THE BLENDED UNIVERSITY

LEARNING, TECHNOLOGY, AND SPACE

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Acknowledgements

This book started with a simple observation. We observed that faculty and students were having challenges adjusting to the post-pandemic "new normal" of various combinations of online and on-ground courses. Administrators were also coping with related post-pandemic student expectations and managing this new balance of online and on-ground offerings and space utilization.

We were fortunate to meet Peter Kaufman, a friend of the university who had been thinking about these issues for some time and had a vision for a new era of higher education. With Peter's support, we set off on a journey to uncover and distill key concepts, cases, and policies that could serve as guideposts for us and others.

This journey turned into a multi-year odyssey of discovering a wide range of innovative approaches, as well as promising university tactics to guide a blended learning strategy. We are grateful for the many leading researchers, writers, administrators, and faculty who have been working on this topic for some time, many of whose works appear in the 100-plus references included in this book. There are, of course, many more works than we cited, but we could not include them if we were to achieve our goal of making the book succinct and accessible to a broad spectrum of stakeholders.

In terms of the book's research and writing, it has been a team effort. I served as principal researcher and author, responsible for all aspects of research, writing, and publication. Itamar Shabtai served as a co-principal author and content expert. Together, we collaborated on the framework of

the book, developed central concepts, and produced various drafts. In addition, Cheyne Murray contributed his keen knowledge and expertise to many technical aspects of blended learning, including contributing information and data on blended learning experiences at the University of Redlands. Krissy Truong provided valuable input on the appropriate literature, as well as uncovering and summarizing many of the case studies that inform the chapters.

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Thomas A. Horan, Ph.D.

Chapter 1
Learning, Technology, and Space

Higher education stands at a pivotal moment. As digital technologies, evolving learner expectations, and new models of engagement reshape the academic landscape, blended learning is becoming far more than a teaching approach. It is emerging as a defining logic for the university of the future. The central thesis of this book is that the future of higher education should be understood through the dynamic relationship among pedagogy, technology, and space.

Blended learning is not simply a matter of combining online and in-person instruction. Rather, it reflects a broader transformation in teaching design, the role of technology in extending learning, and the intentional configuration of physical and digital spaces to create meaningful educational experiences. This pedagogy-technology-space triad provides the conceptual foundation for understanding the "Blended University."

This chapter introduces the major trends behind that shift and presents a multi-level framework that anchors this book. Specifically, blended learning must be understood across three interconnected levels, the classroom (micro level), the curriculum (meso level), and the university (macro level). These levels structure the chapters that follow, each of which combines analysis with case studies from a diverse range of institutions. The book concludes with a call to action, outlining practical steps that higher education leaders, faculty, and stakeholders can take to realize the promise of the Blended University.

Higher Education Must Be Reimagined

We are currently in the midst of a Fourth Industrial Revolution, a period characterized by unprecedented and profound technological transformation that is rapidly reshaping how we live and work. As explained by the World Economic Forum founder, Klaus Schwab, the First Industrial Revolution used water and steam power to mechanize production. The Second used electric power to create mass production. The Third used electronics and information technology to automate production.[1]

Now, a Fourth Industrial Revolution is building on the Third Revolution. It is characterized by a fusion of technology that is blurring the lines between the physical and digital. This revolution is evolutionary in its steady progress yet disruptive in its impact, affecting numerous societal domains. Social, political, technological, economic, and cultural shifts are key drivers pushing the workplace toward multi-dimensional changes to help blend physical and virtual work facets.

These same trends are influencing higher education, shifting it away from the dominance of in-personal, physical, lecture-based learning and toward a multiplicity of learning modalities and locations. This reimagining of higher education centers on a dramatic departure from students passively listening to the professor and toward a more active learning experience that is personalized, technologically integrated and competency based.

COVID-19 played an important role in reimagining both work and education. The pandemic accelerated the seismic shift to "online" work, fundamentally changing perceptions and driving transformations across many sectors.

Beginning in spring 2020, higher education was forced to transition entirely to online learning, which ultimately led to the adoption of diverse modalities in the post-pandemic era.

One consequence of COVID has been the accelerated widespread adoption of Learning Management Systems (LMS) in the US and other developed countries, whereby higher education adoption has grown to 70%-90% penetration. Industry forecasts now focus on the deepening use of these platforms over the next decade, making the time right to focus on blended learning as a cornerstone of this growth.[2]

Looking ahead, the rapid advancements in artificial intelligence (AI), particularly generative AI, are creating new opportunities and challenges to leverage the power of AI in the educational environment. Generative AI has the potential to accelerate this transformation by changing the focus of education from knowledge-based to competency-based, personalizing learning, enhancing faculty creativity, and reshaping classrooms into more interactive and inclusive environments.

These trends and advancements provide the technical foundations to move beyond traditional models toward reimagined higher education experiences that are adaptive, innovative, and future-ready.

Blended Learning Definitions

There are many definitions of blended learning. The most widely cited definition is by Garrison and Kanucka, who simply state that "blended learning is the thoughtful integration of classroom face-to-face learning experiences

with online learning experiences."[3] This approach emphasizes the strengths and spectrum of both physical and virtual learning environments to provide online/on-ground blended educational experiences.

Recently, Mintii has offered a more expansive definition, suggesting that "blended learning is a planned, pedagogically balanced, adaptive combination, interpretation and integration of technologies…to optimally meet the educational needs" of students.[4] Drawing from this latter definition, the implementation of blended learning enables academic institutions to equip students with the appropriate mix of knowledge and skills to ensure that graduates possess the required knowledge and competencies to pursue successful careers and lives.

Mindful of these (and related) definitions, the following is our operational definition that addresses the tripartite (pedagogy, technology, space) composition of blended learning.

"Blended learning integrates pedagogy, technology, and space to deliver active learning experiences across a wide range of modalities that effectively meet the needs, goals, and well-being of diverse students."

It is important to note that the value of blended education lies in its potential to both enhance the students' academic journey and ensure their future success. By offering multiple modes of engagement, it caters to different learning styles and allows students to learn at their own pace in a personalized manner. This flexibility can improve overall well-being by accommodating personal preferences, schedules, and life circumstances. Additionally, the integration of online instruction, including synchronous and asynchronous

activities with in-person interactions, fosters a more engaging and interactive learning environment that deepens the retention of knowledge and development of skills.

There is a robust body of academic research on the efficacy of blended learning modalities.[5] For example, supportive evidence can be found in a US Department of Education report, which concluded that students in blended learning environments performed better, on average, than those in fully face-to-face instruction.[6] The study also found that the combination of online and in-person instruction can enhance the effectiveness of teaching by providing opportunities for more individualized and self-paced learning. This increased interaction can lead to deeper understanding and greater student satisfaction. Research by Dziuban and colleagues has further noted that blended learning environments contribute positively to student engagement and learning outcomes.[7]

Blended University Evolution

Achieving the "Blended University" represents a significant evolution in higher education, moving from a traditionally place-based experience to a more flexible array of on-ground and online options. This transition mirrors broader trends across industries, where digital transformation has reshaped the workforce to encompass a broader array of in-person and online work modalities.

The largest enrollment trend in the last two decades of higher education has been the enormous growth in fully online learning. Universities such as Western Governors University (enrollment: 188,000), Southern New Hampshire University (enrollment: 177,000), and the University

of Phoenix (101,000), among others, have led the growth of fully online education by private educational institutions.[8]

Large non-profit "traditional" universities such as Arizona State University and the University of Massachusetts, among others, have also extended their online degree offerings, principally but not exclusively to four-year undergraduate students. While these large enterprises may suggest a wholesale challenge to on-ground and blended learning offers, a closer look at (US) enrollments suggests a more nuanced picture, one that validates the attraction of blended learning across university sizes and types.

Specifically, according to a recent US Department of Education report on all higher education enrolled (Fall, 2023) students in the US, approximately 46% were enrolled in purely on-ground programs, 54% were enrolled in some form of on-line education, either taking courses (28%) purely online or were taking a blend of on-ground and online (26%).[9] Among 4-year undergraduates, approximately 47% were purely on-ground, 25% exclusively online, and 25% pursuing some online coursework as part of their degree. Among graduate students, 46% were solely on-ground, and 54% were taking some courses online or were fully online.

Moreover, the most recent (2025) national study suggests that both on-ground and blended are gaining ground at

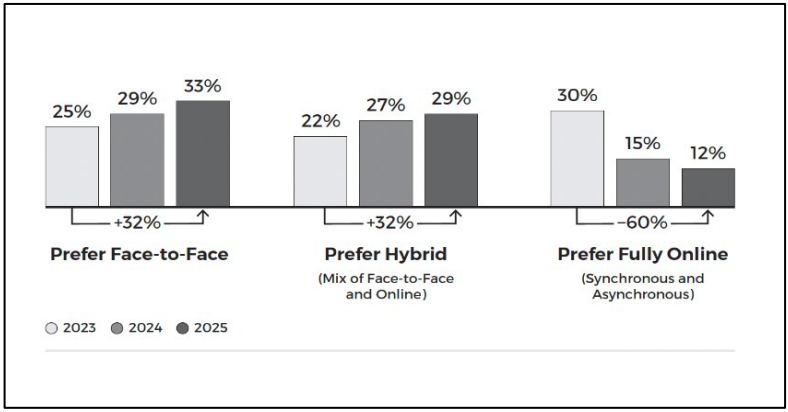


Figure 1.1a. Student Preferences (Source: Shaw, et al. 2025)

the expense of exclusively online (see figure 1.1a).[10] Students have reacted favorably to a blended approach, up 32% (to 29%) since 2023, while fully online experienced a 60% decline as the preferred option. A full 33% retained face-to-face as the preferred option.

However, the same study found that faculty remain quite cautious, reflecting some tension between traditional campus values and the advent of online options (See Figure 1.1b). For example, while instructor preference for face-to-face has grown over the last two years (to 64%), compared to roughly a third (30%) of students who share this preference. In contrast, 59% of students express a preference for courses that incorporate digital elements, with hybrid courses being the top choice (29%). These data underscore the growing need for universities to take a proactive approach to a blended-campus model, balancing the benefits of physical presence with the advantages of digital flexibility.

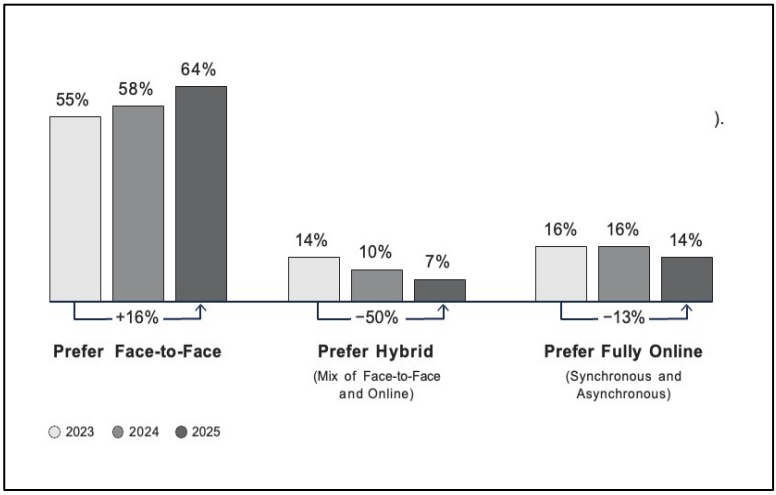


Figure 1.1b. Faculty Preferences (Source: Shaw et al. 2025)

Reimagining the Academic Model

This wave of teaching and learning disruption comes at a time of increasing skepticism regarding the value of academic degrees as delivered by the traditional academic model. In the United States, this critique has been central to recent federal debates about the effectiveness of higher education in delivering competencies relative to its costs.[11] Consequently, there is a growing consensus that the academic landscape is changing and will impact how academic degrees are earned and how the entire learning journey is structured. One implication is the shift from a primary focus on providing knowledge to emphasizing the development of competencies as a mix of knowledge, skills, attitudes, and values.[12]

Concurrent with these changes, teaching and learning methods are also undergoing significant transformation. The focus is shifting from teaching to learning, particularly to

active and interactive learning that engages students in collaborative and social processes.[13] The goal is to sustain effective learning while enhancing the overall student experience. As the role of lecturers shifts from knowledge providers to facilitators and mentors, we are witnessing a decline in traditional lecture-based instruction. Instead, active and interactive learning environments are taking center stage, with more peer-to-peer interaction and less direct lecturer-student engagement.

These changes signal a dramatic redefinition of both the educator's role and the student's learning experience and marks a new phase of blended learning across university sizes and types.

A Holistic Blended Learning Model

As introduced earlier, blended learning is a holistic learning model that seeks to leverage the strengths of both the classroom and digital experience to holistically enhance the learning experience. The "University of the Future" now demands the design of integrated online and physical spaces. The educational system is undergoing such changes, and learning environments have to adapt to reflect the dynamic and changing reality we live in. This book offers a set of design principles aimed at helping colleges and universities achieve higher levels of student learning, inspiration, and satisfaction through blended learning.

Our holistic approach to blended learning is based on the intersection of three core components: pedagogy, technology, and space (See Figure 1.2). This approach aims to seamlessly combine these (pedagogical, technological, spatial) elements in a manner that fosters meaningful and consequential student outcomes.

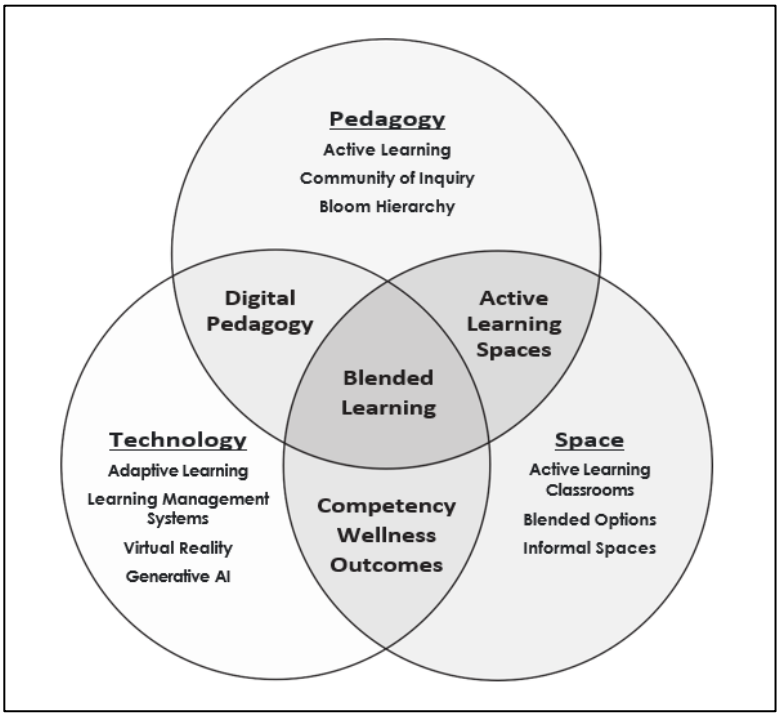


Figure 1.2. Blended Learning: Pedagogy, Technology, and Space

Pedagogy

A key element driving these systems is active learning, which Prince describes as: "Any instructional method that engages students in the learning process. In short, active learning requires students to do meaningful learning activities and think about what they are doing."[14]

Active learning activities can be seen within the context of a "Community of Inquiry" (Chapter 2) and the curriculum can best be assembled following "Bloom Hierarchy

of Learning." (Chapter 3). These chapters outline the myriad benefits of active learning that include increased student engagement, improved retention, and better academic performance on key competencies.[15]

Technology

A range of technologies undergird blended learning, powering the appropriate uses of a diverse ecosystem of platforms, tools, and analytics that can work together to create a flexible, engaging, and personalized learning environment. The portfolio of technologies includes learning management systems (LMS), collaboration tools, adaptive learning technologies, virtual and augmented reality applications, and increasingly, AI tools.

If the COVID crisis necessitated the rise of online options, AI can foster the next generation of learning. Generative AI models and tools, such as ChatGPT, can produce human-like text and facilitate new forms of personalized and adaptive learning and support.[16] These technologies can assist in creating customized learning materials, providing instant feedback, and enabling adaptive learning experiences tailored to individual student needs. Furthermore, generative AI opens opportunities for interactive simulations, intelligent tutoring systems, automated assessment with rich feedback, and dynamic content creation that evolves with the learner's progress.

The consequence of these systems, when properly integrated and used, is to elevate students' capacity to learn effectively both in the classroom and across the curriculum. It helps them learn in a manner that is both personalized and done within a collaborative and supported learning environment.

Space

The third dimension of blended course design is "space". The physical dimension is inherent in the concept of "blended learning," which is typically (but not exclusively) the "blend" of on-ground and online experiences. To satisfy evolving demands, academic institutions are adapting and rethinking their physical infrastructure. Classrooms designed in the outdated auditorium style of the nineteenth and twentieth centuries no longer serve modern pedagogical approaches. Institutions must plan, design, and construct smart, flexible learning spaces that reflect the needs of 21st century education.

These spaces should accommodate diverse teaching and learning methods, enabling a more interactive, technology enabled, and student-centered learning environment. Traditional classroom settings, often characterized by auditoriums with rows of seats, foster passive learning. However, these traditional classrooms can be transformed into flexible, versatile, and open settings where facilitators and learners can adapt the space to specific learning objectives. Adjoining informal spaces can provide comfortable settings conducive to collaborative work. The blended flexible learning space enables the facilitation of various learning methods with the support of technologies in different modalities.

The appropriate learning spaces are necessary to ensure that participants maximize the learning experience on cognitive, emotional, and social dimensions. Space design is critical to ensuring the well-being of participants during the learning process, as the ambient conditions of the space can impact student focus, engagement, and satisfaction. As

noted by Radcliffe and others, the integration of pedagogy, technology, and space should create a balanced approach for active blended learning that intensifies the best combinations of each sphere to positively impact student learning and outcomes.[17]

These trends point to how we can thoughtfully blend learning, technology, and space. The rise of online and hybrid learning has fundamentally reshaped the higher education landscape, making traditional knowledge-transfer models insufficient to meet student needs. Today's learners require a more holistic model that integrates both physical and digital modalities, supporting high-quality and effective learning throughout their academic journey. The intended (and documented) results of such a holistic approach are increased student competencies, outcomes, and well-being.

Structure of the Book

The book applies a multi-tiered systems approach to understanding and advancing blended learning, beginning at the micro level, moving to the meso level, and then to the macro level (See Figure 1.3).[18] Specifically, the micro level of the classroom is examined in Chapter 2, the meso level of the curriculum in Chapter 3, and the macro level of the university in Chapter 4. Blended learning principles are illustrated through research, case studies, and examples at each level. Together, these insights provide a comprehensive framework for creating learning environments that meet the needs of today's students. Implications of this framework for university stakeholders and leaders are addressed as a "Call to Action" in the closing chapter 5.

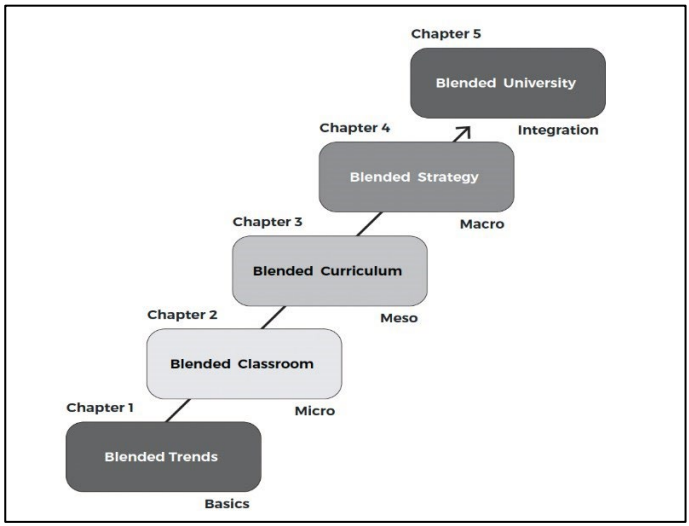


Figure 1.3. Overview of Blended University

Chapter Topics

Chapter 2. Micro Level: The "Classroom of the Future" focuses on providing a systematic approach to designing blended courses that link learning, technology, and space. The focus is on concepts and means to support active, interactive, connected, and collaborative student learning across a range of pedagogical, technological, and spatial dimensions. It also addresses the intended outcomes of blended learning in terms of cognitive, affective, and psychomotor impacts.

Chapter 3. Meso Level: The "Curriculum of the Future" outlines the meso considerations and factors, focusing on blended curriculum design at the program level. The chapter outlines the learning journey based on Bloom's taxonomy and how the blended curriculum can best incorporate core, specialized, and integrative learning components, and how this curriculum can be delivered across a range of learning, technology, and space settings.

Chapter 4. Macro Level: The "University of the Future" focuses on broader institutional considerations. It provides a 10+ Pillar Strategic Framework that a university can use to advance blended learning and applies the framework to the blended learning actions undertaken by the University of Redlands. (The + designates the unfolding impact of AI across the 10 Pillars.)

Chapter 5. Integration and Action: The "Blended University" integrates and harmonizes learning, technology, and space at all levels and modalities. The chapter integrates findings from previous chapters and outlines a "Call to Action" for how universities can apply the 10+ Pillar Strategic Framework to achieve the benefits of blended learning. The chapter closes with implications for student wellness, key competencies, artificial intelligence, and a blended world.

Intended Audience

As the educational landscape continues to shift, institutional leaders are called upon to adopt blended approaches at every level: classroom, curriculum, and campus. They must engage stakeholders in the process and remain agile in implementing modern pedagogies and learning environments. By doing so, they will provide a dynamic journey for students and a forward-facing model for their higher-education institutions. This book aims to equip these leaders and stakeholders with a compass and a path to lead 21st century higher education institutions to succeed in this increasingly blended world.