Cooperative learning for the inclusion of students with special educational needs in universities: systematic review

Aprendizaje cooperativo para la inclusión de estudiantes con necesidades educativas especiales en las universidades: revisión sistemática

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Abstract
This article addresses cooperative learning as an essential pedagogical strategy to improve the inclusion of students with special educational needs (SEN) in higher education, based on a systematic review that explores the main characteristics of this pedagogical approach and the integration of students with SEN in the university classroom, from an equitable and accessible vision. Through the PRISMA protocol, a search was conducted in the Google Scholar and ScienceDirect databases, where 21 articles were located that met the relevance of the context on the subject. The results suggest that lines of research should be developed to demonstrate that cooperative learning favors inclusion and allows addressing diversity in university classrooms, since it can be seen as a powerful tool to advance towards a more inclusive university education. However, its effectiveness depends on factors such as teacher preparation, institutional commitment and student culture. It is concluded that it is essential to move towards an inclusive and equitable higher education, so it is recommended to train teachers and develop institutional policies that promote inclusion at all academic levels.

Keywords: educational inclusion, diversity, equity.

Resumen

Este artículo aborda el aprendizaje cooperativo como una estrategia pedagógica esencial para mejorar la inclusión de estudiantes con necesidades educativas especiales (NEE) en la educación superior, a partir de una revisión sistemática donde se exploran las principales características de este enfoque pedagógico y la integración de estudiantes con NEE en el aula universitaria, desde una visión equitativa y accesible. A través del protocolo PRISMA, se realizó una búsqueda en las bases de datos Google Académico y ScienceDirect, donde se localizaron 21 artículos que cumplieron con la pertinencia del contexto sobre la temática. Los resultados sugieren que se desarrollen líneas de investigación para demostrar que el aprendizaje cooperativo favorece la inclusión y permite atender la diversidad en las aulas universitarias, ya que puede ser visto como una herramienta poderosa para avanzar hacia una educación universitaria más inclusiva. Sin embargo, su efectividad depende de factores como la preparación docente, el compromiso institucional y la cultura estudiantil. Se concluye que es fundamental avanzar hacia una educación superior inclusiva y equitativa, por lo que se recomienda capacitar a los docentes y desarrollar políticas institucionales que promuevan la inclusión en todos los niveles académicos.

Palabras clave: inclusión educativa, diversidad, equidad.

Introduction

Inclusive education has emerged as an approach focused on analyzing the educational diversity of all students equally within the educational system. According to Echeita (2017), the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2016) emphasizes the importance of creating maximum learning opportunities while also fostering essential skills, such as reading, writing, and arithmetic, which contribute to the development of active citizens for life.

In this context, there is a pressing need to develop inclusive education, where educators can implement methodologies that enable all students to develop social skills and competencies, addressing specific learning needs through dynamic, participatory, and student-centered methods, such as cooperative learning.

According to Gillies (2016), cooperative learning (CL) refers to an educational methodology that gained prominence in the early 1980s as a strategy for addressing diversity in classrooms, aimed at encouraging students to work collaboratively towards a common goal. This practice is underpinned by five fundamental principles, including positive interdependence, face-to-face interaction, individual accountability, social skills, and group processing (Johnson et al., 1999). The latter is a key component that invites student reflection and evaluation of their individual and group progress and functioning.

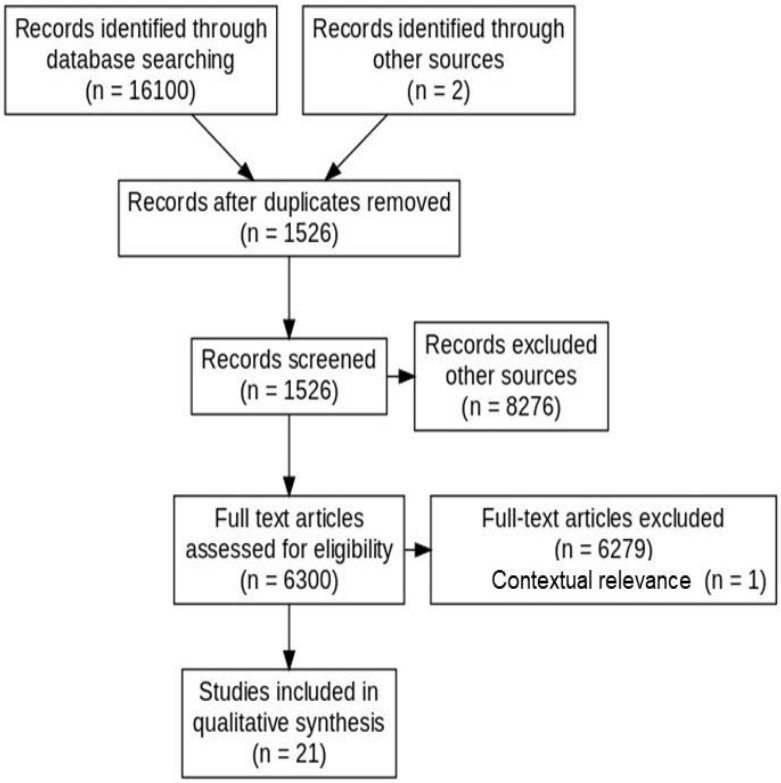
To this end, it is essential to consider social constructivism (Vygotsky, 1978), which posits that knowledge is constructed through social interaction. The dynamics of cooperative learning serve as proximal development zones for students with special educational needs (SEN), allowing them to learn alongside their peers in a mutually supportive environment. From the perspective of social constructivism, interaction with others plays a central role in knowledge construction.

It is noteworthy that although various countries have implemented laws and policies promoting inclusion, barriers still exist in university classrooms that prevent the full and equitable participation of these students. Thus, there is a growing concern regarding cooperative learning as a means of including students with special educational needs in university contexts.

Methodology

To address the current study on cooperative learning as a core component of inclusion for students with SEN in higher education, a systematic review was conducted. The aim was to provide data on the scientific evidence published between 2021 and 2025 regarding how cooperative learning facilitates the inclusion of students with educational needs. A systematic search was carried out following the PRISMA method (Figure 1), focused on identifying works that address the inclusion of students with educational needs in universities.

Figure 1
PRISMA diagram



Results and discussion

Table 1
Research on cooperative learning and the inclusion of students with SEN in higher education

Author(s)	Title	Year	Objective	Key findings
Johnson, D. W., y Johnson, R. T.	Cooperative Learning and the Use of Technology	2020	Explore how cooperative learning and technology can enhance the educational inclusion of students with SEN.	Combining technology and cooperative learning fosters the integration of students with SEN in higher education.
Slavin, R. E.	Cooperative Learning: Theory, Research, and Practice	2019	Examine the effects of cooperative learning on academic performance and the inclusion of students with SEN.	Cooperative learning improves academic performance and participation of students with SEN in universities.
García, M. T., & Martínez, J.	Cooperative Learning and Its Impact on the Educational Inclusion of Students with Special Needs	2021	Investigate the impact of cooperative learning on the inclusion of students with SEN in higher education.	Cooperative learning promotes the development of social and academic skills in students with SEN.

Sharan, Y., & Sharan, S.	Group Dynamics and Cooperative Learning in Higher Education	2021	Analyze how cooperative learning can be a key facilitator for inclusion in universities.	Group dynamics aid in the integration of students with SEN, improving their interaction and performance.
Rodríguez, J., & González, A.	Inclusive Strategies in University Teaching: Cooperative Learning as a Key Tool	2022	Analyze the impact of inclusive strategies, particularly cooperative learning, for students with SEN.	Cooperative learning enables active inclusion and participation of students with SEN.
McMaster, K., & Fuchs, D.	Improving Learning Outcomes for Students with Disabilities Through Cooperative Learning	2020	Explore how cooperative learning enhances learning outcomes for students with disabilities.	Cooperative learning contributes to the academic success of students with disabilities.
Díaz, C., & Rodríguez, S.	Educational Inclusion and Cooperative Learning: Strategies to Improve Participation of Students with SEN	2021	Examine the best cooperative strategies for the inclusion of students with SEN in university settings.	Cooperative strategies improve the participation and learning of students with SEN in universities.
Smith, D. W., & Johnson, M. E.	Cooperative Learning and Inclusive Education in Higher Education	2022	Investigate the relationship between cooperative learning and the inclusion of students with SEN in universities.	Cooperative learning promotes the inclusion of students with SEN and fosters cohesion in the university context.
López, M., & García, C.	Cooperative Learning in University Contexts for Students with SEN: A Perspective from Inclusion	2021	Analyze how cooperative learning can facilitate the inclusion of students with SEN in universities.	Cooperative learning creates an inclusive environment by supporting interaction between students with SEN and their peers.
Martínez, F. J., & Pérez, L.	The Role of Cooperative Learning in Promoting Social Inclusion in University Students with Disabilities	2021	Study the role of cooperative learning in promoting social inclusion of students with disabilities in university.	Cooperative learning aids students with SEN and enhances the overall environment.
Perlado, Torrego & Muñoz	Social Skills and Cooperative Learning in the Inclusion of Students with Specific Educational Needs	2021	Analyze how working with the cooperative learning methodology in the classroom can	To improve the social skills of students with SEN, educators must promote actions that foster social skills through cooperative learning.

			improve social skills of students with SEN.	
González, Sarango & Morocho	Challenges and Barriers in Implementing Inclusive Education: A Case Study from Ecuador	2024	Examine the complexities associated with incorporating inclusive education policies in Ecuador.	There is disparity in the understanding and adoption of inclusion, with fragmented implementations and unsatisfactory frequency in Ecuadorian universities.
Solis, Gallego & Castelao	Does Cooperative Learning Promote Inclusion? A Systematic Review	2022	Provide data on the scientific evidence regarding how cooperative learning facilitates the inclusion of students with educational needs.	In light of the lack of publications on the inclusion of students with SEN, it is proposed to develop research lines on this methodology that favors inclusion.
Lago & Llanos	Teacher Support for Advancing Inclusion: The Khelidôn Network for Cooperative Learning	2024	Present a collaborative support network among faculty, the Khelidôn Network for cooperative learning and inclusion.	Attention is given to describing tasks from cooperative learning, which promote inclusion.
Gálvez-Palomeque, P. A., Chalco-Torres, L. E., & Galarza-Mora, W. G.	Optimizing Teaching in Higher Education: A Review of Strategies for Including Students with Special Educational Needs	2023	Conduct a literature review related to educational strategies aimed at students with special needs in university settings, to promote more inclusive and equitable environments in higher education institutions.	The special educational needs highlight the importance of adaptation to ensure equal opportunities and academic success.
Nistal, López & Gutiérrez	Teacher Competencies for the Inclusion of Students with Special Educational Needs: A Systematic Review	2024	Conduct a systematic review and analyze publications based on their characteristics, research topics, and teacher competencies, following PRISMA guidelines.	Training programs for teachers are proposed that include content on specific competencies to favor the educational inclusion of students with SEN.
Correa & Osses	Cooperative Learning: Reflections for Its Implementation in Inclusive Classrooms	2023	Reflect on the concept of cooperative learning as a response to	Training institutions can consider cooperative learning as a pedagogical opportunity.

			inclusive education in schools.	
Hervada, B., Maneiro Dios, R. & Revesado Carballares,	Cooperative Learning as a Strategy for Inclusive Teaching	2022	Clarify the positive impact that cooperative learning can have on inclusive education.	Cooperative learning is effective in promoting inclusivity in educational institutions.
O´Hinggins Salinas, T., & Ayala, S.	Profile of the Higher Education Teacher for Inclusive Education in a Private University in Paraguay	2024	Describe the profile of the higher education teacher for inclusive education in a private university in Paraguay in 2022.	Teachers are not adequately trained for inclusive classrooms in higher education.
Sanz & Quesada	Cooperative Learning: Study of an Emerging Inclusive Methodology	2022	Emphasize the importance of applying an active methodology, such as cooperative learning, which remains underexplored and requires further investigation in classrooms.	Teachers must collaborate and ensure inclusive methodological application so that students with SEN can enhance their self-esteem and socialization.
Rivadeneira-González, E., & Fernández-Fernández, M. (2024).	Methodological Strategy for Addressing Students with Special Educational Needs Not Associated with Disability in Rural Ecuador	2024	Present the design of a methodological strategy for addressing students with special educational needs not associated with disabilities in the rural sector of Manta, Unidad Educativa Fiscal Ahitana Ponce Santana.	Through cooperative learning, activities aimed at evaluation, design of individualized intervention plans, and use of technological resources for support, accompaniment, and teacher training are contemplated.

The review of previous studies indicates that cooperative learning has a significant impact on the educational inclusion of students with SEN in higher education.

In Spain, for example, Lago & Llanos (2024) highlighted the importance of collaborative professional development to enhance educational practice. They referenced the Khelidôn Network for cooperative learning and inclusion, which has launched the strategy "Cooperate to Learn / Learn to Cooperate," presenting principles and collaborative participation spaces to promote inclusion through these educational projects.

From the same country, Sanz & Quesada (2022) emphasized the necessity of applying an active methodology—specifically, cooperative learning—to enable students to achieve meaningful learning accompanied by attitudes and values. Education should focus on the inclusion of students, regardless of their learning abilities. This application of inclusive methodology allows such students to integrate as much as possible, which can enhance their self-esteem and socialization. Perlado et al. (2021) demonstrated that students with SEN can improve their social skills and achieve better learning outcomes through this method, provided that educators implement actions that promote these skills through cooperative learning and diversified, planned, and tailored proposals.

In this context, the work of Hervada et al. (2022) is noteworthy, as they addressed educational inclusion by clarifying the positive impact of cooperative learning. Their systematic review revealed the effectiveness of this method in promoting inclusivity within educational institutions, although a profound transformation of the educational system is required to adequately respond to the differences encountered in classrooms.

Continuing with recent publications, Gálvez et al. (2024) conducted a review of academic literature regarding educational strategies for students with special needs in university settings. Their findings revealed significant attention to general and auditory educational needs, indicating the need to adapt strategies for improving inclusion and to continue exploring this area. For visual impairments, it is crucial to eliminate digital barriers and promote psychosocial support in distance education. For auditory impairments, deeper engagement with sign language and specialized academic programs is necessary.

Regarding autism spectrum disorder, there is a need to involve individualized support strategies and the use of educational technology, acknowledging that special educational needs require adaptations for true inclusion and academic success. Nistal et al. (2024) also conducted a systematic review of related publications, concluding the necessity for training programs for teachers to develop competencies that favor educational inclusion for students with SEN. Similarly, Cañón & Martínez (2023) identified that effective inclusion in universities requires both willingness and continuous training.

Correa & Osses (2023) recognized inclusion as an educational process safeguarding the human right of children and youth to education, regardless of their differences and individual sociocultural, identity, religious, ethnic, and educational traits. This underscores the need for training to build skills, knowledge, and disciplinary and pedagogical attitudes aimed at inclusive education.

At this point, Johnson & Johnson (2023) return to cooperative learning, stating that teamwork not only enhances learning but also creates an emotionally secure environment, which is essential for students with SEN. Likewise, Slavin (2022) reinforces this idea, noting that cooperative learning allows all students to participate actively, which is particularly beneficial for those historically excluded from the educational system.

Solis et al. (2022) also emphasize that cooperative learning is a widely accepted teaching methodology today. Through a systematic review, they provided scientific evidence on how this method facilitates the inclusion of students with SEN, highlighting the need to develop research lines on the topic. Additionally, research by McMaster & Fuchs (2020) demonstrates that this approach not only improves academic performance but also enhances social skills and the integration of students with disabilities. Gillies (2022) and Echeita (2022) agree on the value of inclusive and collaborative pedagogical practices to promote educational equity. Among the most recent research in Latin America, studies by Martínez & Vega (2022) and Rivas & Camacho (2023) show that this strategy contributes to the academic performance and interpersonal relationships of students with disabilities in university settings.

Conclusions

In conclusion, it can be asserted that the reviewed works converge on the necessity to develop research lines demonstrating that cooperative learning is a methodology that promotes inclusion and addresses diversity in university classrooms, as evidenced by its application in various contexts beyond mere theoretical premises.

A key consideration centers on educators and the need for training in competencies that prepare them to utilize cooperative learning as a didactic opportunity in their practices, addressing the challenges associated with inclusive classrooms, particularly in university settings where learning is considered more autonomous than in primary and secondary education.

In this regard, cooperative learning facilitates teamwork, not only enhancing learning but also creating an emotionally safe environment for students with SEN. It is essential to consolidate pedagogical practices that guarantee the right to equitable and quality education for all. Cooperative learning can undoubtedly promote the academic improvement of students with SEN in universities, as well as the social skills crucial for effective inclusion in these classrooms.

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