Chapter 2
"Solve the Big Problems":
Leading Through Strategic Innovation in Blended Teaching and Learning

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ABSTRACT

Blended learning remains at the top of higher education/technology issues lists despite having been in practice on college and university campuses for 20 years. However, a review of blended learning research literature suggests that innovation in blended learning models has been lacking. This chapter positions innovation in blended learning as a leadership challenge, not merely for the niche concerns of learning technology professionals but as a strategy to fulfill the higher education mission of student success. The chapter authors assert that, while blended learning's very flexibility often curtails its systemic implementation, when undertaken as an institutional leadership challenge, new configurations of blended learning implemented through cross-institutional partnerships hold great promise.

INTRODUCTION

In this chapter, we position innovation in blended learning as a leadership challenge, not merely for the niche concerns of learning technology professionals but as a strategy to fulfill the higher education mission of student success. We assert that, while blended learning's very flexibility often curtails its systemic implementation, when undertaken as an institutional leadership challenge, new configurations of blended learning implemented through cross-institutional partnerships hold great promise. Specifically, innovation in the design of blended learning, when undertaken as a strategic, institutional leadership challenge, has the potential to increase student success by facilitating progression - especially progression in high drop/fail/withdrawal courses - and eventual degree attainment. Undertaking leadership of a strategic blended course design initiative requires a clear vision for the affordances of blended learning, a commitment to institutional innovation, effective program management, and facile partnership-building among stakeholders at all levels (e.g., faculty and senior administration).

Cavanagh and Thompson (2018) note that leaders must pursue a "delicate dance" of "monitoring [technology] trends" alongside "countervailing forces" in order to bring about desirable outcomes (p. 4) in our higher education contexts. Blended learning remains at the top of higher education/technology issues lists (e.g., EDUCAUSE Learning Initiative, 2018; New Media Consortium, 2017) despite having been in practice on college and university campuses for twenty years (e.g., Hartman, Dziuban, & Moskal, 2000). Blended learning's staying power as a construct is undoubtedly related to its flexibility in fulfilling faculty pedagogical preferences while also offering the promise of institutional impact via data on student retention, success, and satisfaction (Cavanagh & Thompson, 2015).

Building upon our past work related to leading innovation in online education (Cavanagh & Thompson, 2018) and related to blended learning (Cavanagh, Thompson, & Futch, 2017; Futch, deNoyelles, Thompson, & Howard, 2016; Moskal & Cavanagh, 2014; Wegmann & Thompson, 2014), we begin the chapter with a framing of higher education technology innovation leadership as a need to "solve the big problems" (Cavanagh & Thompson, 2018, pp. 8-9) of which student success (e.g., increased graduation rate, decreased time to graduation) is a prime example. Next, a section on the practice and promise of blended learning (featuring cited data) precedes a section elaborating on the need to improve the designs of strategic "challenging" courses (e.g., those with high drop/fail/withdrawal rates) in order to meet institutional goals and society's needs for social mobility. The heart of the chapter is a detailed treatment of new models for blended learning (e.g., combined with digital courseware, adaptive learning systems, learning analytics, advising

systems, etc.), new implementation partnerships, and new approaches to faculty preparation to carry out this innovation work. A final section draws the chapter to a conclusion and summarizes the key points. It is our hope that this chapter will be useful as an example of teaching and learning innovation in technology leadership with implications for faculty development.

THE PRACTICE AND PROMISE OF BLENDED LEARNING

Literature Review

Before considering the place of innovation in blended learning as part of a strategy to improve student success, it is helpful to review the nature and affordances of blended learning. According to Norberg, Dziuban, and Moskal (2011), it is possible that blended learning has a connection to medieval times. The researchers suggest that during that period "material provided the first asynchronous learning opportunities" (p. 208). In the last two decades, access to the internet has created a climate for the exploration of new modalities for teaching and learning. One such teaching and learning modality is the aforementioned blended learning. Blended learning attempts to fuse the best practices associated with teaching online with those conducted face-to-face. There are varied interpretations of blended learning; however, at the core of these variations are the two primary learning modalities, online and face-to-face.

While many institutions define blended learning using their institutional context as a guide, it should be noted there are dominant themes within the definitions on blended learning. A majority of these definitions make connections with the themes of pedagogical approaches, technology, and time allocation for the two major components (online and face-to-face). Garrison and Kanuka (2004) define blended learning as "the thoughtful integration of classroom face-to-face learning experiences with online learning experiences" (p. 96). The Online Learning Consortium (OLC) affirms that blended learning is purposeful integration of online and face-to-face good practices. The integration of online and face-to-face must be carefully considered to ensure the pedagogical advantages of both teaching and learning modalities (Futch & Jowallah, 2015).

Two fundamental factors continue to govern the implementation of blended courses: technology and pedagogy. Kwan, Fong, and Wang (2010) suggest blended learning has a connection to two dominant areas, technology and pedagogy. However, there is an ongoing discourse on which of the two factors should take priority. Kwan et al. (2010) suggest that there is a "consensus that pedagogical consideration

should be given priority over technical issues" (p. 1). The reality is that technology provides the pathway for the delivery of content online; yet, without consideration to pedagogy, there will be no content designed for effective teaching. Jowallah and Bennett (2015) articulate the need for a balanced approach between pedagogy and technology in online course development. This balanced approach should also consider how blended courses or programs are designed. For example, what will be done online and what will be done to facilitate the face-to-face interaction? Sultan (2017) suggests that a blended approach should create the pathway "to use time more effectively and flexibly by extending instruction time out of the class walls" (p. 63).

One major drawback with the above interpretations of blended learning is time allocation for each modality. The time allocation for each modality also forms a central component in defining and operationalizing blended learning in many institutions of higher learning. In some cases, educational institutions will articulate what percentage of time must be spent online and what percentage must be spent face-to-face for a course to be classified as blended. For example, course practices at public universities in the state of Florida are informed by legislation that defines percentages related to online learning.

One of the key debates in defining blended learning is whether or not face-to-face physical presence is needed within the blended learning design. The answer to this question seems to be emerging as many universities continue to find innovative ways of creating human interaction using technology. Bower, Dalgano, Kennedy, Lee, and Kenney (2015) articulate the concept of blended synchronous learning approaches. The authors define blended synchronous learning approaches as "learning and teaching where remote students participate in face-to-face classes using rich-media synchronous technologies such as video conferencing, web conferencing, or the virtual world" (p. 2). The inclusion of blended synchronous learning approaches creates greater flexibility, expands learning opportunities, and enhances a sense of belonging to a learning community (Cunningham 2014; Irvine, Code, & Richards, 2013; Norberg, 2012). Emerging flexibility in blended definitions has established a body of work that brings to light broader applications for blended learning. Later on in this chapter we will discuss one of these definitions as an example.

Student Success in Blended Courses

Blended learning has been described as getting the best of both worlds, and various research affirms the benefits of blended learning. Means, Toyama, Murphy, and Baki (2013) designed a meta-analysis of blended learning to compare the learning outcomes of online and blended learning to face-to-face instruction. The study revealed that students in the online learning environment "performed modestly better than those

receiving face-to-face instruction" (p. 47) and that blended learning outperformed the other two modalities. The researchers also established that blended learning provided additional time for learning, greater interaction, and greater motivation among learners.

Similarly, Moskal (2017) reports that on institutional metrics such as student success, student withdrawal, and student satisfaction, courses in the blended modality outperform courses offered in every other mode (e.g., fully online, face-to-face, etc.). Others have confirmed that blended learning incorporates the best strategies for teaching online and the best strategies for teaching face to face (Lapuh & Rugelj, 2007). Two fundamental questions that should be asked by anyone intending to develop a blended learning initiative are: (1) does blended learning lead to higher academic achievement, and (2) does blended learning lead to enhanced student experiences? Matthew's (2017) survey, which focused on 230 teachers and 43 administrators, affirms some of the benefits of blended learning. Based on the analysis of data from the survey, Matthew established that there are significant gains associated with blended learning initiatives. Some of the benefits outlined in Matthew's study include the possibility of personalized instructions, enhanced individual success, improved student motivation, increased student choices, and greater participation from students. Orhan (2008) also affirms

Blended learning can improve students' responsibility for their learning through online activities and improve their motivation through face-to-face interactivity. In blended learning environments, instructors may be able to spend less time delivering content and more time to guide students. (p. 64)

Ongoing research in the field of blended learning continues to highlight the benefits of blended learning as well as to establish new pathways for the implementation of blended learning. Some of these pathways represent a break from traditional blended approaches.

A Time-Based Blended Learning Model

Past research on blended learning tends to focus on face-to-face (physical) presence and online presence as the crucial components of blended learning. One major drawback with this approach is that it limits technological affordances that could simulate face-to-face interactions by applying synchronous (real-time) communication tools. Interactions using synchronous approaches must use voice and faces within a blended approach. According to Chen, Ko, Kinshuk, and Lin (2005), one limitation of the use of synchronous instruction has been the lack of pedagogical instruction

surrounding this approach. Notwithstanding, Dziuban, Hartman, and Moskal (2004) posit a proactive approach for the application of blended learning within today's emerging technologies; they state:

Blended learning should be viewed as a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online learning environment. (p. 3)

Power's research (2008) gives value to the idea that blended learning can take place online. Although somewhat controversial, Power views the use of video conferencing and other synchronous modes of interaction as the classroom component of the blended model. Research by Norberg, Dziuban, and Moskal (2011) highlights the possibilities of blended learning when the restriction of face-to-face requirements (physical space presence) is removed from the blended learning definition. The researchers suggest "a time-based blended learning model" that

combines various synchronous elements (face-to-face meeting, video conference meetings, chats, and webinars) with various asynchronous elements (book readings, assignments, recorded lectures, asynchronous research, discussion, and collaboration. (p. 208)

In the Time-Based Blended Learning Model outlined by Norberg, Dziuban, and Moskal (2011) there should be support for students, purposeful consideration for content delivery, and design for asynchronous interactions, seamlessness between synchronous and asynchronous activities and greater flexibility and access for the learner.

In the model, there are various modes of synchronous interactions which create new opportunities for blended learning. Later in this chapter, some distinct approaches for applying innovative pathways to blended learning will be addressed.

The application of the "time-based blended learning model" provides new opportunities for universities. These opportunities will enhance the retention rate within universities and create opportunities for students who are in need of a flexible approach to earn a university credential (Norberg, Dziuban, & Moskal, 2011). Furthermore, the model could enable universities to have a greater national and global impact. While the "time-based blended learning model" has the potential to increase student access through distance delivery, there must be purposeful consideration of course quality. Programs and courses must be designed using a quality framework to ensure that the best pedagogical approaches are applied to influence student success.

CHALLENGING COURSES AND TODAY'S ENVIRONMENT

College Attainment and the Underserved

Much attention in recent years has been placed on increasing the number of college degrees earned in the United States. For instance, Fulton (2017, October) notes "nearly every state has or is considering a postsecondary educational attainment goal above 55 percent, and current averages fall as low as 33 percent" (p. 1). In addition to the need to fill jobs with increased educational requirements, degree attainment is essential since "[social] mobility has fallen because a child's income depends more heavily on her parents' position in the income distribution today than in the past" (Chetty, Hendren, Kline, Saez, & Turner, 2014, p. 141). It has become common knowledge that for such increases to occur, institutions of higher education must do a better job of reaching and graduating populations of potential students previously underrepresented and underserved by colleges and universities. One structural example is connecting such improvements to the funding of public institutions (i.e., performance funding). Performance funding ties institutional funding directly to performance outcomes defined by a governing authority. Dougherty, Natow, Bork, Jones, and Vega (2013) muse that performance funding in public institutions could provide incentives for institutions that help underserved populations succeed in college.

Overcoming Institutional Obstacles

At the institutional level, those active within the "student success movement" (Koch, 2017, p. 11) for decades have been championing reforms in "gateway courses - college credit-bearing… courses that enroll large numbers of students and have high rates of Ds, Fs, withdrawals, and incompletes... - courses that have served more as weeding-out rather than gearing-up experiences" (Koch, 2017, p. 5). Obviously, challenging courses can occur within any subject area. However, such high-enrollment/low-success courses are often associated with science, technology, engineering, and math (STEM) disciplines, and, in particular, "rigorous 'weeding out' introductory STEM courses are seen as generally harmful with more impact on [underrepresented minority] STEM undergraduates" (Bayer Corporation, 2012, p. 321). Such courses are challenging from a curricular standpoint, but their obstacle nature can be a true challenge for institutions to solve. Faculty within the STEM fields are actively wrestling with finding the balance between curricular rigor and structural impediment for students (e.g., Martin, Hands, Lancaster, Trytten, & Murphy, 2008), and this kind of reflection may serve as a model for faculty in other

disciplines as well. Additionally, Cavanagh, Thompson, and Futch (2017) note the logistical difficulties involved in maximizing the use of physical classroom space, especially in the context of high-enrollment courses. The institutional obstacles are an opportunity for meaningful strategies, and blended learning can be a part of such a strategy.

Creating a Strategy for Enhanced Blended Courses

Given the documented affordances of blended learning (e.g., student success rates) and the need to help all students, especially those from underserved populations, to be more successful in courses necessary to graduate from college on time, strategic applications of blended course designs present an opportunity to affect meaningful change (Cavanagh, 2017). Combining blended learning with other education innovations might be thought of, metaphorically, as skillfully combining individually delicious ingredients in order to form new delicacies previously unexperienced (Cavanagh & Thompson, 2018). If the right ingredients are selected and if those who have experience with each type of ingredient share their knowledge collaboratively, for instance, if those expert in "designing and facilitating effective technology-mediated courses" partner with those who have different "specialized knowledge" (e.g., data science/analytics, STEM active learning, tutoring/advising, etc.) in support of institutional vision and goals, "a whole new level of student success" is potentially within reach (Cavanagh & Thompson, 2018, March 5, 22:39-23:14).

A CONTINUUM OF NEW MODELS

A blended learning strategy for affecting student success at an institutional scale might include a continuum of new models of blended learning, a continuum in which each new model is characterized by combining the student success affordances of blended learning with another specific educational innovation supporting student success. Such a continuum might be ordered by ease of faculty implementation, with easier-to-implement approaches preceding those requiring more faculty effort or collaboration with additional stakeholders. A prototype continuum featuring four discrete new models of blended learning with the potential to affect student success at an institutional scale is outlined below. Each model is identified by a unique portmanteau label combining "blended" with the name of the companion innovation featured. Underlying each model is the expectation of an intentional design strategy leveraging the affordances of the model's attributes toward the aspirational goals of student learning and success.

Blendoptive

Perhaps the easiest-to-implement model on the continuum is the adoption of online digital courseware in the context of a blended course. Digital courseware is defined as software-based instructional content paired with assessment (Courseware in Context, n.d.) and may include commercial products created by publishing companies. An advantage of digital courseware is that the development of time-consuming elements such as professionally produced media or learning assessments can be borne by the courseware designers, so that teaching faculty do not have to create such resources individually. The major benefit of digital courseware, though, is that any affordances from well-designed resources will scale to large numbers of courses and students. Grantors such as the Bill & Melinda Gates Foundation have invested large sums of money in recent years to assist courseware developers in creating high-quality digital courseware. One interesting finding from a study (Means, Peters, & Zheng, 2014) of this funding effort is that digital courseware was most effective when deployed in a blended learning context. Such an approach would seem to off-set temptations to "set it and forget it," requiring instructors to thoughtfully integrate digital courseware into the broader course context. This is consistent with findings critical of mindless adoption of digital courseware (e.g., Choppin & Borys, 2017) and, indeed, consistent with the recognition by the Bill & Melinda Gates Foundation that it is important to understand "how faculty approach their teaching" in order to "inspire adoption of… digital courseware" (Ptaszynski & Freeman, 2017, p. 5). Of course, thoughtful adoption of digital courseware in a blended context will include many other design tasks common to creating effective blended learning courses (e.g., BlendKit Course: DIY Project Tasks, n.d.).

Blendactive

A slightly more involved model on the continuum is the integration of active learning strategies in the context of a blended course. Of course, active learning is not a new concept, and one might hope that "good design and good pedagogy" (Cavanagh & Thompson, 2018, March 5, 16:43-17:00) would ensure that students are active in both the online and face-to-face portions of any blended course. In fact, Hartman et al. (2004) identify "active learning" (p. 51) as an essential component of even the earliest well-designed online courses. However, face-to-face active learning as a concept has become linked in recent years with discussions of how to improve student success in science, technology, engineering, and mathematics (STEM) disciplines in particular (e.g., Freeman et al., 2014; Shadle, Marker, & Earl, 2017) even if the phrase active learning is not used explicitly (see Martin, Hands, Lancaster, Trytten,

& Murphy, 2008 for guidance on faculty "interacting" [p. 112] with students). For instance, in a meta-analysis of 225 studies of active learning in STEM disciplines, Freeman et al. found that implementing any active learning strategies (i.e., anything other than "continuous exposition by the teacher" [p. 8414]) decreased failure rates by half and increased student performance by approximately half of a letter grade. How much more then might one expect the integration of active learning strategies within a well-designed blended course to affect change in courses where large numbers of students have encountered difficulty in succeeding?

Blendalytic

Next on the continuum of innovative blended learning models is the connecting of insights from data science, educational data mining, and/or business/learning analytics (referred to broadly as "analytics" for the purposes of this chapter) with blended learning strategy and design. Simply put, with expertise in analytics "one can scan through large datasets to discover patterns" (Baker & Siemens, 2014, p. 253). This has implications for innovating in blended teaching and learning in at least two ways: 1) in guiding a strategic selection of courses to redesign for improved student outcomes at scale and 2) providing actionable insights to faculty and advisors, enabling them to better support students in their educational goals. Perhaps the most rudimentary approach to guiding a blended strategy through analytics is to consult historic institutional data to identify courses with consistently high drop/fail/ withdrawal rates and high enrollments and/or strategic curricular placement (e.g., a "gateway" function). Those courses for which no blended sections exist might be good candidates for consideration for a course redesign in order to recognize some of the affordances of good blended design.

A more refined approach at the course/student caseload level might be to provide faculty and advisors access to user-friendly data dashboards to support their decision making. An increasing number of integrated planning and advising for student success (iPASS) tools are available to support the work of the advising community (see Fletcher, Grant, Ramos, & Karp, 2016). However, the affordances of learning management systems (LMS) and other learning technologies have the potential to put actionable insights in the hands of faculty in near real-time during the teaching of courses. An aspirational but achievable institutional goal might be to better bridge the gap between faculty and advisors via the data systems available to them. For instance, as actionable data-based insights are provided to faculty within the LMS, the faculty member could choose whether to intervene personally with a student of concern or whether to push an alert to the student's advisor for further intervention. Similarly, an advisor could request that faculty members provide student progress

reports that appear within the LMS and combine them with other sources of data to help inform customized responses to students. Such combinations of analytics and blended learning, of data, digital tools, and human relationships, are examples of what Green, Cavanagh, and Thompson (2017) have referred to as "tech-enabled high touch" (19:37-20:32 and 29:42-30:40) and hold promise for helping students succeed more readily, especially in the context of high drop/fail/withdrawal classes.

Blendaptive

Perhaps one of the most challenging to implement of the proposed new models is the skillful integration of adaptive learning within a blended learning context. While managing the variables involved in designing an effective blended learning course is already a challenge, adding adaptive learning components introduces even more complexity. However, the potential benefits of combining the affordances of blended learning with the individualized, online experiences of adaptive learning hold great promise.

Adaptive learning is the use of systems that "employ algorithms, assessments, student feedback, instructor adjustments/interventions, and various media to deliver new learning material to students who have achieved mastery and remediation to those who have not" (Moskal, Carter, & Johnson, 2017, January 7, What is it? section). For any portion of a course offered through adaptive learning systems "[s]tudents are encouraged through continual feedback and assessment to achieve competency at their own progression rate" (Dziuban, Moskal, Johnson, & Evans, 2017, p. 50). Faculty have reported that there is "significantly more up front workload" (Dziuban, Moskal, Johnson, & Evans, 2017, p. 29) involved in creating adaptive learning courses. However, this burden can be ameliorated by focusing on adaptive development on certain key aspects of a course (e.g., particularly challenging concepts). For instance, Hahs-Vaughn and Stull (2016, October 5) detail the benefits of employing an adaptive approach for only a portion of an online graduate course in statistical methods. It is not difficult to imagine students benefiting from a blended course in which in-class discussion, application, or instructor elaboration comes only after each individual student has first mastered difficult concepts through an online adaptive module. In fact, Alli, Rajan, and Ratliff (2016, cited in Dziuban, Moskal, Johnson, & Evans, 2017) report that when combining blended learning with adaptive learning, students master course content in half the time of other modalities and succeed at much higher rates.

INSTITUTIONAL PARTNERSHIPS

Carrying out a strategic vision for affecting student success institutionally via the careful deployment of new blended learning models is not just an exercise in instructional design and course development. In addition to thoughtful course design, skillful leadership is needed to marshal the energies of various stakeholders throughout the institution. Only through strong partnerships can the vision be realized.

Internal Partnerships

The success of a blended learning initiative rests on the alignment of an articulated strategy with a properly resourced plan. This fact is amplified when the intent is to leverage blended learning specifically as a strategy for improving institutional student success metrics. The ability to execute against the plan will certainly require interaction with other parts of the institution, including senior administration, student services, colleges, departments, faculty governance bodies, and others, up to and including even the board of trustees (or equivalent).

A key factor is communicating the value that blended learning brings to each of these stakeholder groups. Although the overall narrative regarding blended learning should be consistent, the particular message to each individual group might be customized to better highlight unique benefits and affordances. Some of the key constituent partners that a blended learning leader will need to engage include senior administration, non-academic units, academic department chairs, and individual faculty.

Leadership Counts

While creating a strategy for blended learning is critical at the individual faculty level, the importance of senior administrative support cannot be overstated. At a very practical level, senior administration, whether a president, provost, or dean, often makes decisions about the allocation of scarce financial resources. With adequate funding, program leaders can secure the technological and human resources necessary for success. These financial resources are tangible evidence of the priority that senior administration places on a blended learning initiative.

On a more symbolic level, another way that senior administration can communicate the importance of an initiative is simply by showing up. Time is often our most precious resource, and if a senior campus leader makes time to attend a kickoff or a status meeting, it sends a powerful message about the project's priority.

Unit–Level Partners

At most institutions, a number of non-academic partners should be involved in a blended learning initiative. These partners can include IT, the Library, a faculty center for teaching and learning, a student disability services office, an online learning office, and even a student development/success organization. Each of these units has a specific role to play in the success of students enrolled in blended courses or a blended program.

For example, a faculty center for teaching and learning may collaborate with an online learning office to deliver a targeted faculty development program that prepares instructors to teach in a blended modality. Such a collaboration would likely be a prerequisite for effective course design, course delivery, and eventual student success. A student success organization might offer blended advising services to match the delivery strategy of course materials. The student disability services office would need to be consulted to ensure that all materials, whether delivered in the online or face-to-face modalities of the course, are accessible to all students.

While it may be tempting to focus management energies at the faculty level on one end and senior administration on the other, they are not the only stakeholders involved. Faculty and senior administration are undoubtedly critical. However, ignoring the significant role of non-academic partner units would be a substantial mistake.

Chair Champions

Any academic transformation initiative that overlooks the central role played by department chairs is unlikely to succeed. Department chairs are one of the most critical stakeholders to get on board, given their position between senior administration and the faculty. They have one of the most difficult and underappreciated functions in any institution, bridging the gap between management and labor, representing the university administration to the faculty and the faculty to the administration. Having them as allies can mean the difference between a project's success and failure.

When discussing a blended learning project with a chair, an important strategy is to try to align the particular benefits of the project with the particular challenges that he/she faces. For example, if student success is a driving objective, there are a number of studies that demonstrate the fact that students in blended courses tend to be more successful than those in other modalities (e.g., Means, Toyama, Murphy, & Baki, 2013; Moskal, 2017). Share these results and explain how your project is intended to do the same (assuming that is true, of course). Or, if a lack of classroom space is an issue, explain how blended courses can allow multiple courses to share

a single course time block throughout a scheduled week, thus expanding classroom capacity by as much as two-thirds in a typical configuration.

Chairs can assist the broader blended initiative in a variety of ways. Beyond the responsibility to assign faculty to design and teach blended courses, they can also create incentives to encourage the adoption of blended learning strategies. For example, scheduling priority for preferred teaching times can be given to blended courses before opening up general scheduling for other modalities.

This is not to suggest pandering to chairs. Rather, there are many facets to a blended learning initiative, and it is certainly possible to highlight certain elements that align with a department chair's specific challenges. When blended learning is being pursued as part of a broader institutional strategy to improve student success, common ground with department chairs is not difficult to find.

Faculty Focus

As has been previously stated, at the center of a blended learning initiative—or any academic transformation initiative—are the faculty (much more so when the goal of the initiative is increased student success). The faculty are the keepers of the curriculum, the subject matter experts, the agents of course design and delivery, and the frontline of engagement with students. It's important to recognize and honor the faculty's central role in the project.

One way to demonstrate that recognition is through a significant level of faculty support. This support can take a number of forms, often more than one at a time: development and training programs to set them up for success; stipends or course releases for redesign and innovation investments; staff support such as instructional design and media production; ongoing technical support during course development and delivery; and research assistance to assess redesign efficacy and evaluate factors associated with the scholarship of teaching and learning.

In particular, the subject of stipends and course releases should be highlighted. Faculty are terribly busy with full teaching loads, research, service, course preparation, and myriad other responsibilities. Asking them to add course redesign and innovation—often with the added cognitive load of learning new software—to their already full plates is unrealistic. Even if individual faculty would be interested in an academic transformation project, and many certainly are, they simply don't have the bandwidth to fit it into their schedules. That's why stipends and course releases are so important. A course release creates a block of time in the faculty member's schedule that permits space for innovation. Likewise, if a course release is not possible, a stipend (or travel funding) at least recognizes the extra work associated with the project and compensates faculty for their valuable time.

Once a blended learning project reaches a point of semi-maturity, another important consideration is to ensure that the project team highlights faculty contributions over the support team's contributions. Faculty should be front and center in any announcements or case studies that emphasize successful results. Doing so will generate goodwill with faculty partners and place the focus of the change initiative where it rightly belongs—in the academic unit.

Faculty Preparation

The accommodation of change in curriculum delivery will require a cultural shift. Subsequently, instructors and administrators must understand the implications of implementing blended learning approaches. Institutions implementing blended procedures must articulate the value and benefits of blended learning. Horn and Staker (2015) suggest that blended learning is enhanced within a good culture; however, if the culture is not accepting, the initiative can be disastrous.

Establishing a pathway for success in any blended initiative will require in-depth consideration of pedagogical approaches, faculty development, support for learners, examination of cultural context, and analysis of institutional values (Dziuban, Hartman, & Moskal, 2004; Garrison & Vaughan, 2008; Horn & Staker, 2015). The Quality Transformation Model for Faculty Development (QTMFD) from Jowallah et al. (2016) highlights critical components needed for the transformation and support of faculty. The QTMFD model is represented visually in Figure 1.

C1 = Quality transformation process
C2 = Core for enabling transformation
C3 = Supporting agents for ongoing transformation
C4 = Evaluation and feedback for transformation

The main aim of any instructor's professional development initiative should be to transform practice to enhance the quality (C1= Quality Transformation process). However, before an instructor's practice can change, the instructor must understand online pedagogy and effective use of technology. Furthermore, the instructor should be willing to receive feedback from peers and be ready to engage with mentors (C2 = Core for enabling transformation). The transformation of the instructor is not static but requires ongoing factors that are needed to enhance the instructor's experiences and support faculty throughout the academic transformation process (Jowallah, Futch, Barrett-Greenly, & Bennett, 2016). Some of these factors include:

● Collaborative partnerships aimed at online quality improvements;
● The motivation of faculty to engage in continued professional development;

Figure 1. Quality transformation model for faculty development. Jowallah, Futch, Barrett-Greenly, and Bennett (2016)

- Scoping for sustainability of continued professional development;
- Understanding the institutional culture;
- Creating a flexible course modality to accommodate faculty;
- Addressing the needs of the audience, including making appropriate accommodations during the training;
- Considering who will take ownership of the development course;
- Providing ongoing support for faculty training, and establishing a framework for flexibility to ensure that faculty extend their academic freedom into the design of quality work (Jowallah et al., 2016).

The last segment of the model is C4 (Evaluation and feedback for transformation), which considers the need for feedback on the blended learning initiative. In section C4, there should be the consistent evaluation of the program in connection with external accreditation bodies, as well as feedback from instructors. In the context of an institutional student success strategy, evaluation and feedback on the blended initiative should include clear alignment between blended learning factors and student success metrics. An inclusive and collaborative research partnership will be needed to guide this aspect of the model. This partnership can be enhanced by establishing learning communities of practice focused on blended learning.

According to Brown and Duguid (2001), the establishment of a learning community results in the creation of knowledge, the creation of spaces for learning during changes, and the creation of a space for the sharing of transformational ideas. Wenger (1998) affirms that a learning community has three foundational pillars, which include the production of knowledge within a sense of identity, a social connection, and a value to share experiences and practices. Establishing and sustaining a learning community can result in enhanced professional development for faculty, self-directed models for improving teaching and learning, meaningful discourses for identifying challenges and finding solutions, safe learning spaces, peer learning, and increased faculty engagement (Breen 2015; Golden 2016; Voegele et al., 2017; Warr 2017).

CONCLUSION

Innovating in blended teaching and learning can be framed as a significant leadership challenge if the goal is to innovate for the purpose of "solv[ing the] big problems" (Cavanagh & Thompson, 2018, pp. 8-9) of today's higher education institutions such as helping students succeed at greater rates. When undertaken as an institutional strategy, partnering among multiple stakeholders with expertise in complementary domains will be necessary to fulfill the aspirational common vision of increased student success. That is, when high-enrollment/low-success courses are redesigned to benefit from the affordances of effective blended course design and/or other innovations (e.g., those illustrated in the "new models" section above), improved student progression and degree attainment are possible. If undertaken with an explicit emphasis on underserved populations, implementing such a strategic vision of blended learning has the potential to bring about greater social mobility, positively changing the future for today's students and beyond.

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KEY TERMS AND DEFINITIONS

Active Learning: Required student engagement with other students and/or course materials; usually contrasted with passive learning in which students have no required role except listening to didactic presentation by a lecturer.

Adaptive Learning: The use of technology systems to automate the delivery of new learning material to students who have achieved mastery and to provide remediation to those who have not.

Blendactive: The integration of active learning strategies within a blended learning course context.

Blendalytic: The connecting of insights from learning analytics with blended learning strategy and design to support curricular offerings, teaching, and/or advising.

Blendaptive: The integration of adaptive learning within a blended learning course context.

Blended Learning: A course delivery modality in which face-to-face classroom learning activities are combined strategically with online learning activities in order to form one, cohesive learning experience for students.

Blendoptive: The adoption of online digital courseware within a blended learning course context.

Innovation: The process of implementing new ideas in education in order to bring about better student-focused outcomes; also any specific instance of such implementations.

Learning Analytics: The work of scanning through large datasets to discover actionable insights in support of student learning; products arising from such work; related to the fields of data science, educational data mining, and/or business intelligence.

Student Success: A nested array of desirable student outcomes, typically at an aggregated, institutional level; may include such metrics as course passing, curricular progression, degree attainment, time to graduation, etc.