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HYBRID

EDUCATION AS A NEW PARADIGM IN HIGHER EDUCATION



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HYBRID

EDUCATION AS A NEW PARADIGM IN HIGHER EDUCATION

LA EDUCACIÓN HÍBRIDA COMO NUEVO PARADIGMA EN LA EDUCACIÓN SUPERIOR

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ABSTRACT

Higher education is undergoing a profound transformation due to digitalization, the globalization of knowledge, and the demands of students who require flexibility, personalization, and social relevance. Hybrid education is presented as an innovative paradigm that combines face-to-face instruction with online learning, strategically integrating digital technologies into the curriculum, making it a fundamental alternative for addressing contemporary challenges of accessibility, inclusion, and skills development. The objective of this article is to analyze and understand hybrid education as a new paradigm in higher education, identifying its characteristics, benefits, challenges, and opportunities, as well as its impact on teaching, learning, and institutional management. To this end, a qualitative-descriptive methodology was employed, based on a systematic literature review and critical analysis of recent scientific literature, prioritizing theoretical studies, empirical research, and institutional reports published between 2012 and 2025. The results demonstrate that hybrid education redefines the roles of teachers and students, promoting autonomy, active participation, and responsibility in the construction of knowledge. Technological integration enhances personalized learning, facilitates formative assessment, and improves academic management, while the combination of active methodologies and virtual and face-to-face environments generates more meaningful and motivating experiences. Furthermore, effective implementation requires institutional leadership, technological infrastructure, and faculty training, consolidating hybrid education as a strategic model that promotes pedagogical innovation, inclusion, and efficiency in higher education, preparing it for the challenges of complex and globalized environments.

Keywords:

Hybrid education, blended education learning, pedagogical innovation, higher education, inclusion, digital skills.

RESUMEN

La educación superior enfrenta una transformación profunda debido a la digitalización, la globalización del conocimiento y las demandas de estudiantes que requieren flexibilidad, personalización y pertinencia social. La educación híbrida se presenta como un paradigma innovador que combina la instrucción presencial con el aprendizaje en línea, integrando tecnologías digitales de manera estratégica dentro del currículo, lo que la convierte en una alternativa fundamental para responder a los retos contemporáneos de accesibilidad, inclusión y desarrollo de competencias. El objetivo de este artículo es analizar y comprender la educación híbrida como un nuevo paradigma en la educación superior, identificando sus características, beneficios, desafíos y oportunidades, así como su impacto en la enseñanza, el aprendizaje y la gestión institucional. Para ello, se empleó una metodología cualitativo-descriptiva basada en revisión bibliográfica sistemática y análisis crítico de literatura científica reciente, priorizando estudios teóricos, investigaciones empíricas y reportes institucionales publicados entre 2012 y 2025. Los resultados evidencian que la educación híbrida redefine los roles de docentes y estudiantes, promoviendo autonomía, participación activa y responsabilidad en la construcción del conocimiento. La integración tecnológica potencia el aprendizaje personalizado, facilita la evaluación formativa y mejora la gestión académica, mientras que la combinación de metodologías activas y entornos virtuales y presenciales genera experiencias más significativas y motivadoras. Asimismo, la implementación efectiva requiere liderazgo institucional, infraestructura tecnológica y capacitación docente, consolidando la educación híbrida como un modelo estratégico que impulsa innovación pedagógica, inclusión y eficiencia en la educación superior, preparándola para los desafíos de entornos complejos y globalizados.

Palabras clave:

Educación híbrida, blended learning, innovación pedagógica, educación superior, inclusión, competencias digitales.

INTRODUCTION

Higher education is currently undergoing a period of profound transformation, driven by technological advances, the globalization of knowledge, evolving student expectations, and the need to train professionals capable of adapting to complex and dynamic environments. In this context, the traditional teaching model, primarily face-to-face, where the teacher acts as a transmitter and the student as a receiver, is proving insufficient to meet the new challenges of accessibility, flexibility, personalization, and social relevance.

Hybrid education then emerges as a new paradigm that combines the best of face-to-face learning with the power of digital technologies, generating new ways of conceiving teaching, learning, and academic management (Gamage et al., 2022; Romaniuk & Łukasiewicz). Wieleba, 2022).

Hybrid or blended learning E-learning is defined as an active educational methodology that combines face-to-face instruction with online learning activities, integrating digital technologies into the curriculum. This approach allows for the combination of formal teaching spaces with virtual environments, promoting flexibility, personalized learning, and active student participation in a space where technology facilitates knowledge construction. This model recognizes technological mediation as a central element that enhances educational interaction and the development of skills in diverse contexts (Staker & Horn, 2012; Christensen et al., 2013).

Furthermore, hybrid education not only combines physical and virtual spaces, but also redefines the roles of educational stakeholders, pedagogical strategies, and institutional conditions. The integration of face-to-face instruction with online activities allows students to access resources asynchronously, collaborate with their peers in virtual environments, and receive more immediate feedback, fostering an education better adapted to individual learning paces and styles. This approach contributes to more flexible, inclusive, and relevant teaching, addressing the contemporary needs of students and the requirements of professional and social environments (Gudoniene et al., 2025).

Hybrid education represents a paradigm shift in higher education by strategically combining face-to-face and virtual learning, creating more dynamic, personalized, and effective learning spaces where technology becomes an indispensable ally for the active construction of knowledge and the integral development of the student.

Furthermore, hybrid education represents a response to the demands of continuous training and lifelong learning, as it allows students to combine study, work, and other responsibilities without sacrificing educational quality. In this sense, the hybrid paradigm becomes a strategic axis for institutions seeking to expand their reach, improve

their efficiency, and strengthen their impact (Romaniuk & Łukasiewicz Wieleba, 2022).

However, the concept of hybrid education goes beyond simply combining face-to-face and virtual learning: it involves a pedagogical, technological, and organizational transformation. Hybrid education redefines university teaching, promoting flexibility, pedagogical innovation, and the integration of technologies, while maintaining face-to-face interaction as a central element of the educational process (Gamage et al., 2022).

This literature review aimed to analyze and understand hybrid education as a new paradigm in higher education, identifying its characteristics, benefits, challenges and opportunities, as well as its impact on teaching, learning and institutional management, in order to demonstrate how this modality transforms educational processes and contributes to pedagogical innovation, inclusion and personalization of university learning.

METHODOLOGY

This study employs a qualitative-descriptive approach, aiming to analyze and understand hybrid education as a new paradigm in higher education. The methodology is based on a systematic literature review and critical analysis of recent scientific literature to identify trends, pedagogical principles, challenges, and opportunities offered by this teaching modality. This approach allows for a comprehensive understanding of how the combination of face-to-face and virtual spaces transforms teaching, learning, and academic management, without being limited to specific geographic contexts.

The selection of sources focused on relevant academic and scientific literature published between 2012 and 2025, including theoretical studies, empirical research, and institutional reports on blended learning. Learning, hybrid education, and innovative pedagogies in higher education. Priority was given to articles indexed in specialized journals, reference books, and publications from institutions recognized for educational innovation, ensuring the validity, currency, and relevance of the information analyzed. Inclusion criteria included works that addressed the integration of technology in education, teacher mediation in hybrid environments, the design of blended learning experiences, and the impacts on student autonomy and performance.

For the collection and organization of information, a systematic approach was used, allowing the contributions to be classified according to their central theme: conceptualization of hybrid education, implementation models, pedagogical innovation, digital competencies of teachers and students, assessment and monitoring of learning, as well as institutional challenges and opportunities. The information obtained was synthesized into thematic sections that

facilitate the understanding of the key elements of the hybrid paradigm and its impact on higher education.

The data analysis was conducted using an integrative and comparative approach, which allowed for the identification of common patterns, conceptual divergences, and emerging trends in hybrid education. Empirical results from studies evaluating the effectiveness of hybrid models in different contexts were also considered, including research that applied analyses of academic performance, student motivation, participation, and digital skills, with the aim of contrasting theory with real-world practice.

This methodological approach allows for the development of a critical and comprehensive framework for reflection on hybrid education as an innovative paradigm, considering not only the interaction between face-to-face and virtual learning, but also technological mediation, personalized learning, pedagogical redesign, and institutional management. The methodology adopted ensures that the findings are robust, relevant, and applicable to understanding current transformations in higher education, without limiting their generalization to specific national contexts.

DEVELOPMENT

Hybrid education, also called blended learning, or hybrid learning, strategically combines face-to-face instruction with online activities, both synchronous and asynchronous (Gudoniene et al., 2025). Its key features include flexibility in time and space, personalized learning, the use of digital platforms and multimedia resources, and combined interaction between students and teachers in physical and virtual environments.

In this model, students gain greater autonomy, accessing materials and participating in activities outside the traditional classroom. The teacher, for their part, ceases to be merely an expositor and becomes a facilitator, designer of experiences, and learning guide, while the student adopts an active, collaborative, and self-regulated role (Gamage et al., 2022).

Staker & Horn (2012) offer a fundamental conceptual framework for understanding blended learning, originally applied to K-12 education, which has been extensively adapted to higher education. The authors classify different models of blended learning, emphasizing that the combination of face-to-face and online instruction is not simply an overlap of spaces, but a strategic redesign of the educational experience. Staker & Horn's (2012) proposal highlights that blended learning enables more flexible and personalized learning, where students can control the pace, timing, and sequence of their activities. This approach emphasizes that technology does not replace the teacher, but rather transforms their role into that of a facilitator and guide, capable of integrating digital resources with traditional instruction, thus fostering

greater student autonomy and responsibility for their learning process.

Christensen et al. (2013) expand on this perspective by introducing hybrid education as a disruptive innovation within educational systems. According to these authors, the term "hybrid" is linked to the duality of environments: the physical school and virtual spaces, generating learning that is not limited by the classroom or the schedule. This conceptualization highlights that hybrid education not only transforms the way teaching is done, but also redefines how students interact with knowledge, allowing the integration of digital technologies into the curriculum and enhancing self-directed learning, collaboration, and problem-solving skills in complex environments. The disruptive innovation of hybrid teaching, in this sense, acts as a catalyst for structural changes in higher education, adapting to the needs of students with diverse profiles and expectations.

In the field of higher education, Mittal & Srivastava (2025) state that hybrid learning represents an emerging frontier for pedagogical innovation. The combination of face-to-face and virtual methodologies allows for overcoming limitations of accessibility and space, promoting the inclusion of students from diverse socioeconomic and geographic backgrounds. The authors point out that the hybrid model facilitates closer monitoring of learning through educational analytics, immediate feedback, and the possibility of tailoring instruction to individual needs, thus reinforcing the notion of student-centered education. They also emphasize that hybrid education drives the continuous professional development of teachers, who must master digital tools and design strategies that effectively integrate technological resources into face-to-face learning.

Yaqin et al. (2025) provide empirical evidence on the effectiveness of hybrid learning in the post-pandemic context, applying structural equation modeling and deep neural network (DNN) techniques. Their study shows that hybrid models not only improve academic performance but also strengthen student motivation, self-efficacy, and active participation. This analysis demonstrates that combining virtual and face-to-face spaces allows for more dynamic interaction between teachers and students, fostering the construction of meaningful knowledge and the development of transversal skills, essential for addressing the contemporary challenges of higher education.

Acosta-Servín et al. (2025) assert that the effective implementation of hybrid learning requires strengthening teachers' digital competencies. Their research demonstrates that mastery of digital tools and the ability to design integrated learning experiences are fundamental to ensuring that students fully benefit from the hybrid modality. Furthermore, they point out that hybrid education fosters pedagogical innovation, stimulating teacher creativity and the adoption of strategies that promote collaboration, autonomy, and formative assessment in digital environments.

Chávez-Cárdenas et al. (2025) complement this view by showing how the educational web and artificial intelligence can transform hybrid learning. According to the authors, the integration of intelligent platforms allows for personalized instruction, the identification of learning gaps, and the provision of adaptive learning pathways. This technological mediation reinforces the active role of the student, who can interact with dynamic content and receive real-time feedback, enhancing the efficiency and relevance of learning in hybrid contexts.

Jia & Mohamed (2023) emphasize that the COVID-19 pandemic accelerated the adoption of hybrid models and highlighted the need to rethink the efficiency of online learning. Their analysis shows that hybrid learning combines the best of face-to-face instruction with the advantages of virtual learning, improving interaction, accessibility, and educational continuity in emergency situations. The research concludes that hybrid education is not just a contingent response to crises, but a paradigm that redefines higher education, focusing on flexibility, personalization, and technological integration as fundamental pillars.

Arar & Chen (2021) argue that hybrid education represents a paradigm shift that addresses student diversity. According to these authors, hybrid models allow for the design of differentiated learning experiences that respond to different cognitive styles, learning paces, and socio-emotional needs. This contributes to a more inclusive and equitable education, where diversity is not perceived as an obstacle, but rather as a factor that enriches the collective construction of knowledge.

Roy and Sharma (2023) analyze how national education policies, such as the National Education Policy (NEP) 2020, have adopted hybrid education as a core strategy for higher education. They indicate that the hybrid model requires reviewing curricular, methodological, and assessment strategies, incorporating digital technologies, active learning, and collaboration between students and teachers, consolidating a more flexible, dynamic, and competency-based learning environment.

Libertz et al. (2025) highlight that students perceive hybrid learning as more motivating and efficient than traditional or fully online models. Their research, based on a mixed-methods approach, demonstrates that combining face-to-face classes with virtual activities allows students to interact more with the content, receive immediate feedback, and develop time management and self-directed learning skills—key elements for contemporary university education.

Zhou (2020) introduces the figure of the hybrid administrator-researcher, emphasizing the need for academic leadership that understands both in-person and digital management. This approach highlights that the implementation of hybrid models requires not only technological skills, but also leadership strategies capable of integrating

educational innovation with the institutional culture, ensuring sustainability and quality in higher education.

Mujibi (2025) offers a conceptual perspective that views hybrid education as a paradigm shift transforming the dynamics of teaching and learning. According to the author, this modality breaks down the dichotomy between face-to-face and virtual teaching, synergistically integrating both spaces to maximize participation, interaction, and the achievement of meaningful learning outcomes.

Finally, Scobey (2023) argues that hybrid education represents an opportunity for a radical renewal of higher education. The author contends that this new paradigm not only optimizes pedagogical efficiency but also allows for a rethinking of the objectives, content, and methods of university education, generating more inclusive, flexible, and student-centered learning environments.

According to the analysis of these contributions, hybrid education in higher education is presented as an innovative approach that combines face-to-face instruction with online learning, strategically integrating digital technologies into the academic curriculum. This model is not limited to the coexistence of physical and virtual spaces, but rather redefines the roles of teachers and students, promoting greater autonomy, responsibility, and active student participation in knowledge construction. Hybrid teaching allows students to adapt their learning to their own pace, styles, and needs, while facilitating the personalization and flexibility of educational programs, improving accessibility and inclusion for diverse student profiles.

Furthermore, the hybrid model fosters pedagogical innovation by requiring instructors to master digital tools and the ability to design integrated learning experiences. This includes the incorporation of intelligent platforms, educational analytics, and interactive environments that enable immediate feedback, individualized monitoring, and continuous formative assessment. Students benefit from this technological mediation through dynamic resources, online collaboration, and asynchronous access to content, which strengthens their digital, time management, and self-directed learning skills—essential for contemporary university education.

Hybrid education also responds to the challenges posed by globalization and digitalization, as well as the changes resulting from extraordinary situations such as the COVID-19 pandemic. This approach has proven effective in maintaining educational continuity, improving student motivation and engagement, and fostering interaction among peers and teachers in multiple environments. Furthermore, it promotes educational diversity by enabling differentiated learning experiences, adapted to different cognitive styles and socio-emotional needs, thus promoting equity and inclusion.

On the other hand, hybrid learning not only affects teaching and learning processes, but also institutional

management and leadership. Implementing hybrid models requires administrators and academic leaders capable of integrating technological innovation with the institutional culture, ensuring quality, sustainability, and alignment with strategic objectives. In this way, hybrid education is emerging as a true paradigm shift, transforming traditional pedagogical practices, fostering the development of relevant competencies, and opening new possibilities for the development of higher education in complex and dynamic contexts.

Hybrid education improves access and flexibility, allowing students to combine studies with other commitments and participate in broader learning communities (Romaniuk & Łukasiewicz-Wieleba, 2022). Furthermore, it facilitates the adoption of active methodologies, such as online collaborative projects and flipped classrooms. Classroom, simulations, virtual laboratories and problem-based learning, which are integrated with face-to-face sessions to generate more meaningful experiences (Gudoniene et al., 2025).

The integration of technology also allows for more systematic monitoring of learning, recording student participation, progress, and outcomes. This enables early interventions, personalized support, and continuous improvement of curriculum design, strengthening both educational quality and institutional efficiency (Romaniuk & Łukasiewicz-Wieleba, 2022).

The implementation of hybrid education faces significant challenges. These include the availability of technological infrastructure, the digital competence of teachers and students, pedagogical planning, the redesign of content for blended learning formats, and ensuring equitable access to devices and the internet (Gamage et al., 2022).

Institutional support and teacher training are essential. When teachers have training, resources, and support, they are better prepared to adapt to hybrid environments, design effective activities, and manage diverse groups. Likewise, organizational culture and change management are crucial: institutions must promote a shared vision, encourage pedagogical innovation, allow experimentation, and collect data to evaluate and continuously improve hybrid models (Romaniuk & Łukasiewicz-Wieleba, 2022).

Otherwise, hybrid education may be reduced to a mere superficial adaptation of the face-to-face format, without reaching its transformative potential or taking advantage of the pedagogical benefits of technological integration and educational flexibility.

CONCLUSIONS

Hybrid education is establishing itself as a new paradigm in higher education, strategically combining face-to-face instruction with online learning to create more flexible, personalized, and student-centered learning environments. This model transcends the mere coexistence of physical and virtual spaces, redefining the roles of teachers and

students and promoting student autonomy, active participation, and responsibility in knowledge construction. Technological integration does not replace the teacher but rather enhances their role as facilitator, experience designer, and learning guide, while students acquire digital skills, self-directed learning abilities, and time management skills—all essential for facing contemporary challenges.

Furthermore, the hybrid model offers an effective response to educational diversity and the challenges of accessibility and inclusion, allowing students to adapt their learning to different paces, cognitive styles, and socio-emotional needs. The combination of active methodologies, collaborative projects, simulations, and virtual labs with in-person sessions generates more meaningful, motivating, and effective learning experiences, contributing to the development of skills relevant to the professional and social spheres. In addition, hybrid education promotes academic continuity in extraordinary situations, such as the COVID-19 pandemic, and facilitates the integration of study, work, and other student responsibilities.

From an institutional perspective, implementing hybrid learning requires committed academic leadership, adequate technological infrastructure, and ongoing training for teaching staff. Pedagogical planning, content redesign, formative assessment, and monitoring learning through educational analytics are key elements for ensuring the effectiveness of this model. Likewise, organizational culture and change management are crucial for hybrid education to reach its transformative potential, preventing it from becoming merely a superficial adaptation of the traditional in-person format.

Hybrid education represents not only a methodological adjustment but also a comprehensive renewal of higher education, promoting pedagogical innovation, personalization, inclusion, and institutional efficiency. This approach allows institutions to expand their reach, improve educational quality, and prepare students to succeed in complex, globalized, and digital environments, establishing itself as a strategic model for the future of university education.

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Conflict of Interest:

The authors declare no conflict of interest.

Author Contributions:

Farzad Sattari-Ardabili, Mohammad Narimani: Conception and design of the study, data acquisition, analysis and interpretation, manuscript drafting, critical content review, statistical analysis, and overall supervision of the study.