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Blended Learning: evolution, concepts, and impacts on Brazilian Basic Education

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ABSTRACT

This study aims to discuss the fundamental concepts of blended learning, its historical development, and its integration with the development of soft skills in Basic Education. In addition, disruptive innovations and the methodological principles underlying this educational practice are addressed. This research is based on a comprehensive review of the academic literature and documentary analysis. The data sources include scientific articles, books, and legal and regulatory documents issued by educational and governmental institutions. The analytical procedures involved comparing different blended learning approaches and assessing their impacts on the development of soft skills. The literature review revealed that blended learning provides a flexible and innovative approach by combining the strengths of face-to-face and online teaching methods. This educational model facilitates personalized learning, increases student autonomy, enhances engagement, and promotes collaboration. Furthermore, blended learning has proven effective in developing soft skills such as empathy, resilience, creativity, communication, flexibility, critical thinking, and leadership. However, its implementation faces significant challenges, including unequal access to technology, educators' resistance to change, and the need for effective instruments to assess the development of socio-emotional competencies. The COVID-19 pandemic accelerated the adoption of blended learning, highlighting both its potential and its limitations. Moreover, integrating blended learning with soft skills development represents a valuable opportunity to transform education by preparing students for the challenges of the labor market and life in society. Therefore, future empirical studies must explore different school contexts and pedagogical practices, while public policies should support technological infrastructure and teacher training. Thus, the effective implementation of blended learning may contribute to a more inclusive, innovative, and effective education system that meets the contemporary demands of society and the labor market.

KEYWORDS: Soft Skills Development. Educational Innovation. Technology in Education.

1 INTRODUCTION

In recent years, blended learning has emerged as an innovative and flexible pedagogical approach that combines face-to-face and online teaching methods to maximize learning (Bacich; Tanzi Neto; Trevisani, 2015). In this regard, this model represents a fundamental restructuring of educational practices by integrating the best of both worlds: direct classroom interaction and the flexibility of online learning (Christensen; Horn; Staker, 2013).

The concept of blended learning has been widely discussed in the academic literature, encompassing a variety of definitions and applications (Borges, 2020). Furthermore, it is often examined from the perspective of disruptive innovation, emphasizing how new methodologies, although initially perceived as inferior to traditional ones, gain prominence by providing greater accessibility and flexibility, thereby benefiting groups that were previously excluded from certain forms of learning (Christensen; Horn; Staker, 2013). From this conceptual perspective, understanding the different dimensions of blended learning is essential for appreciating its contribution to the transformation of education.

This article explores the evolution of blended learning, from its origins in the corporate sector to its implementation in Basic Education. Accordingly, the analysis focuses on how this educational approach adapts to contemporary needs by providing a more dynamic and accessible learning experience. Therefore, the objective of this study is to discuss the fundamental concepts of blended learning, its historical trajectory, and its integration with the development of soft skills in Basic Education. In addition, the article examines the principles of disruptive innovation and the methodological assumptions that underpin this educational practice.

2 METHODOLOGICAL PROCEDURES

The methodological procedures adopted in this study are based on a qualitative approach, considering the dynamic relationship between the real world and the researcher, with the natural environment serving as the primary source of data collection and the researcher acting as the key research instrument. Furthermore, this is a descriptive study, as its primary objective is to describe the characteristics of a given phenomenon (Gil, 2002). The methodological approach comprises a literature review and documentary analysis (Flick, 2009). Accordingly, the analysis sought to identify how blended learning has been institutionalized and implemented within the Brazilian context, highlighting its advances, challenges, and opportunities.

The data collected during the two stages were integrated to provide a comprehensive and multifaceted understanding of the evolution of blended learning and its application in Brazilian Basic Education. The analysis focused on identifying effective practices, the challenges encountered, and recommendations for the successful implementation of blended learning in schools.

3 BLENDED LEARNING

Moran (2015) argues that education has always been hybrid in the sense that it combines and integrates different spaces, timeframes, activities, methodologies, and audiences. According to the author, with the advent of mobility and connectivity, this process has become far more evident, extensive, and profound, resulting in a more open and creative educational ecosystem. In this context, Moran (2015) contends that the term hybrid encompasses a broad, rich, appropriate, and complex concept, insofar as virtually every aspect of education can be combined and integrated.

Given this complexity, it is necessary to present the foundational assumptions of blended learning that underpin the discussions throughout this article. First, the various definitions attributed to the term blended learning are examined. Subsequently, the conceptual framework that guides the discussions presented in this study is introduced, followed by a discussion of the different terms used in the literature to refer to this same conceptual foundation. Finally, the evolution of blended learning is described, from its origins in the corporate sector, through its adoption in Higher Education, and ultimately to its implementation in Basic Education.

3.1 Addressing the Polysemy of Blended Learning and Its Heteronyms

In this study, the term blended learning is adopted, corresponding to the English expression that has been translated into Portuguese in Brazil as ensino híbrido. In the academic literature, however, the term has been assigned a variety of meanings, thus constituting a case of polysemy, defined as “a word or expression with multiple meanings” (Polissemia, 2012). As early as the beginning of the 2000s, for example, Driscoll (2002, online) identified at least four distinct definitions of blended learning:

1. Combining or mixing web-based technology modes (e.g., live virtual classrooms, self-paced instruction, collaborative learning, video streaming, audio, and text) to achieve an educational goal;
2. Combining various pedagogical approaches (e.g., constructivism, behaviorism, and cognitivism) to produce optimal learning outcomes, with or without instructional technology;
3. Combining any form of instructional technology (e.g., videotapes, CD-ROMs, web-based training, or films) with instructor-led face-to-face instruction;
4. Blending instructional technology with authentic workplace tasks to create a seamless integration of learning and work.

The third definition proposed by Driscoll (2002) was formulated in the early 2000s and gave rise to a series of related conceptualizations centered on the same fundamental idea: combining online and face-to-face instruction, while differing in terms of the pedagogical details of their implementation.

Similarly, Sharma (2010, p. 456) argues that, within the field of education, three definitions of blended learning are particularly relevant: “a combination of face-to-face and online teaching; a combination of technologies; and a

combination of methodologies". The author also proposes another possible conceptualization: "a combination of the real and virtual worlds, in which a teacher delivers a face-to-face lesson and subsequently meets with the student for a follow-up session in a virtual environment such as Second Life" (Sharma, 2010, p. 456).

However, considering the contributions of the English-language literature, the practice of combining online and face-to-face instruction is not necessarily referred to by the same terminology. This gives rise to what is considered here to be the existence of heteronyms, that is, "different terms that express the same concept" (Heterônimo, 2012). As an example, O'Byrne and Pytash (2015), in their study on blended learning, point out that the terms blended learning, hybrid learning, and mixed-mode learning are used interchangeably in the contemporary literature, with hybrid learning being more commonly used in the United States. Likewise, Duhaney (2004) notes that the corporate training and development literature introduced the terms blended learning, flexible learning, and distributed learning to describe hybrid educational programs that enrich classroom learning by serving as a complement rather than a replacement for face-to-face instruction.

Likewise, there is no consensus among Portuguese-speaking scholars regarding the translation of the term blended learning in the sense adopted in this study, namely, the integration of online and face-to-face instruction. Consequently, terms such as hybrid learning, mixed learning, semi-presential education, bimodal teaching, mixed-mode teaching, as well as the untranslated expressions blended learning and b-learning, may all be regarded as heteronyms of ensino híbrido (Borges, 2020).

Given this context, an important question arises: What can legitimately be considered blended learning—and what cannot? This issue is addressed in the following section.

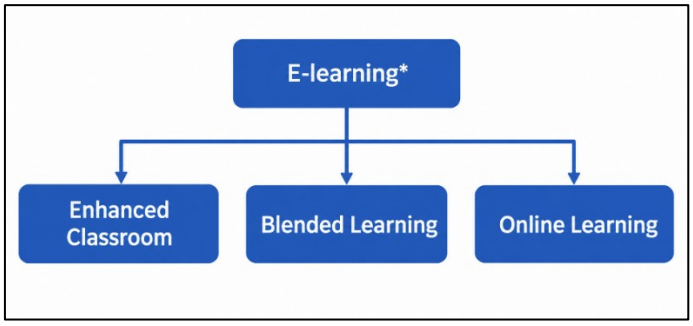
3.2 What Is Blended Learning (and What Is It Not)?

A distinction must be made between blended learning and other educational approaches that also incorporate connected learning opportunities, positioning it at an intermediate point along a continuum between the technology-enhanced classroom and the fully online learning experience (Figure 1) (Garrison; Kanuka, 2004). Horn and Staker (2015, p. 40), for example, use the term technology-rich instruction, which is equivalent to the technology-enhanced classroom and refers to the "infusion of technology into school environments" without providing students with "control over the time, place, path, or pace of their learning." Accordingly, the technology-enhanced classroom—or technology-rich instruction—and fully online learning represent the two ends of a continuum, with blended learning positioned between them (Figure 1).

Going a step further, Horn and Staker (2015, p. 38) argue that blended learning is "fundamentally different from the much broader trend of equipping classrooms with computers and other technological devices, although it is often confused with it." In this context, it is worth noting that educational circles and the media tend to emphasize the extremes when discussing the use of technology in education. Indeed, the term edtech is frequently used either too broadly, encompassing every type of technology introduced into the classroom, or too narrowly, referring only

to instructional approaches that combine online and face-to-face learning—the form of educational technology with which most people are familiar (Horn; Staker, 2015).

Figure 1 – The E-learning Continuum



* E-learning is an abbreviation for electronic learning.

Source: Adapted from Garrison and Kanuka (2004).

According to Graham (2006), blended learning is the combination of two historically distinct models of teaching and learning: traditional face-to-face learning systems and distance learning systems, with particular emphasis on the central role of computer-based technologies. The author explains that "in the past, these two learning environments have remained largely separate because they use different combinations of media and methods and address the needs of different audiences" (Graham, 2006, p. 5). He further notes that traditional face-to-face learning was generally conducted in a teacher-led environment characterized by direct, live interaction. In contrast, distance education (DE) systems emphasized self-paced learning and interactions with instructional materials, typically occurring in asynchronous, low-fidelity environments that relied primarily on text-based resources (Graham, 2006).

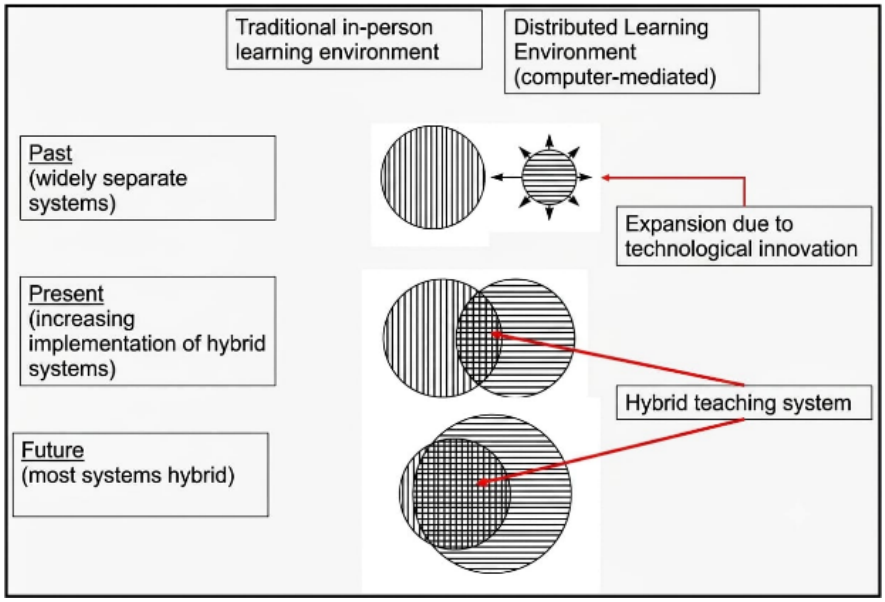
Finally, Graham (2006) concludes that the widespread adoption and availability of digital learning technologies have led to the increasing integration of computer-mediated instructional elements into the traditional face-to-face learning experience, giving rise to what is now known as blended learning (Figure 2).

Macdonald (2008), in turn, emphasizes the importance of combining online instruction and asynchronous media with face-to-face interactions and synchronous technologies. The author argues that the term blended learning is frequently associated with the incorporation of online media into courses or educational programs while recognizing the value of maintaining face-to-face contact and other traditional approaches to support students' learning. Furthermore, blended learning also involves the use of asynchronous media, such as e-mail, discussion forums, blogs, and wikis, in conjunction with synchronous technologies, including text- or audio-based chats.

Likewise, Garrison and Vaughan (2008) argue that blended learning involves a reconfiguration of classroom contact hours aimed at increasing student engagement and expanding access to online learning opportunities. Accordingly, they emphasize that blended learning represents a fundamental transformation that reshapes both the structure and the methodology of teaching and learning.

Furthermore, these authors outline the core principles of a blended learning design, which include the "thoughtful integration of face-to-face and online learning; fundamental rethinking of course design to optimize student engagement; and restructuring and replacing traditional class contact hours" (Garrison; Vaughan, 2008, p. 5).

Figure 2 – Progressive Convergence of Traditional Face-to-Face and Distributed (Computer-Mediated) Learning Environments Enabling the Development of Blended Learning Systems



Source: Adapted from Graham (2006, p. 6).

As discussed above, Graham, Woodfield, and Harrison (2013, p. 4) define blended learning as the combination of traditional face-to-face instruction and technology-mediated instruction. They also point out that many Higher Education institutions had already incorporated blended learning into their courses during the first decade of the twenty-first century, albeit unofficially, as there was "a grassroots effort in which blended learning is adopted by individual faculty interested in using online and traditional strategies to improve student learning outcomes, rather than being promoted as a strategic institutional initiative".

Finally, after examining how blended learning was being implemented in both Higher Education and Basic Education, Clayton Christensen and his collaborators (see the references cited below) began developing a definition that would be better suited to the latter educational level. Following several initial formulations specifically focused on Basic Education (see Horn; Staker, 2011; Staker, 2011; Staker; Horn, 2012), Christensen, Horn, and Staker (2013, p. 8) proposed the definition that remains widely adopted today. According to these authors, blended learning is:

> [...] a formal education program in which a student learns: at least in part through online learning, with some element of student control over time, place, path, and/or pace; at least in part in a supervised brick-and-mortar location away from home; and the modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience.

As discussed in this and the preceding sections, although some ambiguity remains regarding the meaning of blended learning—owing both to the multiple meanings assigned to the term (polysemy) and to the different terms used to express the same concept (heteronymy)—it can generally be understood as an educational approach that combines online and face-to-face instruction. Among the various definitions presented, the conceptualization proposed by Christensen, Horn, and Staker (2013) is particularly appropriate for the context of Basic Education.

Finally, it is important to distinguish blended learning from two additional concepts that may also give rise to semantic confusion: remote teaching and distance education (DE). Accordingly, the following section situates blended learning within the framework of the theory of disruptive innovation.

3.3 Blended Learning and the Theory of Disruptive Innovation

Clayton Christensen and his collaborators examined blended learning through the lens of the theory of disruptive innovation. According to this perspective, there are two types of innovation: disruptive innovation and sustaining innovation. In the case of sustaining innovation, a hybrid solution is created to provide educators with "the best of both worlds" by combining the advantages of online learning with all the benefits of the traditional classroom. In contrast, the disruptive approach employs online learning through new instructional models that depart from the conventional classroom, initially targeting nonconsumers who value technology because of its adaptability, accessibility, and convenience (Horn; Staker, 2015).

From this perspective, Christensen, Horn, and Johnson (2008) explain that, from time to time, a different type of innovation emerges within a given sector—namely, a disruptive innovation. Such innovation, the authors argue, does not represent a revolutionary improvement. Rather than following the traditional trajectory of incremental improvement within the existing competitive landscape, it disrupts that trajectory by introducing a product or service that is initially inferior to those historically offered by established organizations. However, by making the product accessible and easy to use, disruptive innovation benefits those who were previously unable to consume the primary product—the so-called nonconsumers (Christensen; Horn; Johnson, 2008). According to the authors, disruptive innovations take root in simple, low-end applications, creating a new competitive trajectory that gradually improves over time.

In their book "Ensino Híbrido: uma Inovação Disruptiva? Uma introdução à Teoria dos híbridos", Christensen, Horn, and Staker (2013) argue that the patterns of disruptive and sustaining innovation began to emerge in Basic Education as online learning started to transform educational systems. In this regard, the authors emphasize that, consistent with the pattern of disruptive innovation, "online learning initially took root in areas where students, educators, and families considered it superior to the alternative—doing nothing" (Christensen; Horn; Staker, 2013, p. 6). In other words, "like other disruptions, online learning began with simple applications that served students in circumstances where no alternative for learning existed" (Horn; Staker, 2015, p. 20) and "had the reputation of being a low-cost, second-rate alternative to the traditional face-to-face classroom" (Horn; Staker, 2015, p. 37).

The authors further argue that, like other successful disruptive innovations, online learning has improved dramatically since its emergence, largely due to technological advances that have enabled increasing numbers of people from diverse socioeconomic backgrounds to access the services and benefits provided by this educational approach (Horn; Staker, 2015). As online learning improved and became increasingly established—particularly in Higher Education through distance education programs—models combining online and face-to-face instruction began to emerge. These models became known as blended learning or hybrid learning.

In this context, Christensen, Horn, and Staker (2013, p. 2) explain that "a hybrid is a combination of the new disruptive technology with the old technology, and it represents a sustaining innovation relative to the prior technology." A blended education, therefore, offers the advantages of disruptive online learning while preserving all the benefits of the traditional classroom.

Having situated blended learning within the framework of the theory of disruptive innovation, the following section examines its historical evolution, tracing its origins in the corporate sector before its subsequent adoption in Higher Education and, ultimately, in Basic Education.

4 THE EVOLUTION OF BLENDED LEARNING: FROM THE CORPORATE SECTOR TO BASIC EDUCATION

The concept of blended learning, which combines online and face-to-face activities, first emerged in the corporate sector during the mid-1990s. Its primary objective was to enable employees to continue their professional activities while pursuing training and education. Rather than requiring participants to attend face-to-face seminars, training was delivered through self-study manuals, instructional videos, and the Internet (Sharma, 2010).

Macdonald (2008) reports that it was during the first decade of the twenty-first century that blended learning became more widely adopted in Higher Education institutions. Likewise, Young (2002) notes that, by the late 1990s, many fully distance-learning models implemented at American universities had proven unsuccessful. By combining distance and online approaches with blended learning, institutions hoped to reduce costs while better meeting students' educational needs. This movement, together with the fact that many institutions found it difficult to enter the field of distance education (DE)—not only because of resource constraints but also because their operational models limited the implementation of fully distance-learning courses (Martyn, 2003)—stimulated the expansion of blended learning practices throughout the United States.

Indeed, throughout the same decade, an increasing number of reports documented what would later become recognized as the implementation of blended learning in Higher Education. Examples include McCray's (2000) hybridized courses, first implemented in 1999, in which face-to-face and remote communication between instructors and students was integrated, as well as the hybrid instructional models investigated by Tuckman (2002) between 2000 and 2001, which combined Internet-based and classroom-based instructional components.

In the early 2010s, Clayton Christensen, Michael B. Horn, and Heather Staker conducted a series of studies—initially through the Innosight Institute and later through the Clayton Christensen Institute—on the rise of blended learning in American Basic Education schools (Horn; Staker, 2011; Staker, 2011; Staker; Horn, 2012; Christensen; Horn; Staker, 2013; Horn; Staker, 2015). The main findings of these studies are summarized below.

Regarding the implementation of blended learning in Basic Education, Horn and Staker (2015) argue that, even before the term blended learning became widely used, millions of students in the United States had already experienced the integration of online and face-to-face instruction in their schools. Since at least 1998, this had occurred through the "Scholastic READ 180" reading intervention program, which initially relied on software distributed via CD-ROMs and later migrated to Internet-based platforms.

Horn and Staker (2011) report that approximately 45,000 elementary and secondary school students had completed an online course by the year 2000. By 2009, however, this number had exceeded three million, transforming online learning from an isolated phenomenon into a widespread educational trend.

According to the authors, most of this growth occurred within blended learning environments, in which students engaged in online learning under adult supervision for at least part of the instructional time. It is worth noting that these early blended learning initiatives were initially designed to support dropout recovery and credit recovery for students who had failed one or more courses (Horn; Staker, 2011).

Having examined the historical evolution of blended learning, the following section discusses what blended learning actually entails. In other words, what is—and what is not—blended learning?

4.1 Remote Teaching and Distance Education

Although this is not the primary focus of this article, it is important to clarify the concepts of two other educational modalities that are often confused with blended learning but possess distinct characteristics: remote teaching and distance education (DE).

Decree No. 9,057, of May 25, 2017, which regulates Article 80 of Law No. 9,394, of December 20, 1996 (the Brazilian National Education Guidelines and Framework Law – LDBEN), defines distance education as:

> [...] the educational modality in which teaching and learning processes are mediated through information and communication technologies, supported by qualified personnel, access policies, appropriate monitoring and assessment procedures, among other requirements, and in which educational activities are carried out by students and education professionals who are separated by different locations and times (Brasil, 2017, Art. 1).

Regarding distance education, Behar (2008) emphasizes that its defining characteristic is the "physical separation between teachers and students, together with the existence of some form of mediating technology to enable interaction between them".

In turn, Behar (2020, online) defines remote teaching as "an educational modality that presupposes the geographical separation of teachers and students." The author further explains that remote teaching was temporarily adopted at different educational levels by educational institutions around the world to ensure the continuity of educational activities during the COVID-19 pandemic between 2020 and 2022.

5 WHY USE BLENDED LEARNING?

In the blended learning literature, the most common rationale for adopting this educational approach is that it combines the best of both worlds: face-to-face and online learning (e.g., Young, 2002; Garrison; Vaughan, 2008; Christensen; Horn; Staker, 2013; Moran, 2015). Graham (2006), however, cautions that although there is some truth to this claim, it is seldom acknowledged that a blended learning environment or activity may also combine the least effective elements of both modalities if it is not carefully designed.

On the other hand, Osguthorpe and Graham (2003, as cited in Graham, 2006, p. 8) identified six reasons why educators may choose to design or implement a blended learning system: (1) pedagogical richness, (2) access to knowledge, (3) social interaction, (4) personal agency, (5) cost-effectiveness, and (6) ease of revision. Among these six reasons, Graham (2006) highlights three as being particularly significant, which are briefly discussed below.

1. Enhanced pedagogy: Instructional strategies based on content transmission rather than interaction continue to be the most widely adopted teaching and learning practices in Basic Education, Higher Education, and corporate training environments. Likewise, distance education often provides students with large amounts of information to absorb independently. In this context, Graham (2006, p. 8) emphasizes that “blended learning increases the level of active learning strategies, peer-to-peer learning strategies, and learner-centered strategies.”
2. Greater access and flexibility: Access to learning has been one of the primary drivers behind the growth of virtual learning environments. Furthermore, flexibility and convenience become increasingly important as more mature learners with work or family responsibilities seek additional educational opportunities (Graham, 2006, p. 9).
3. Greater cost-effectiveness: Blended learning systems provide an opportunity to reach large, geographically dispersed audiences within a relatively short period while enabling the delivery of consistent and partially personalized instructional content (Graham, 2006, p. 10).

Having discussed the rationale for adopting blended learning in Basic Education, the following section presents a compilation of blended learning models used in Basic Education, as organized by Christensen, Horn, and Staker (2013).

6 BLENDED LEARNING MODELS

Christensen, Horn, and Staker (2013) identified four models of blended learning: Rotation, Flex, À La Carte, and Enriched Virtual (Figure 3). These models are classified into sustaining and disruptive models. Sustaining models do not depart from the traditional instructional model, as they are designed to build upon the foundations of conventional classroom instruction by providing incremental improvements without fundamentally altering its structure. In contrast, disruptive models break away from the traditional classroom structure by emphasizing personalized learning, universal access and equity, and student productivity (Christensen; Horn; Staker, 2013).

6.1 Rotation Model

In the Rotation Model, students follow a fixed schedule or teacher-directed sequence in which they rotate among different learning activities. These activities may include small-group discussions, with or without the teacher's guidance, written assignments, reading tasks, and, necessarily, at least one online learning activity (Bacich; Tanzi Neto; Trevisani, 2015).

Furthermore, the Rotation Model presents four approaches: Station Rotation, Lab Rotation, Flipped Classroom, and Individual Rotation.

Station Rotation: it occurs within a classroom or a set of classrooms, where students can alternate “between online learning, small-group teacher-led instruction, and paper-and-pencil assignments completed at their desks” (Horn; Staker, 2015, p. 42). According to Sunaga (2019), in the Station Rotation model, the class is divided into groups that periodically rotate among stations designed around microlearning activities. The subtopics addressed at each station complement a common instructional theme. At least one station must involve online learning, and each station should function independently while employing its own assessment method.

Within this framework, activities at the online station may include video lessons, gamified learning platforms, simulations, or digital forms. Offline stations, in turn, may involve educational games, research activities, projects, text analysis, infographics, practice exercises, problem-solving challenges, and experimental activities (Sunaga, 2019).

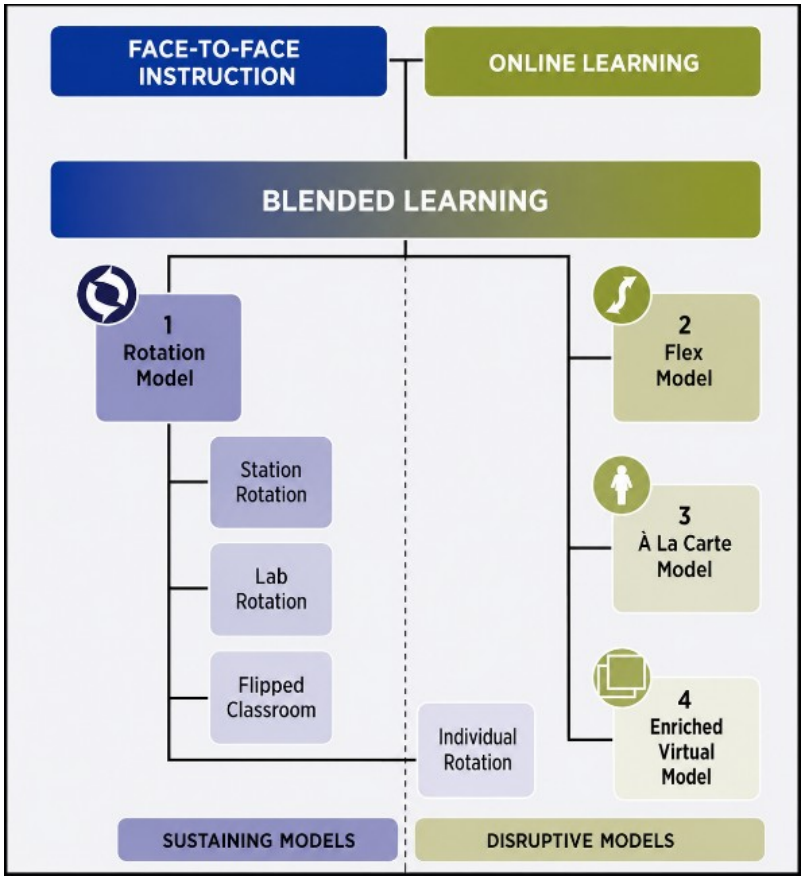
Lab Rotation. It is similar to Station Rotation, except that students complete the online learning component of the course in a computer laboratory (Horn; Staker, 2015). As with the Station Rotation model, the learning activities should complement the same instructional theme. In the computer laboratory, activities may include video lessons, educational games, research activities, projects, documentaries, infographics, and gamified learning platforms. Classroom activities, in turn, may consist of lectures, group work, projects, writing assignments, practice exercises, problem-solving challenges, and classroom discussions (Sunaga, 2019).

Flipped Classroom. It completely reverses the traditional role of the classroom, as students independently study online content related to the instructional topic outside the classroom, while classroom time is devoted to teachers facilitating learning and supporting students as they address questions

and deepen their understanding (Horn; Staker, 2015). In the Flipped Classroom model, online learning outside school may involve resources such as video lessons, online games, simulations, documentaries, and research activities. During face-to-face instruction, teachers may engage students in practice exercises, projects, experiments, discussions, and writing activities (Sunaga, 2019).

Individual Rotation. Each student follows an individualized schedule and does not necessarily rotate through every available station or learning modality, as occurs in the Station Rotation model (Horn; Staker, 2015). According to Sunaga (2019), diagnostic assessments can serve as the basis for developing each student's individualized learning pathway, with the teacher supporting students in managing their learning plans. Within this framework, each station has distinct learning objectives. Online stations may include video lessons, gamified learning platforms, simulations, and digital forms, whereas offline stations may involve educational games, research activities, projects, text analysis, infographics, practice exercises, problem-solving challenges, and experimental activities (Sunaga, 2019).

Figure 3 – Blended Learning Models



Source: Adapted from Christensen, Horn and Staker (2013, p. 28).

6.2 Flex Model

In the Flex Model, students follow a flexible and personalized learning schedule that combines different learning modalities. In this model, teachers are physically present at the school, where students complete most of their learning activities, except for certain homework assignments. Within this approach,

teachers or other instructional staff provide face-to-face support in an adaptive and flexible manner whenever needed, through activities such as small-group instruction, collaborative projects, and one-on-one tutoring (Horn; Staker, 2015, p. 55).

6.3 A La Carte Model

In the À La Carte Model, the teacher provides instruction online, while students may complete the À La Carte course either at school or in another location, engaging in learning through face-to-face or online modalities (Horn; Staker, 2015).

6.4 Enriched Virtual Model

In this model, "students have mandatory face-to-face learning sessions with their subject teacher and are then free to complete the remaining coursework away from the face-to-face teacher" (Horn; Staker, 2015, p. 56).

Once the blended learning models have been presented, the next section will situate how the application of blended learning has taken place in Brazilian Basic Education, in order to enhance the development of soft skills.

7 THE DEVELOPMENT OF SOFT SKILLS THROUGH THE IMPLEMENTATION OF BLENDED LEARNING IN BASIC EDUCATION

Society is currently experiencing the Fourth Industrial Revolution, or Economy 4.0, which has popularized technologies such as artificial intelligence, robotics, the Internet of Things (IoT), augmented reality, 3D printing, nanotechnology, and biotechnology. Within education, these advances have reinforced the notion that schools should not seek to compete with or be replaced by technology, but rather learn to manage and integrate it effectively in order to achieve better learning outcomes (SEBRAE, 2019).

Nevertheless, a growing body of thought argues that digital and technological competencies, while essential, are no longer sufficient. Instead, education should move toward what has been termed Education 5.0. Within this perspective, socio-emotional competencies—also known as soft skills—become a central pillar of young people's development, enabling individuals to use technology in healthy and productive ways, create meaningful solutions for their communities, and contribute to social transformation (SEBRAE, 2019).

According to Oliveira and Souza (2020), soft skills encompass students' social, cognitive, and emotional abilities, whereas hard skills refer to their technical competencies and practical knowledge. In this sense, soft skills complement hard skills, the latter involving more specialized, technical, and less malleable competencies that are more easily measured and verified. In contrast, soft skills—such as empathy, resilience, creativity, communication, flexibility, critical thinking, and leadership—are shaped and continuously developed through life experiences and interpersonal relationships (SEBRAE, n.d.).

According to Ruy (2020), although initiatives aimed at developing soft skills have been more readily implemented in Brazil's private education sector, public education has also sought to foster competencies aligned with these objectives. In this regard, both private and public Basic Education are supported by national educational policies, particularly the Brazilian National Common Curricular Framework (BNCC), which incorporates soft skills into its definition of competence. According to the BNCC, competence is defined as “the mobilization of knowledge (concepts and procedures), skills (practical, cognitive, and socio-emotional), attitudes, and values to address the complex demands of everyday life, the full exercise of citizenship, and the world of work." (Brasil, 2018, p. 8).

Furthermore, Costa, Santos, and Tinti (2020) found that instructional practices associated with blended learning produced positive results in the implementation of active learning methodologies and promoted meaningful changes in educational settings. By employing digital technologies as essential instructional tools, these practices enhanced teamwork while fostering the development of important behavioral competencies, namely soft skills.

Similarly, Velasques *et al*. (2020) observed that blended learning makes it possible to develop competencies that are not typically addressed in traditional curricula, as students are required to work collaboratively while using digital technologies. Moreover, technological resources and digital tools create opportunities for new ways of teaching and learning.

Overall, the incorporation of blended learning into everyday school practices in Basic Education contributes to the emergence and development of new competencies, particularly the soft skills discussed above. It is therefore evident that blended learning can constitute an integral component of students' formal education, inseparably combined with supervised face-to-face instruction provided within the school environment by a professional educational team.

Although it appears evident that blended learning expands opportunities for developing students' soft skills, its implementation in Brazilian Basic Education continues to raise important concerns among many educators.

For example, whenever blended learning—or any educational approach involving students' partial absence from the physical school environment—is discussed, one of the principal concerns expressed by educators is the possibility that face-to-face instruction might eventually be replaced entirely by non-face-to-face forms of education. Consequently, considerable apprehension exists regarding the risk that Brazilian public education could undergo a process referred to as "distance-educationization" (eadeização), whereby distance education (DE) would replace traditional face-to-face schooling (Souza; Evangelista, 2020).

By contrast, Staker (2011) argues that even in the United States—one of the world's most market-oriented economies—neither distance education nor homeschooling is likely to replace traditional face-to-face schooling. The author suggests that more than 90% of students will continue to depend on adult supervision within conventional schools throughout the twenty-first century. According to Staker (2011), most students require a safe place outside the home during the day, as well as a physical environment where they can interact socially, enjoy shared experiences, and receive guidance from their teachers. It was precisely to provide these students with the advantages of online learning that educational models were developed to integrate online learning with the

experience of the traditional physical school, giving rise to what is now known as blended learning.

Despite the concerns expressed by many Brazilian educators, Oliveira *et al*. (2020) argue that, following the educational transformations brought about by the COVID-19 pandemic, education will never return to its previous form. According to the authors, the traditional model of classroom instruction, as it existed before the pandemic, will no longer prevail. In this context, they maintain that information and communication technologies should be permanently incorporated into the new educational reality (Oliveira *et al*., 2020).

8 LIMITATIONS AND POTENTIAL SOURCES OF BIAS OR THREATS TO THE VALIDITY OF THE STUDY

Like any research, this study is subject to certain limitations and potential sources of bias that may affect the validity of its findings and conclusions.

For example, this study is limited to literature published in Portuguese and English. Furthermore, the implementation of blended learning and the development of soft skills may vary considerably across different school contexts, geographical regions, and socioeconomic settings. In addition, the literature review process and the selection of studies and sources may introduce selection bias, depending on the researchers' perspectives and inclusion criteria. Such factors may influence the comprehensiveness and objectivity of the analyses and conclusions.

In light of these limitations and potential sources of bias, this study sought to provide a careful and context-sensitive analysis of the development of soft skills through the implementation of blended learning in Basic Education. The findings also underscore the need for additional empirical studies and longitudinal research conducted across diverse educational contexts in order to validate and extend the conclusions presented here.

9 FINAL CONSIDERATIONS

This article examined the evolution of blended learning, from its origins in the corporate sector to its implementation in Basic Education, highlighting how this disruptive innovation has the potential to transform traditional educational practices while addressing the contemporary demands of both the labor market and society.

By combining the strengths of face-to-face and online instructional approaches, blended learning emerges as a pedagogical model capable of providing a more flexible, accessible, and dynamic learning experience. This educational approach not only facilitates the acquisition of technical knowledge but also promotes the development of socio-emotional competencies, commonly referred to as soft skills, which are essential to students' holistic development.

The benefits of blended learning include its capacity to personalize learning, foster student autonomy, increase engagement, and promote collaboration. However, its successful implementation depends on several factors, including

adequate technological infrastructure, teacher education and professional development, and the support of effective public policies.

Despite its considerable potential, the adoption of blended learning continues to face significant challenges, including resistance to change among some educators and the need for effective instruments to assess the development of soft skills. Furthermore, the diversity of definitions and implementations of blended learning may hinder the standardization and generalization of research findings.

It is also important to note that the COVID-19 pandemic accelerated the adoption of blended learning while simultaneously exposing limitations and areas requiring improvement to ensure its more effective integration into educational systems in the future. In this regard, the pandemic experience underscored the importance of adapting pedagogical practices and employing educational technologies in innovative and inclusive ways.

To advance this educational approach, it is essential that future empirical and longitudinal studies be conducted across diverse educational contexts, exploring different school settings and pedagogical practices. Furthermore, the development of public policies that promote technological infrastructure and support teachers' continuing professional development is fundamental to the successful implementation of blended learning in Brazilian Basic Education.

In conclusion, integrating blended learning with the development of soft skills represents a valuable opportunity to transform Brazilian Basic Education by preparing students not only for the labor market but also for active citizenship and lifelong personal development. Ultimately, by addressing the challenges and maximizing the benefits of this educational approach, it is possible to move toward a more inclusive, innovative, and effective educational system.

O ENSINO HÍBRIDO: EVOLUÇÃO, CONCEITOS E IMPACTOS NA EDUCAÇÃO BÁSICA BRASILEIRA

RESUMO

Objetiva-se discutir os conceitos fundamentais do ensino híbrido, sua trajetória histórica e sua integração com o desenvolvimento de soft skills na Educação Básica. Além disso, serão abordadas as inovações disruptivas e as premissas metodológicas que sustentam essa prática educacional. Esta pesquisa é baseada em uma revisão abrangente da literatura acadêmica e em uma análise documental. Nesse sentido, as fontes de dados incluem artigos científicos, livros e bases legais de instituições educacionais e governamentais. Os procedimentos analíticos incluíram a comparação de diferentes abordagens de ensino híbrido e a avaliação dos impactos no desenvolvimento de soft skills. Por conseguinte, a revisão da literatura revelou que o ensino híbrido oferece uma abordagem flexível e inovadora, combinando o melhor dos métodos presenciais e on-line. Isso porque essa modalidade educacional facilita a personalização do aprendizado, aumenta a autonomia dos estudantes, melhora o engajamento e promove a colaboração. Além disso, o ensino híbrido se mostrou eficaz no desenvolvimento de soft skills, como empatia, resiliência, criatividade, comunicação, flexibilidade, pensamento crítico e liderança. No entanto, destaca-se que a implementação do ensino híbrido enfrenta desafios significativos, como a desigualdade no acesso à tecnologia, a resistência à mudança por parte dos educadores e a necessidade de instrumentos eficazes para medir o desenvolvimento de competências socioemocionais. Por sua vez, o contexto da pandemia da COVID-19 acelerou a adoção do ensino híbrido, destacando tanto seu potencial quanto suas limitações. Ademais, a integração do ensino híbrido com o desenvolvimento de soft skills representa uma oportunidade valiosa para transformar a educação, preparando os estudantes para os desafios do mercado de trabalho e da vida em sociedade. É, portanto, essencial que futuras pesquisas empíricas explorem diferentes contextos escolares e práticas pedagógicas, e que políticas públicas apoiem a infraestrutura tecnológica e a capacitação dos educadores. Desse modo, a aplicação eficaz do ensino híbrido pode contribuir para uma educação mais inclusiva, inovadora e eficaz, atendendo às demandas contemporâneas da sociedade e do mercado de trabalho.

PALAVRAS-CHAVE: Desenvolvimento de Soft Skills. Inovação Educacional. Tecnologia na Educação.

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