policies and the use of accessible technologies. In Latin America, flexibility is manifested in adjustments to the times, contents, and forms of assessment, as documented by Jijón et al. (2023) in Ecuador. However, implementation faces challenges such as the lack of systematic psychoeducational evaluation and poor inter-institutional coordination.

Differentiated and Formative Assessment

In both Anglo-Saxon and Latin American contexts, differentiated assessment appears as a recurrent strategy. Kumar & Gopal (2025) propose flexible rubrics and adapted portfolios, while Castro et al. (2024) highlight continuous observation and personalized feedback as effective practices in Ecuador. These strategies allow individual progress to be valued without generating stigmatization. However, limitations such as administrative overload and the lack of validated instruments are identified.

Adapted Teaching Resources.

The adaptation of materials is a constant in Latin American literature, with an emphasis on the use of pictograms, manipulative resources, and visual aids (Gonzalez, 2025; Pacheco et al., 2024). These strategies favor the understanding and expression of children with cognitive or linguistic difficulties. In Asia, the use of ICT as an adaptive resource is also highlighted, although with less emphasis on physical materials. Teacher creativity and specialist support are common enablers, while budget constraints and lack of specialized training are persistent barriers.

Organization of the Environment and Socio-Emotional Support

Recent studies in Colombia (Silva, 2024) and Japan (Hosokawa et al., 2023) highlight the importance of adapting the physical and emotional environment of the classroom. The creation

of differentiated areas, inclusive signage and emotional regulation programs such as Fun FRIENDS contribute to generating safe and stimulating environments. These strategies recognize that learning depends not only on the curriculum, but also on the affective and social conditions that surround it. However, its implementation requires adequate infrastructure and longitudinal monitoring, aspects that are still weak in many **Latin American Contexts**.

The findings show that, although there are convergences in curricular adaptation strategies between regions, their application is mediated by contextual factors such as educational policies, teacher training, available resources, and institutional culture. The Anglo-Saxon literature provides robust theoretical frameworks such as the DUA; the Asian one highlights methodological and technological integration; and Latin America offers valuable experiences of creative adaptation in conditions of vulnerability. This diversity constitutes a richness for the design of contextualized, sustainable and emotionally safe proposals for children with learning difficulties in early education.

Implications for Pedagogical Practice

The findings of this integrative review offer valuable guidance for strengthening pedagogical practice in early education, especially in contexts of diversity and vulnerability. Evidence suggests that adapting the physical and emotional environment of the classroom – through inclusive signage, differentiated areas and socio-emotional programs – favors the participation of children with learning difficulties, in addition, the incorporation of strategies such as game-based learning, the use of visual supports and the flexibility of content allows responding to different learning styles and rhythms without compromising educational quality. On the other hand, the implementation of flexible instruments, continuous observation and personalized feedback contributes to valuing individual progress and avoiding stigmatization of children with special educational needs.

Study Limitations

Although this integrative review provides a broad and comparative view of curricular adaptation strategies, it is important to recognize their limitations. The first is that the included studies have diverse approaches, designs, and levels of rigor, which makes it difficult to directly compare results and generalize conclusions, and second, although Anglo-Saxon, Asian, and Latin American sources were considered, some regions are underrepresented due to the limited availability of recent studies in indexed databases.

Conclusions

The integrative review conducted allowed the identification of a diverse set of curricular adaptation strategies aimed at improving the learning of children in early childhood education with learning difficulties. The studies analyzed, from Anglo-Saxon, Asian and Latin American contexts, agree on the need to transform pedagogical practices towards more inclusive, flexible and emotionally safe models. Among the most outstanding strategies are Universal Design for Learning (UDL), the flexibility of content and methodologies, differentiated assessment, the use of adapted teaching resources and the organization of the physical and socio-emotional environment. These practices, while diverse in their application, share an approach focused on equity, participation and respect for individual rates of development. However, the effective implementation of these strategies faces structural barriers such as the lack of specialized training, poor inter-institutional coordination, budgetary constraints, and the absence of clear inclusion policies in some contexts. The review also highlights the need to strengthen applied and contextualized research that allows international models to be adapted to local realities, especially in vulnerable regions.

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