Preface

The teaching and learning environment as we know it has changed considerably. With the advent of computer technology, teaching and learning no longer takes place in a strictly face-to-face environment. Educators are transforming their traditional classrooms into 21st century settings where technology is employed to leverage student-centered learning. With the availability of emerging technologies, alternative options are now possible. Over the years, researchers have focused attention on investigating teaching and learning in these environments and exploring designs that ensure effective teaching and meaningful learning.

Blended education has emerged as an option that offers a lot of potential. McGee and Reis (2012) defined blended learning as that which involves instructor and learners working together in mixed delivery modes, typically face-to-face and technology-mediated, to accomplish learning outcomes that are pedagogically supported through assignments, activities, and assessments as appropriate for a given mode and which bridge course environments in a manner meaningful to the learner (p. 9). Staker and Horn (2012), on the other hand, defined blended learning as a formal education program in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, path, and/or pace, and at least in part at a supervised brick-and-mortar location away from home (p. 3). According to Allen, Seaman, and Garrett (2007), blended learning typically consists of 30 to 79 percent of online content delivery.

In 2011, Horn and Staker described blended programs as consisting of six distinct types: Face-to-Face Driver (content mostly delivered traditionally), Rotation (students rotate between online and traditional content on a fixed schedule), Flex (content delivered online with traditional sessions provided as needed), Online Lab (sessions offered online at a traditional location), Self-Blend (students choose to take online course to supplement traditional learning), and Online Driver (lessons delivered mostly online with some voluntary or mandatory traditional applications). Recently, however, in their 2012 publication, Staker and Horn narrowed the six models down to four program types with the elimination of the Face-to-Face Driver and Online Lab models and the further break down of the Rotation model into four subcategories: Station-Rotation, Lab-Rotation, Individual-Rotation, and Flipped Classroom models.

The concept of blended education has been described in a variety of ways and using a variety of terms: blended, hybrid, flipped, hyflex, mixed-modes, etc. For some, blended education involves a combination of innovative technologies in the delivery of instruction. For others, blended education consists of the utilization of varied pedagogical strategies to enhance learning. The most common approach to blended education involves merging traditional face-to-face instruction with online learning. This form of blended education has gained popularity due to the ability of instructors to combine the strengths of both traditional and online delivery modes. The blending of online technologies with traditional instruc-
tion enhances learning through the formation of a community of inquiry, allowing time for interaction with the content before, during, and after instruction, and as such, providing “time for critical reflection and discussion” (Stacey & Gerbic, 2008, p. 2).

There has been a surge in interest in blended education due to the potential it provides. In fact, variations of blended education continue to emerge, evolve, and expand globally. Educational institutions in most countries, especially in the Western World, Asia, and Oceania, are expending resources to develop blended education (Barbour, et al., 2011). In the United States in particular, blended learning has taken roots in higher education and is on the rise in the K-12 setting. In a report entitled Blending In: The Extent and Promise of Blended Education in the United States, Elaine Allen, Jeff Seaman, and Richard Garrett (2007), noted that approximately 55 percent of all higher education institutions in the United States offer at least one blended course. Regarding K-12 online learning, Anthony Picciano and Jeff Seaman (2009) found that about 40 percent of school districts in the United States have students enrolled in a blended course.

It is important to note that while blended education continues to be preferred among educators, students, and other stakeholders, for some the debate as to whether it really measures up to traditional learning still remains. In addition, Allen, Seaman, and Garret (2007) acknowledge that the pathway of advancing from strictly traditional models to the integration of online learning is not very clear, and as such, blended education is still shrouded in mystery. Blended instruction does not come in a single formula, and to make it even more complicated, more innovative programs and flexible delivery options continue to evolve. As blended learning continues to evolve and expand, it is important that what the best educators do in blended education is illuminated and successful teaching techniques shared. There is a need for sharing how the different methods can best be combined in such a way that they complement one another as well as practical approaches to developing blended courses that incorporate best or effective instructional practices.

As blended learning becomes more common, educators need to understand how to better implement effective blended courses that match up to traditional courses. What better way is there for accomplishing this than to gain information on how successful educators shift from 100% traditional classrooms to blended classrooms? According to Graham (2006), this effort will involve understanding and capitalizing on the unique affordances available in both face-to-face and computer-mediated or distributed learning environments (p. 19). There is a need for answers to questions such as: How is blended learning actually taking place? What do effective blended classrooms look like? What are the outcomes of successful blended courses? The aim of this volume is to present answers to some of these questions and more. In this book, best practices educators and designers provide pedagogical and theoretical knowledge related to blended education as well as practical applications on how to design blended models that enhance learning at all levels of education. Specifically, the book provides educators with information on pedagogical strategies and innovative technologies that have been successfully applied in blended instruction and learning. In addition, the book provides insights into best practices in blended education, examples of successful blended learning models, and student outcomes with the use of the models.

This book is intended for educators who teach or plan to teach in blended environments. Again, the goal is to provide instructors with evidence-based strategies for teaching blended classes at all levels of education. Such information is necessary to help instructors and students succeed in blended courses. The content of this book also contributes to the expansion of the research on blended education. The book provides researchers with a body of knowledge that will lead to the further development of the studies that focus on the area of blended education. As the trends and formats of blended learning continue to expand locally as well as globally, it is important that continued attention is focused on identifying successful models that can be applied in the classroom.
The chapters in the book are organized into four main sections, each comprising chapters authored by best practices K-20 educators who highlight the strategies used and successes with blended teaching and learning. Some of the strategies enable educators to shift classrooms and students from being passive to active learners. Other strategies that lead to improved learning outcomes and a more student-centered approach to learning are also presented. Also highlighted are flexible and pedagogically valuable strategies in blended education that provide students with varying learning styles and abilities and at different levels of education with access to the course content in a way that enhances learning. Each chapter begins with background information and ends with solutions and recommendations and directions for future research to invite reflections and ideas to expand the research on blended education. The contributions to this book reveal that blended courses successfully allow for more flexibility, catering to students who prefer face-to-face interaction as well as those who prefer online learning, providing more opportunities for reinforcing learning, interaction, participation, motivation, and engagement, and providing the ability to support and meet the needs of diverse students with different learning styles.

LAYOUT OF THE BOOK

Section 1: Blended Education – Trends, Design, and Development


The trends of blended learning use in K-12 public school districts are highlighted in this chapter. The authors of this chapter explain how increased student population coupled with the need to reduce educational costs have led to a high demand for the use of blended instruction in K-12 education. The authors call for more research on trends, challenges, possibilities, and best practices in blended learning particularly at the K-12 level.


In this chapter, the authors provide definitions and descriptions of blended education in general and outline the history and trends of blended learning in higher education, in particular. Also provided in the chapter is information on the implementation of blended courses and solutions and recommendations for meeting the challenges of blended learning in higher education.

Chapter 3. "Blended Instruction: Helping Meet Some Academic Challenges for Higher Education Students"

Changes in student demographics and needs at the tertiary level of education have caused universities and colleges to make adjustments in their course offerings and delivery modes. Instructors are now being encouraged to offer instruction in alternative environments. An alternative method of delivery that has gained popularity is blended education. The author of this chapter points out the challenges for offering blended instruction particularly for non-traditional students.
Chapter 4. “Designing Quality Blended Courses”

Blended learning has emerged as a result of the incorporation of online elements into traditional face-to-face instruction. With no concrete evidence of what the best blend looks like, the development of blended courses can be challenging for instructors. In this chapter, the author provides a number of best practice principles for designing quality blended courses. The author encourages the use activities that ensure interaction, motivation, and engagement among students in the blended learning environment.

Chapter 5. “A Framework for Promoting Complex Learning in a Blended Learning Environment”

As with any alternative learning environment, blended education faces criticisms for whether the same level of quality and effectiveness as offered in traditional classrooms can be made available in blended settings. The author of this chapter acknowledges these concerns and provides educators with strategies that promote complex learning in blended courses.

Chapter 6. “Blended Learning: An Opportunity for Integration or Variation?”

In this chapter, the author cautions that while blended learning has its benefits, it may also be a challenge if it becomes no more than a mechanical mix for the instructor. In order not to be a pedagogical failure, the author of this chapter provides ways for instructors to rethink the structure and dynamics of the blended learning experience. The author offers possibilities for redesigning blended courses from a variation theory perspective.

Section 2: Innovative Strategies in Blended Education


Flipped classrooms, a blended learning technique that puts the onus of learning right where it belongs: on students. With flipped classrooms, students are able to watch lectures online anytime and anywhere and therefore are able to better prepare for learning in the traditional setting. When students are well prepared for class, the instructor has more time to perform guided inquiries, labs, problem sets, or extra practice in class.

Chapter 8. “Blending Face-to-Face Instruction and Technology: Implementing Flipped K-12 Classrooms”

The author of this chapter presents practical applications for implementing a flipped learning model in K-12 classrooms. The author encourages instructors interested in flipped classrooms to evaluate its use and determine whether changes will be required with each implementation. Alternative models that can be integrated with flipped classrooms are also outlined.
Chapter 9. “Student-Driven Education with Flipped Learning and 20-Time”

The authors of this chapter present a case study of a personalized and inquiry-based learning technique, 20-Time, that was integrated in a flipped learning model. 20-Time technique is influenced by research on cognition and emerging business world practices. With the use of 20-Time projects in K-12 flipped classroom, instructors are able to foster creativity and higher-order thinking among their students.

Chapter 10. “Flipping the College Classroom: Participatory Learning, Technology, and Design”

Flipped models are applicable not only in K-12 classrooms but also in college-level classrooms. The author of this chapter shares information on a flipped college classroom model and presents instructors with strategies and tools for implementing flipped instructional delivery models that enhance learning among college students.

Chapter 11. “Hybrid Courses with Flexible Participation: The HyFlex Course Design”

The author of this chapter presents an innovative blended learning method, Hyflex learning, and demonstrates how this model was implemented in a higher education institution. The Hyflex model provides students with flexible class participation options that fit their characteristics and life styles. With Hyflex courses, students have individualized control of their learning and are able to choose to participate in either traditional classes or online sessions on a continuous and as needed basis.

Chapter 12. “Using Blended Learning Principles to Bridge the Gap between Online and On-Campus Courses”

The authors of this chapter share a pedagogical trial of a Hyflex course. With the implementation of this model, students were able to enjoy the flexibility of both blended learning sections: a face-to-face option and an online option. Students in this case study had the opportunities for learning online while retaining the “safety net” of the traditional classroom.

Section 3: Best Practices in K-20 Blended Education

Chapter 13. “Applying the Seven Principles for Good Practice in Undergraduate Education to Blended Learning Environments”

Chickering and Gamson’s seven principles of good practice in undergraduate education are applied to blended education in this chapter. The authors encourage instructors to adhere to Chickering and Gamson’s principles of good practice when teaching blended courses by designing courses with clear guidelines for interactions with students, creating well-designed discussion assignments that require participation, engagement, and feedback, requiring the presentation of student projects, providing feedback on both face-to-face and online assignments and inquiries, establishing deadlines and communicating high expectations through the implementation of challenging assignments, and praising excellence and allowing student autonomy on assignment topics.
Chapter 14. “Engaging Students in Large Classes through the Use of Blended Learning Instructional Strategies (BLIS)”

This chapter provides instructors with best practice strategies for engaging students in large blended classrooms. The authors of this chapter share effective techniques for effectively infusing technology in blended instruction. Blended Learning Instructional Strategies (BLIS) are highlighted to effectively address common issues related to teaching and student engagement in large classroom settings.

Chapter 15. “Blended Learning to Support Alternative Teacher Certification”

In this chapter, the authors review literature on the use of e-learning to complement and extend traditional preservice and inservice teacher education. It also provides an in depth example of the design and implementation of blended learning for supporting alternative teacher certification. The authors also discuss the following: a) leveraging a network of partners, b) designing blended learning to address needs of multiple learners and organizational entities, c) balancing standardization and customization, and d) conducting evaluation and engaging in continuous improvement.

Section 4: Practical Applications and Student Outcomes in K-20 Blended Education

Chapter 16. “The Teacher’s Role in the Blended Classroom ... Or When 1 + 1 > 2”

The author of this chapter calls attention to the changes in education. Teaching and learning no longer take place solely in traditional settings as some will like us to believe. The author of this chapter presents a model of a modern day classroom where online and traditional methods of instruction are integrated and where technological development provides instructors varied opportunities for meeting the needs of students from different backgrounds and with different characteristics.

Chapter 17. “Fantasy Workshop: Active Use of a Learning Management System (LMS) as an Approach to Blended Learning”

The authors of this chapter demonstrate how a 6th grade writing project was conducted in a blended learning environment and with the use of a learning management system, itslearning. Student and teacher outcomes from this project are shared in the chapter. The project facilitated students’ writing processes in such a way that it was meaningful and motivating for all students in the class.


In this chapter, the authors describe the application of a blended approach to Canadian First Nations education to foster student engagement and success. The study examined the Sunchild E-Learning Community program through the lens of Chickering and Gamson’s Seven Principles of Effective Teaching. Findings from online student surveys and interviews, and site visits are presented.
Chapter 19. "Creating Dialogical Spaces in Blended Environments: A Case Study of Classroom Design in Two English Literature Courses"

The author of this chapter presents information on the outcomes from implementing blended learning in two English literature college courses. Both of these courses presented challenges in facilitating classroom discussion inhibited by the physical design of the learning space. The outcomes suggest that further research and investment in blended classroom design is needed as instructors seek to improve student engagement in both the traditional and online settings in blended courses.

Chapter 20. "Innovations in Blended Learning to Promote Proficiency in Reading Comprehension for Students with Dyslexia"

In this chapter, the authors demonstrate how a blended program was implemented to assist college students with learning disabilities overcome the challenges of studying English as a second language. The students describe how the program enabled them to gain English proficiency, a requirement for graduation.

Chapter 21. “Online Homework and Correlated Success in University Mathematics Courses: A Longitudinal Study"

The authors of this chapter share information on how a free, open-source online tool, Web Homework System, was used for Web-based homework and quizzes for first year college students enrolled in mathematics courses. Also presented are the results of student performance in the mathematics courses compared to students in a 100% traditional mathematics course.

Chapter 22. “A Blended Course to Teach Graphical Programming Using LabView”

In this chapter, the author introduces a blended learning approach used in graphical programming courses. The traditional graphical programming course was combined with e-learning technology to teach advanced topics and increase the programming skills of students. Experimental studies showed that this blended learning course produced higher results in the students’ self-assessment and certification test.

Chapter 23. “Blended Learning Support for Undergraduate Students’ Research and Writing Skill Development”

In this exploratory study, a blended learning support project created by a subject librarian and a writing instructor is investigated. The authors of the study provide a working guideline for designing and developing blended learning support mainly drawing from Butler and Cartier’s research on academic engagement.
Chapter 24. “A Skype-Buddy Model for Blended Learning”

The authors of this chapter describe the use of Voice over Internet Protocol in a blended learning environment to provide students in a 100% online course opportunities for participation and interaction in a traditional face-to-face classroom. Student and instructor satisfaction, benefits, and challenges in this setting are examined and presented.

Chapter 25. “Blended Learning Experience of Graduate Students”

In this chapter, the author documents the ways in which blended learning has changed the university learning experience specifically for graduate students. While faculty voiced concerns with transitioning from teaching in a face-to-face environment to teaching in the online setting, an analysis of data gathered from the students show that they were generally satisfied and appreciated the convenience of the blended approach.

Chapter 26. “Key Factors for Maximizing the Effectiveness of Blended E-Learning: The Outcome of the Internal Evaluation of a Distance Education Program for Adult Learning in Greece”

This chapter focuses on the main factors that need to be met in order to maximize the effectiveness of a blended e-learning program. The factors discussed in this chapter are derived from the perspectives of the learners, the scientific staff administrative staff, and technical staff engaged in the learning environment. Specifically, the factors emerged through the internal evaluation of a national blended program. Findings on the strengths and weaknesses of the program as well as proposals and suggestions for future implementation of related programs are discussed.

We hope each member of our audience enjoys reading the chapters in each section as much as we did.

Lydia Kyei-Blankson
Illinois State University, USA

Esther Ntuli
Idaho State University, USA
REFERENCES


