



A framework for institutional adoption and implementation of blended learning in higher education



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ABSTRACT

There has been rapid growth in blended learning implementation and research focused on course-level issues such as improved learning outcomes, but very limited research focused on institutional policy and adoption issues. More institutional-level blended learning research is needed to guide institutions of higher education in strategically adopting and implementing blended learning on campus. This research investigates six cases of institutional adoption of blended learning to examine the key issues that can guide university administrators interested in this endeavor. Cases were selected to represent institutions at various stages of blended learning adoption including (1) awareness/exploration, (2) adoption/early implementation, and (3) mature implementation/growth. Cases are used to identify and elaborate on core issues related to institutional strategy, structure, and support, spanning the adoption stages.

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1. Introduction

The adoption of blended learning (BL), the combination of traditional face-to-face and technology-mediated instruction, is increasing in higher education around the world. In fact, scholars have predicted that BL will become the “new traditional model” (Ross & Gage, 2006) or the “new normal” in higher education course delivery (Norberg, Dziuban, & Moskal, 2011). However, limited data are available to accurately indicate the extent to which BL has actually been adopted in higher education, due in part to disagreement about how institutions should define and measure BL (Graham, 2013; Oliver & Trigwell, 2005; Sharpe, Benfield, Roberts, & Francis, 2006). A study of institutional data reported that in 2004, 45.9% of undergraduate institutions had BL offerings (Allen, Seaman, & Garrett, 2007). However, many institutions (perhaps most) have BL courses because BL has been experimented with or adopted by faculty although the institution itself has not officially adopted it. BL has started in many places as a grass-roots effort, adopted by individual faculty interested in using both online and traditional strategies to improve student learning outcomes rather than promoted as a strategic institutional initiative.

When institutions have not clearly defined and strategically adopted BL, they are not likely to *really* know the extent to which BL has been adopted institution wide. Fig. 1 shows a spectrum of course delivery modalities between traditional face-to-face and completely online. As evident in this figure, many institutions distinguish between online and traditional courses, but don't clearly categorize what lies between.

For example, Brigham Young University (BYU) has not had any formal policy or initiative to promote or support the adoption of BL. However, a research study conducted on campus found that 38% of respondents claimed to have taught a course that blended online and face-to-face instruction (Graham & Robison, 2007). Approximately one fourth of faculty claiming to teach a BL course replaced 25% or more of their class sessions with online learning, while the others substituted very little online learning for class time (Graham & Robison, 2007).

In 2002 the *Chronicle of Higher Education* quoted the President of Pennsylvania State University as saying that the convergence between online and residential instruction was “the single-greatest unrecognized trend in higher education today” (Young, 2002, p. 2). One reason for lack of recognition by university administration is that adoption has occurred with individual faculty, not at the institutional level. Increasingly, institutions of higher education are seeing a need to strategically support adoption and implementation of BL. Policies that enable and even encourage BL can strengthen a university's commitment to improve student learning as well as increase side benefits such as access, flexibility, and cost effectiveness. Some institutions, like the University of Central Florida (UCF) and the University of Wisconsin-Milwaukee (UWM), have over a decade of experience with strategically promoting BL, while many others are just beginning to explore institutional adoption and implementation.

While many studies have investigated BL effectiveness at the individual course level, very few studies provide guidance for institutions (Halverson, Graham, Spring, & Drysdale, 2012). This study uses cases of institutional adoption of BL to achieve the following goals:

1. Identify and provide details about issues that administrators should recognize in order to guide their institutions towards successful adoption and implementation of BL.

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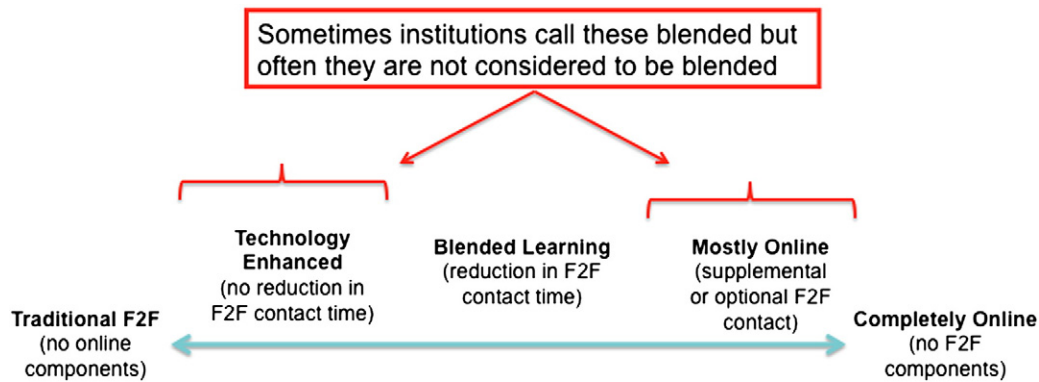


Fig. 1. Spectrum of course-delivery modalities in higher education.

2. Identify some markers related to institutional strategy, structure, and support that would allow administrators to gauge their progress towards institutionalizing BL.

2. Key BL policy issues in the literature

The research on adoption looks at how individuals and organizations accept and implement new innovations. Rogers (2003) *Diffusion of Innovation*, a seminal work on the innovation process, outlines five general stages:

- (1) Agenda-setting. Identifying organizational challenges that create a need for innovation
- (2) Matching. Identifying an innovation that addresses the organizational challenge
- (3) Redefining/Restructuring. Modifying the innovation to fit the organization and reconfiguring organizational structures
- (4) Clarifying. Stabilizing the relationship between the innovation and the organization
- (5) Routinizing. Making the innovation a normal part of the organization's activities

Rogers (2003) has identified a similar process for individuals' adoption of innovations.

In her work looking at institutional adoption of online learning, Casanovas (2010) found that innovation adoption models often focus on individual or organizational adoption without describing the transition from individual implementation to institutionalization. Individual faculty members might have strategic reasons to adopt a BL approach that are similar to or different from those of the institution. A disconnect between top-down policy and bottom-up culture can inhibit the growth of an innovation like online instruction or BL even when the both the organization and individuals are in favor of the innovation (Casanovas, 2011).

In this review of the literature, we developed a list of policies dealing with BL. We narrowed it specifically to institutional policies regarding adoption and implementation and organized it into three categories used later in the study: strategy, structure, and support.

2.1. Blended learning strategy

Garrison and Kanuka (2004) noted that a clear institutional direction and policy are vital to successfully adopting a BL initiative. They also suggested that institutions might want to convene a task force to strategically address issues, challenges, and opportunities that emerge during implementation. Niemiec and Otte (2009) discussed the need to clearly determine how BL helps the institution meet its mission and goals, providing several examples of how an institution might use BL to overcome barriers to its core goals. The literature has also emphasized the importance of sufficient funding and time to achieve the

desired outcomes of a BL initiative (Piper, 2010; Rossett, Douglass, & Frazee, 2003).

2.2. Blended learning structure

The literature provides some insight into institutional technological and policy structures that impact the adoption and implementation of BL.

2.2.1. Technology

Once a clear policy direction is in place, an institution must establish the necessary physical and technological infrastructure (Garrison & Kanuka, 2004), which may include elements such as computers and other hardware, internet access, and necessary software (Powell, 2011). In Powell's (2011) case study of New Zealand secondary schools, interviewees reported that one of the greatest barriers to e-learning implementation was a lack of technological infrastructure. This deficit may be greatly influenced by institutional leaders' concerns regarding the cost of establishing and maintaining such an infrastructure. While variations in quality and efficiency make it difficult to assign a single price to implementing BL models, Battaglino, Haldeman, and Laurans (2012) compared the cost of implementation to that of an improvement on utilizing the traditional model. Their research study measured the cost of faculty and administration, class content, technology, school operations, student services, and researchers. The study estimated that schools following the traditional teaching model may actually spend substantially more per pupil than schools utilizing the BL models they examined. The costs associated with establishing the necessary technological infrastructure are mitigated by the greater costs saved by reduction of faculty and administration (Battaglino et al., 2012).

2.2.2. Ownership

With the increase of open education resources and the easy sharing of materials enabled by the internet, ownership of intellectual property is an issue in BL implementation (Wallace & Young, 2010). Policies need to be established up front regarding ownership and accessibility of materials. Since the term BL is difficult to define, institutional policy and support regarding ownership should be contextualized and specific (Sharpe et al., 2006).

2.2.3. Definitions and seat time

Many institutions define BL by classroom seat time being replaced with online instruction (Graham, 2013; Picciano, 2009). The issue of seat time and credit hours has recently become a major area of focus (Piper, 2010; Wallace & Young, 2010; Watson, Murin, Vashaw, Gemin, & Rapp, 2010). Piper (2010) discovered that one of the most important policy issues to address is a change in focus from time-based to mastery-based performance measures of student progress. Wallace and Young (2010) supported this assertion by proposing that "policies will need

to be updated to provide the criteria and process whereby classroom contact hours may be reduced when some teaching components are moved online” (p. 5).

2.2.4. Incentives

Along with developing the infrastructure and internal guidelines for a BL strategy, providing incentives for adoption by faculty and staff has been shown to increase the chances of a successful implementation (Garrison & Kanuka, 2004; Martin, 2003; Shea, 2007; Watson et al., 2010). Shea (2007) reported that most faculty are motivated to teach online if they feel it is a condition of their employment and if there is a possibility for material incentive. Shea also noted that issues of tenure and promotion, salary, and perceived value of online teaching by administrators contribute to a lack of motivation to teach online. Martin (2003) offered several recommendations for incentives, including financial compensation, release time, and equipment. Martin emphasized that faculty perceive online course preparation and delivery time to be greater than with traditional courses. Therefore, institutions should re-evaluate the compared weight of blended courses and those taught traditionally in the classroom.

Broader incentives that add to the success of a BL strategy include funding allocations for BL development (Garrison & Kanuka, 2004; Martin, 2003; Watson et al., 2010). Garrison and Kanuka (2004) suggested that an innovation fund be created to provide financial support and incentives to faculty and departments that initiate BL course transformations.

2.2.5. Evaluation

To evaluate BL courses may require several new programs (Garrison & Kanuka, 2004; Piper, 2010; Sharpe et al., 2006; Watson et al., 2010). Piper's (2010) results showed that having states set quality standards and accountability measures for online programs was not only highly feasible but also highly important to educators. Watson et al. (2010) proposed a move “from inputs-based measures of quality toward measuring outputs in terms of student opportunities and achievement” (p. 44). An institutional policy on which standards and outcomes should be evaluated and how the evaluation should be conducted is important to judging the value of a BL strategy.

Garrison and Kanuka (2004) went on to say that systematic evaluation of satisfaction and success of a new blended course in terms of the teaching, learning, technology, and administration is important to any BL implementation. Sharpe et al. (2006) called attention to the importance of promoting and disseminating these evaluation results to other stakeholders. In their study, three institutions listed issues around communication as critical success factors.

2.3. Blended learning support

Martin (2003) stressed that instructors who are creating online courses need pedagogical and technological professional development. Similarly, professional development in blended or online learning pedagogy is recognized by the literature as important to proper BL

implementation (Al-Sarrani, 2010; Nason, 2008; Piper, 2010; Schneider, 2010). Some guidelines for professional development are (1) focusing on the proper use of educational technologies (Schneider, 2010), (2) providing experiences with online coursework from a student perspective (Piper, 2010), (3) guiding faculty to understand which classes are best suited for a blended option (Garrison & Kanuka, 2004; Picciano, 2006), and (4) exposing faculty to prototype projects that have proven successful (Garrison & Kanuka, 2004; Picciano, 2006).

3. Approach/Methodology

The purpose of this study was to explore issues surrounding the adoption and implementation of BL policies in institutions of higher education. In addition, this study sought to offer an initial framework for analyzing the degree to which institutions have adopted and implemented such policies. To realize these research objectives, we used a case study methodology (Yin, 2003). Case studies are appropriate when a researcher seeks to study a hypothesis regarding a class of people, organizations, programs, or policies by examining a specific case from that class (Merriam, 1998).

3.1. Case selection

Institutions of higher education have implemented BL policies to differing degrees. We determined we would examine institutions that spanned the adoption/implementation spectrum, from institutions early in the adoption process to institutions with very mature BL implementations. To achieve this objective, we employed purposive sampling by selecting cases known to have achieved varying degrees of BL implementation.

Initially, we considered using Brigham Young University's three institutions, BYU's main campus in Provo Utah (BYU), BYU-Idaho (BYU-I), and BYU-Hawaii (BYU-H), as the three primary cases because of their similar institutional missions and different approaches to blended and online learning. However, the BYU institutions are all fairly early in the adoption process, and our study would benefit from including institutions featuring higher stages of adoption. Accordingly, we selected several institutions featuring mature and well known BL programs (UCF and UWM), as well as a BYU peer institution (UVU) in Utah that has been developing their BL programs for several years. Table 1 provides some basic demographic information on each of these institutions taken from The Carnegie Classification of Institutions of Higher Education.

3.2. Data collection

Interviews were the primary method of data collection. In spring of 2012, we conducted semi-structured telephone interviews with administrators at institutions of higher learning. The 35–75 minute sessions allowed researchers to explore perceptions, feelings, and attitudes of participants and explore a broader range of topics than more structured interviews (Fontana & Frey, 2000). All interviews were recorded for analysis.

Table 1

Case demographics adapted from The Carnegie Classification of Institutions of Higher Education (The Carnegie classification of institutions of higher learning, 2010).

Institution	Carnegie classification						Years of BL
	Control	Students	Enrollment Profile	Size	Setting	Type	
UCF	Public	53,401	High undergraduate	Large four-year	Primarily nonresidential	Very high research	17
UWM	Public	30,418	High undergraduate	Large four-year	Primarily nonresidential	High research	11
BYU-I	Private	14,944	Exclusively undergraduate	Large four-year	Primarily nonresidential	Baccalaureate colleges	1–2
UVU	Public	28,765	Very high undergraduate	Large four-year	Primarily nonresidential	Baccalaureate colleges	2
BYU	Private	34,130	Very high undergraduate	Large four-year	Primarily nonresidential	High research	NA
BYU-H	Private	2586	Exclusively undergraduate	Small four-year	Highly residential	Baccalaureate colleges	NA

We interviewed an employee at each institution who had substantial first-hand knowledge and experience regarding the institution's stance on and relative implementation of BL policies. Interviewees included a vice-provost, a director of distance learning, and administrators overseeing their respective institutional BL initiatives. Our interview protocol is included as [Appendix A](#). Interviewees provided documents regarding their institutions' written policies and procedures regarding BL, including approval forms, published guidelines, and websites, helping us better understand their BL implementation.

3.3. Data analysis

As the researchers were the primary participants in gathering and analyzing the data, their experiences, skills, and biases that may impact data collection or interpretation should be considered (Merriam, 1998). The investigators used constant comparison methodology to do a thematic analysis, typically done by comparing data sets from particular cases: interviews, field notes, or documents. After reviewing the interview transcripts, they analyzed and compared the data to identify themes, patterns, and tentative categories regarding the stage of BL implementation (Lincoln & Guba, 1985).

During data analysis, the authors ensured trustworthiness of the qualitative inquiry by observing standards of credibility and transferability (Lincoln & Guba, 1985). To be *credible*, a study must be plausible to critical readers and approved by those providing data. The authors sustained credibility with triangulation, member checks, and peer debriefing. Triangulation was accomplished by referring to multiple sources of information, including pertinent literature, semi-structured interviews, and institutional documents. After information compilation, the authors engaged in member checking by asking interviewees to review and verify the accuracy of the authors' work. Further, the authors debriefed with disinterested peers by meeting to review data collection methods, analysis, and conclusions.

The authors also sought to promote *transferability*, readers' ability to apply findings from one context to other contexts or settings. The authors sought to promote transferability by providing accurate

institutional data (context), as well as rich descriptions of the themes and related institutional data.

4. BL adoption framework

4.1. BL adoption framework: stages and categories

Findings from the research were organized into three broad categories: strategy, structure, and support. Descriptions of these three categories and the related subthemes can be found in [Table 2](#).

- **Strategy** was comprised of issues relating to the overall design of BL, such as definition of BL, forms of advocacy, degree of implementation, purposes of BL, and policies surrounding it.
- **Structure** included issues relating to the technological, pedagogical, and administrative framework facilitating the BL environment, including governance, models, scheduling structures, and evaluation.
- **Support** was involved with issues relating to the manner in which an institution facilitates the implementation and maintenance of its BL design, incorporating technical support, pedagogical support, and faculty incentives.

Themes within the three categories were also differentiated across three stages of adoption to show how institutions move from interest in BL towards a mature institutionalization of it:

- **Stage 1, awareness/exploration**, is characterized by no institutional strategy regarding BL, but an institutional awareness of and limited support for individual faculty exploring ways in which they may employ BL techniques in their classes.
- **Stage 2, adoption/early implementation**, is characterized by institutional adoption of BL strategy and experimentation with new policies and practices to support its implementation.
- **Stage 3, mature implementation/growth**, is characterized by well-established BL strategies, structure, and support that are integral to university operations.

The following sections in the paper will use data and quotations provided by interviewees from the institutional cases to describe how

Table 2
Matrix representing the categories and stages in the BL adoption framework used to organize the findings of this study.

Category	Stage 1—Awareness/Exploration	Stage 2—Adoption/Early implementation	Stage 3—Mature implementation/growth
Strategy			
Purpose	Individual faculty/administrators informally identify specific BL benefits	Administrators identify purposes to motivate institutional adoption of BL	Administrative refinement of purposes for continued promotion and funding of BL
Advocacy	Individual faculty and administrators informally advocate	BL formally approved and advocated by university administrators	Formal BL advocacy by university administrators and departments/colleges
Implementation	Individual faculty members implementing BL	Administrators target implementation in high impact areas and among willing faculty	Departments/colleges strategically facilitate wide-spread faculty implementation
Definition	No uniform definition of BL proposed	Initial definition of BL formally proposed	Refined definition of BL formally adopted
Policy	No uniform BL policy in place	Tentative policies adopted and communicated to stakeholders, policies revised as needed	Robust policies in place with little need for revision, high level of community awareness
Structure			
Governance	No official approval or implementation system	Emerging structures primarily to regulate and approve BL courses	Robust structures involving academic unit leaders for strategic decision making
Models	No institutional models established	Identifying and exploring BL Models	General BL models encouraged not enforced
Scheduling	No designation of BL courses as such in course registration/catalog system	Efforts to designate BL courses in registration/catalog system	BL designations or modality metadata available in registration/catalog system
Evaluation	No formal evaluations in place addressing BL learning outcomes	Limited institutional evaluations addressing BL learning outcomes	Evaluation data addressing BL learning outcomes systematically reviewed
Support			
Technical	Primary focus on traditional classroom technological support	Increased focus on BL/online technological support for faculty and students	Well established technological support to address BL/online needs of all stakeholders
Pedagogical	No course development process in place	Experimentation and building of a formal course development process	Robust course development process established and systematically promoted
Incentives	No identified faculty incentive structure for implementation	Exploration of faculty incentive structure for faculty training and course development	Well-established faculty incentive structure for systematic training and implementation

patterns of institutional strategy, structure, and support evolve as an institution matures in its implementation of BL. While the individual cases we examined developed the three implementation categories—strategy, structure, and support—at basically the same rate, this may not be true of all institutions. For example, a single institution may feature strategy at the adoption and early implementation stage, and an awareness and exploration stage during support.

Data for institutions at Stages 2 and 3 are more robust than data for institutions at Stage 1 due to more activity occurring at schools featuring a more developed stage of BL implementation. Fig. 2 shows our view of how the six cases align along the BL adoption spectrum, with two institutions in each stage.

4.2. Stage 1 cases: awareness and exploration

BYU and BYU-H are institutions at the awareness and exploration stage. Neither has formally adopted BL on campus, though both have institutionalized online learning. BYU has many faculty who are implementing BL in their own ways in their own contexts (Graham & Robison, 2007). BYU-H has no official connection between the online initiative and BL, though faculty who are involved in online learning promote online methods to their peers for use in traditional classes.

4.2.1. Strategy

No uniform definition of BL has been adopted at either of the Stage 1 institutions. A BL study conducted at BYU showed that individual faculty members had a wide range of ideas about what constitutes BL (Graham & Robison, 2007). They are implementing BL on their own terms using an eclectic set of models specifically targeted to their own course contexts. Adoption has increased in colleges like the Marriott School of Management and the David O. McKay School of Education, where faculty advocates have shared successful models with peers.

Some high level administrators at both institutions are interested in exploring BL as a way to meet institutional goals. A high-level administrator at BYU-H has expressed his opinion that “hybrid is really the best model for education.” BYU has identified specific institutional goals that could be supported by adopting BL. The central administration recently commissioned a task force to examine the potential uses of BL and other options for meeting those specific goals, but decisions have not been made. While high level administrators at both institutions are capable of providing institutional leadership for BL adoption and implementation, their advocacy is currently informal.

4.2.2. Structure

Stage 1 institutions lack many of the structures created at institutions that have formally adopted BL: for example formal governance structure or models to approve or guide the implementation of BL. As BL has not been formally defined at BYU and BYU-H, no catalog designation communicates to students that a course will be taught in a blended modality. Students receive the scheduling information from faculty at the beginning of the semester or from peers who have previously taken the course. Thus students are not able to use the increased flexibility in planning their schedules, and the university is not able to make efficient use of its classroom space, with

rooms across campus scheduled but empty when the BL course is meeting online.

Finally, both Stage 1 institutions have established learning management systems (LMS) and online access to critical university services. A solid technology infrastructure which supports university operations allows faculty to offer blended courses even though the institutions have not formally adopted BL initiatives.

4.2.3. Support

Faculty at BYU and BYU-H who are interested in blending their courses have access to an array of technical and pedagogical support available through teaching and learning centers charged with helping faculty who want to use technology in their classrooms. However, the support is not specifically geared towards helping faculty create blended courses, navigating the pedagogical decisions of what is best done face to face and what can best be done online. So faculty who draw upon the support must have high individual motivation and vision to channel the support available towards their own design goals. Similarly, administrative support and encouragement to pursue BL are limited, and faculty members adopt BL for their own reasons.

These institutions do not offer incentives for blending, and in some cases disincentives may be perceived. For example, one faculty member expressed a concern that student ratings might go down for a semester as he figured out how to blend effectively. Other disincentives include the extra time and effort required to create online instruction, as well as the concern that making a course more efficient might provide rationale for the institution to increase faculty course loads or eliminate FTE. While no institutional incentives have encouraged faculty to explore blended options, one academic unit at BYU piloted a program providing a modest professional development stipend to faculty to develop a blended course and formatively evaluate its effectiveness in achieving learning outcomes over three consecutive semesters. Structures for learning about BL at Stage 1 institutions are predominantly informal and “faculty grown.” BYU-H faculty engage in well attended brown-bag lunches where colleagues demonstrate their teaching innovations. Similarly, at BYU most learn about BL through informal faculty networks.

4.3. Stage 2 cases: adoption/early implementation

BYU-I and UVU are institutions that are both at the adoption and early implementation stage. Both have formally adopted BL within the past few years. BYU-I has started transitioning evening courses into a blended format. In addition, BYU-I helps professors who apply for assistance in this process. At UVU, a university “hybrid teaching initiative” is in place to assist professors in the transition.

4.3.1. Strategy

UVU started their hybrid teaching initiative in 2010. Movement in this direction actually began in 2003 with attempts of the Distance Education division to motivate more resistant faculty to move towards teaching online courses. Administrators felt that blended courses might be a more appealing stepping-stone towards teaching courses fully online. The efforts were not successful because the incentive system for development of online courses could not be used to pay faculty to develop

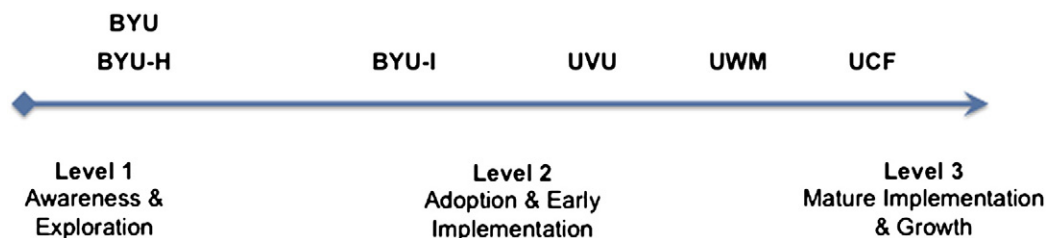


Fig. 2. Approximate locations of the six cases along the BL Adoption spectrum.

blended courses. Additionally, administrators were concerned that blended courses would not reach new audiences and therefore would not expand the university's student base. But after years of rapid growth of the on-campus population, UVU was running out of available classroom space. Thus the university president supported an initiative for hybrid courses as a way to maintain growth without expanding the physical facilities. Academic units began to aggressively recruit faculty to develop these courses, defined specifically as a 50% reduction in face-to-face class sessions.

BYU-I experienced similar strategic needs as its enrollment expanded by approximately a thousand students per year. Administrators saw BL as a sustainable means for addressing that growth while maintaining the quality of their programs, so the official definition requires faculty to "reduce time in a physical classroom." The president and high level administrators support and encourage faculty in pursuing BL. BYU-I has begun with a focus on converting evening courses to a blended format. While both UVU and BYU-I have strategic reasons related to institutional expansion and access, they are very careful to emphasize that they want to incorporate BL in ways that also improve learning for students.

In addition to identifying purposes, institutions at the adoption and early implementation stage have moved to formally articulated policies or standards for BL. BYU-I created a specific document that was disseminated across campus. UVU articulated a set of internal standards used in identifying courses that were "eligible" for redesign, but provided academic departments with full control of the process. Clearly the institutions still viewed the policies as works in progress; documents provided guidance but were flexible enough to be easily changed as the institutional experience developed.

4.3.2. Structure

With the adoption of BL, both UVU and BYU-I established governance structures for overseeing these initiatives. For both institutions, the governance structures align with the academic governance structure. At UVU, academic departments fully control whether or not a course is going to be offered as a hybrid. Similarly, BYU-I has an approval process that involves department leadership. Both institutions have yet to establish an official catalog designation for blended courses, making it hard to clarify flexibility to students building their class schedules and to officially evaluate how many BL courses are being taught any given semester. Both institutions are working toward obtaining the catalog designation and in the interim have ways of communicating to students that a blended course does not meet in class every scheduled day. The work-around at UVU was explained this way:

[U]ntil we had that hybrid designation, we told department chairs and the teachers, when you schedule this course, mark it as technology-enhanced, and then in the notes section indicate that this is hybrid and it only meets one day a week and the rest of the activities are mediated online.

Neither of the institutions appeared at this stage to have mechanisms in place to formally evaluate how well the BL courses were achieving the institutions' desired outcomes of freeing up demands on physical resources. Most of their efforts seemed to be focused toward the logistics required for development and implementation of blended courses. Both BYU-I and UVU have pre-existing student evaluations that will allow them to compare face-to-face courses with their blended counterparts. However, the ideal of establishing common assessments across equivalent courses (independent of the modality) to evaluate and compare student learning outcomes has not yet been reached at either institution.

4.3.3. Support

At this stage, administrators at both UVU and BYU-I increased their focus on providing the necessary technical and pedagogical support for BL. For example, BYU-I currently uses a learning management

system that facilitates BL. The school is creating the necessary training to assist new hires and current faculty in combining face-to-face and online instruction. Ways being considered to provide further technical support for instructors implementing BL include training teaching assistants to support their professors in creating and maintaining the technical aspects of BL implementation.

UVU's workshop series includes learning theories and instructional strategies. The university offers a workshop series for full- or part-time faculty to assist them in using necessary technology, among other forms of support. Pedagogical needs are met through workshops and consulting provided as faculty participate in the process of blended course design with the assistance of instructional designers.

[At UVU] the consultation was formalized and evolved over three semesters...It began as a weekly workshop for twelve weeks and then turned into a two-week summer-intensive thing, where right between the semesters they would come in for three days of workshops and then individual consultations for the next week and a half.

Formal faculty incentives consist of development stipends or reduced load for the faculty member for developing a course.

Both BYU-I and UVU are developing processes to help faculty redesign their courses in a blended format. Neither institution has specific BL models that they require faculty to adopt, and both involve instructional designers to help faculty think through the design process, "giv[ing] them suggestions about their learning activities" and "introduc[ing] ideas from different theories of learning or even models of hybrid course design."

4.4. Stage 3 cases: mature implementation/growth

UCF and UWM are institutions at the stage of mature implementation and growth. Both formally adopted BL over 10 years ago. While much of the strategy, structure, and support appear similar to Stage 2 implementation, Stage 3 institutions show signs of maturity developed from their extended implementation period. UCF, for example, adopted BL in 1997, and BL options along with traditional and entirely online course options have become a part of the institutional operation and culture. UWM, which officially adopted BL approximately 11 years ago, has a well-established strategy, structure, and support plan in place.

4.4.1. Strategy

Institutions in the mature implementation and growth stage feature a long-established BL definition, advocacy, implementation process, policy, and purpose. BL on the UWM campus began a decade ago as a "grassroots approach in that the instructors just started teaching blended classes without any sort of administrative demand, request, initiative or anything." Leaders for the move towards blended learning were primarily "teachers understanding the benefits of online and [recognizing] that it was just as effective, if not more effective than face-to-face" and included the flexibility "to push time, to do the course activities on their own time frame." In 2001, UWM received a grant that helped launch a faculty development program for BL. The institution did not adopt a formal definition of BL until 2007 when they received a Sloan fluency/localness grant, which helped to sharpen their vision and improve the coherency of institutional efforts around that vision. An important aspect of this improvement was to define three stages of BL, consisting of a reduction in seat time replaced by online activities of respectively (1) 20–49%, (2) 50–79%, and (3) 80–99%. While the adoption of BL began as a faculty initiative, central administration became more strategically involved, and BL is now strongly promoted through the provost's office by formally encouraging programs to move towards a blended model.

UCF launched its BL efforts 1997 after realizing that 75% of the students enrolled in their fully online courses happened to live on campus. BL, which UCF calls "mixed-mode," is defined as a "blend of face-to-face and online instruction in which the online component reduces classroom

attendance.” At UCF, teaching and learning processes are viewed as on a continuum from entirely face-to-face to entirely online, with blended being everything in between. At UCF the use of online and blended options has been the primary way for the institution to expand its reach to more students. Despite the institutional desire to increase access to its programs and improve scheduling efficiencies of its on-campus resources, pedagogical effectiveness remains the primary motivation for BL for administration and faculty.

4.4.2. Structure

Both UCF and UWM have robust structures in place that facilitate the steady growth and institutionalization of BL on campus. Both institutions have developed governance structures integrated with their traditional academic governance structures. UWM has a council overseen by the provost's office that involves deans and department chairs coming together to discuss issues related to the institution's online and BL programming. This university also has a “blended users group” for more informal faculty discussions of issues around BL. Similarly, UCF has coordinating meetings with every dean every semester to talk about program directions, successes, and good programs moving online, also to share data with them about their unit's utilization and to share some qualitative results about student performance. Additionally, the graduate dean, undergraduate dean, vice provost of regional campuses, and department chairs often attend these meetings.

Both institutions have general models based on their structural definition of BL (not on pedagogy) that faculty are encouraged to consider. Faculty make their own professional judgments about the pedagogical model of BL they adopt.

At UWM, to meet the definition of blended, faculty must reduce seat time by at least 20%. The dominant models used by faculty are (a) one week on, one week off or (b) at least one day a week replaced with online learning.

[Pedagogically] we don't have a standard blended model that we have implemented on the campus. It is really up to the individual instructor based on several things: learning objectives, course level, as well as the instructor's experience, or comfort with teaching online.

UCF is similar in that they allow flexibility; however they do have a prototype model that is suggested to faculty:

The prototype for our model is one face-to-face session per week. So if it is a M/W/F 1 h per day class, we have one day in the classroom and the rest of the content online. If it is a twice a week course, it would be one of the two times with the rest being online. That is the prototype model. What happens in practice is a little different... So, we allow faculty to be a little bit loose with the model. Approximately 40–45% of our blended classes adhere to the strict one day a week model, which allows us to do scheduling so that three class sections can occupy one normal classroom slot.

UCF has systematically created designations that are available in the registration system for supported modalities as well as the satellite campus location where a course will be taught.

So the opportunity to take a course in a face-to-face classroom or fully online web or blended web or fully online video or blended video is available to any student any semester based on how a given course is offered that term...The students can choose any of those modes any time they are available... It is all available in the catalog and registration systems. So when they go online to register, they can pick a location and mode or a mode with no location, and come up with a list of courses and pick one and sign up for it.

UWM online materials identify degree programs that are designated *online* or *blended*. However, blended courses that reduce face-to-face

seat time were not officially identified in the university scheduling and registration system until 2008.

So there were some growing pains there where let's say you are teaching a M/W class and you decide Monday is going to be online and you are only going to teach Wednesday face to face. The problem is the scheduling system... the scheduling system is one of the technological infrastructures that can be limiting... so what folks have been trying to do who teach blended is work with scheduling more closely to let them know that “for this semester, I will not be using the rooms on Mondays, so you can give it to somebody else.”

Finally, collecting and analyzing rich evaluative data on blended courses is a hallmark of Stage 3 institutions. UCF has nearly two decades of data about student impact, faculty impact, and institutional impact of blended and online courses. Collecting this comparative data is possible because the university systems attach meta-data about modality to courses. Talking about their evaluation process, a faculty member at UCF stated that they “have dug very deep on the factors that associate with success and withdrawal by almost every measure you could find, [including] satisfaction and workload and things of that kind.” The data are shared with deans and other administrators to involve them in strategic decision making regarding blended and online course offerings.

UWM does not have a formal process and system for measuring progress of BL implementation across campus, but they are working towards one:

We haven't really had a large-scale survey implementation for blended and online students and looking at their satisfaction and those sorts of things. We have, on a case basis, had faculty and different departments do a control and variable study of face to face versus blended or online and [we] see some statistically significant differences in grades and that sort of thing. So students are doing better in the blended and online classes.

4.4.3. Support

Mature implementation and growth institutions address BL needs with well-established technological support. UCF, for example, has a Division of Information Technologies and Resources that offers support through university libraries, computer services and telecommunications, the Office of Instructional Resources, and the Center for Distributed Learning. Similarly, UWM has increased the capacity of its library and tutoring center to support instructors and students from a distance and at flexible times.

Mature implementation and growth institutions also have professional development well established. Both UCF and UWM have faculty development programs designed to educate faculty on how to effectively blend their courses (see <http://blended.online.ucf.edu/> and <http://hybrid.uwm.edu>). Additionally, faculty receive monetary or load-reduction incentives to participate in the program (at UCF a one-course load reduction or a direct stipend of equivalent value, approximately \$2500). A UCF faculty member who would like to create a blended course must first attend a required 8-week faculty development workshop (approximately 80 h of work):

Every faculty member who teaches either a fully online or a blended course goes to a required faculty development program that runs approximately eight weeks, and they are paired with an assigned instructional designer who is sort of their concierge to make the transition from the classroom to online and then works with them on an ongoing basis for updates and revisions and teaching courses and so on. So it is through that faculty development process that we acclimate them to the expectations.

UCF has approached the training of their faculty for online and BL very systematically, with almost 90% of faculty participating in the

training. Because of the resources involved, faculty must receive approval from their chairs and deans to participate.

At UWM, the faculty development program uses a student-centered, active learning model to guide faculty in the process of course redesign. The UWM program is taught in a blended format, with several face-to-face workshops interspersed and integrated with online learning activities. Faculty incentives to participate in course development at UWM were initially funded through grants. Presently the faculty development program is funded from a core university fund partially supported by student distance education fees.

Most faculty are provided with stipends, usually on average between \$4000 and \$5000 for the redesign of their courses... we know that time and money can be very important for faculty to redesign courses. So there were initial investments from grants from the UW system as well as from the university and it has sort of become the norm here on this campus. So departments know that there is going to be an initial investment redesigning for blended and for online.

5. Discussion and conclusion

The six cases discussed in this article show institutions at different stages of adoption and implementation of BL. Institutions at Stage 1, awareness/exploration, are engaged in activities that Rogers (2003) would identify as *agenda-setting* and *matching*. They are aware of organizational challenges for which BL could be an innovative solution, but they haven't yet made a decision to adopt. In each of the four cases beyond Stage 1, the institutions have aligned BL to solve one or more significant institutional challenges such as a period of rapid growth, desire to give access to more students, lack of physical infrastructure, desire for increased flexibility for faculty and students, etc. The goal of improved learning outcomes was often mentioned by institutions as critical, frequently pushing adoption of BL as a solution to other challenges as well. Many institutional leaders considered BL as a way to address growth, cost, or flexibility challenges while also resonating with faculty as having potential to improve student learning.

Institutions at Stage 2, adoption/early implementation, are engaged in Rogers (2003) *redefining/restructuring* and *clarifying* activities. Stage 2 institutions have adopted BL and are trying to modify the innovation and organizational structures to help the innovation succeed. In particular, institutions are struggling to develop appropriate governance structures for the blended initiative as well as adjusting university systems (like registration and catalog) to integrate new kinds of course offerings. Stage 2 institutions also put a lot of resources into establishing appropriate course development processes along with pedagogical training and faculty incentives to make the initiatives successful. We found less emphasis than we expected on standardizing learning outcomes and assessments for similar courses taught in different modalities. Common outcomes and assessments are important in determining which instructional approaches and conditions are actually leading to improved student learning.

Institutions as Stage 3, mature implementation/growth, have made BL a routine aspect of their university operations and are working on continual improvement through increased attention to evaluation and data-driven decision making. UCF not only uses its data for important internal decisions, but publishes its findings to benefit other institutions trying to institutionalize BL practices (Dziuban, Hartman, Cavanagh, & Moskal, 2011; Dziuban, Hartman, Juge, Moskal, & Sorg, 2006; Dziuban, Hartman, Moskal, Sorg, & Truman, 2004; Dziuban & Moskal, 2011). This stage is similar to what Rogers (2003) described as *routinizing* in his process model for organizational innovation.

For each institutional case in this study, BL began at the faculty level. But even when a good number of faculty are able to adopt and implement blended solutions on their own, barriers related to institutional policies, structures, and lack of support can prevent

large-scale faculty adoption of BL and the accompanying institutional benefits. As BL develops from the faculty level and is complemented by institutional attention to policy and support structures, it can be beneficial for the institution, faculty, and students. This study identifies aspects of the adoption and implementation of BL of which interested institutions should take note. For example, institutions should be clear on their purpose for implementation and their definition of blended courses. In general, successful implementers in our study began with an administrative advocate who was able to convince others of the value of pursuing BL. Advocacy then broadened as leaders of academic units became involved in decision making, particularly related to how BL would impact their own units. Additionally, efforts were made to update university data systems used for registration and scheduling so that BL courses could be appropriately labeled and advertised to students.

The six cases of institutional adoption of BL documented in this article show a pattern of growth across three general stages of development that can help guide university administrators interested in the strategic adoption and implementation of BL on campus. Core issues related to institutional *strategy*, *structure*, and *support* were identified. Future research can look more carefully at specific themes within the framework, as well as transitions between its stages. For example, many institutions of higher education that are in the awareness/exploration stage would like to transition to adoption/early implementation. Research related to this transition could investigate how an institution uses adoption of BL to build or strengthen its culture of high quality teaching and learning. Also the boundary between adoption/early implementation and mature implementation/growth is fuzzy. Research could investigate the specific processes and interventions that successful institutions use to institutionalize BL.

Future research could also investigate more deeply any one of the categories identified in the framework. For example, researchers could study what successful administrative advocates for BL do or how different institutional governance structures affect the quality and effectiveness of BL initiatives. Of particular interest would be research that looks at how institutions integrate into the university culture the evaluation of BL required for the purpose of continual improvement and how these institutions use data from BL to improve student learning and dispositions. Additionally research could investigate the value of formal and strategic evaluation of an institution's progress towards the Mature Implementation/Growth stage of BL adoption and implementation. To this end we have provided a self-evaluation checklist in Appendix B that institutions can use and/or modify to evaluate their adoption and implementation efforts.

Finally, little was found in this study regarding how institutions are working to increase student capacities to succeed in blended and online environments. Much of the adoption and implementation work has focused on directly helping and supporting faculty rather than students. Future research might also pursue what challenges students are facing with BL and what successful institutions are doing to help students to choose and succeed with blended options.

Appendix A. Interview protocol

1. Introduction– quickly explain purpose of study is to better understand the policy and issues surrounding adoption and implementation of BL at their institution.
2. General questions
 - a. How does your institution define blended or hybrid learning?
 - b. How did BL get started at your institution?
 - c. What issues and challenges have you faced in trying to implement BL at your institution?
 - d. What is the primary purpose for adopting BL at your institution? (related to improved pedagogy, increased flexibility for students/faculty, reduced costs, etc.)

3. Strategy

a. Vision/Plan

- i. Who is driving/promoting the BL initiatives on campus?
- ii. Has the vision/purpose for BL been communicated to the campus community? If so how?
- iii. Does your institution have explicit written policies surrounding blended learning? If so, would you be willing to share them with me.

b. Implementation strategy

- i. Do you have a strategy for implementing BL across your institution? If so, what does it involve?
- ii. Do you have a strategy for getting buy-in for faculty and department adoption of BL practices?
- iii. Do you have a strategy for measuring progress of your implementation?
- iv. How have external constraints such as accreditation affected institutional decisions around blended learning?

4. Structure

a. Institutional policy structure

- i. Models—Does the institution have a specific model or architectures that have been adopted for blended learning? If so, explain.
- ii. Course development—Does the institution have a course development model for blended learning courses? What does the course development process look like?
- iii. Recruitment—How do faculty become interested in and pursue teaching a blended learning course?
- iv. Scheduling—How are blended learning courses planned and scheduled?
- v. Catalog—Can students see whether a course is blended in the catalog? If so, what does it look like to them? How do blended learning sections of a course look different from traditional sections?

b. Comparison to F2F and online courses

- i. Ownership—Where does ownership for blended learning courses reside? (within the academic departments, with a teaching and learning center, with an online learning or continuing education unit, etc.)
- ii. Are the learning outcomes or competencies the same for blended learning courses as their equivalent courses in the traditional format?
- iii. Instructors—Do the same instructors teach them?
- iv. Student–teacher ratios—How do student–teacher ratio expectations compare between F2F and BL courses?
- v. Assessments—Are students evaluated/assessed the same way in blended learning courses as they are in traditional courses?
- vi. Faculty load—Do BL courses use a different faculty load structure than F2F courses? (e.g., seat hours vs. merit-based progression)

c. Incentive structure

- i. Faculty incentives—Do you offer any incentives to faculty who implement blended learning? If so, what are they (e.g. tenure incentives, funding, equipment, weighing blended learning courses more heavily than regular classes in measuring teaching load)?

d. Physical/Technological infrastructure

- i. What additional technical infrastructure, if any, has been needed to support the blended learning initiative? (libraries, academic services,)

e. Evaluation of implementation

- i. What institutional-level evaluations are in place to look at the desired outcomes for blended learning institution wide?
- ii. Do you currently have students or professors report the types of blended learning they utilize in their classes?
- iii. Do you currently ask students and/or professors to report the level of access, flexibility, and/or quality of blended learning? How?

5. Support

a. Faculty professional development

- i. What technological and pedagogical support is available for professors who have decided to teach in a blended learning format?
- ii. Have you conducted any training for professors regarding how to adopt blended learning in their pedagogy? Please describe.
- iii. If you held initial training, have you had any subsequent seminars or forums for professors to provide updates and/or best practices? Please describe.
- iv. Are there plans to increase this support in the future? What are they?

b. Student support

- i. What support is needed for students enrolled in BL courses?
- ii. What support is available for students in BL courses?

6. Final questions

- a. Any additional institutional issues related to blended learning that you think are relevant to our conversation? If so, please share.

7. Thanks for participating.

Appendix B. Institutional self-evaluation checklist based on the BL adoption framework

1. Strategy

1.1 Purpose

What is your institutional purpose for BL?

- Is your BL purpose a single, uniform policy across the institution?
- Has that purpose been published?
- If your institution published its purpose some time ago, have you reviewed and determined whether to revise the purpose?

What is your next step toward improving your institutional purpose on BL?

1.2 Advocacy

What role does the administration take in advocating BL?

What role do instructors play in advocating for BL?

What role do departments/colleges play in advocating for BL?

- Is advocacy occurring formally?

What is your next step to increasing advocacy for BL?

1.3 Implementation

What groups are the driving forces of BL implementation (eg. administrators, faculty, departments/colleges)? How are they implementing it?

- Instructors are involved in BL implementation.
- Administrators are involved in BL implementation.
- Departments and colleges are involved in BL implementation.

What is your next step toward wide spread implementation?

1.4 Definition

What is your institutional BL definition if you have one?

- Is your BL definition a single, uniform definition across the institution?
- Has that definition been published?
- Are members of your institution aware of the published definition?
- If your institution published a uniform definition some time ago, have you reviewed and determined whether to revise the definition?

What is your next step to improving your BL definition?

1.5 Policy

- Has your institution developed a policy regarding BL?
- Are there multiple policies regarding BL, or is there a single, uniform policy?
- Has that policy been published?

- How many members of your institution are aware of the published definition?
- If your institution published a policy some time ago, have you reviewed and determined whether to revise the definition?

What is your next step in developing BL policy?

2. Structure

2.1 Governance

Currently, who in your institution oversees BL approval and implementation?

- Is faculty aware of the approval process for BL?
- Is BL implementation regulated by the department or college? What is the next step to robust governance structures?

2.2 Models

What is your current policy on BL models?

- Is your BL policy on models published to the faculty?
- Does your institution encourage utilization of the approved BL models?
- If your institution has developed and encouraged BL models, does it use evaluation data to review and, if necessary, revise approved BL models?

What is the next step to creating a formal BL policy on models?

2.3 Scheduling

Do students understand what BL course designations signify? What is the source of their understanding?

- Does your institution's course catalog/registration system designate BL courses as such?

What is your next step in developing a BL friendly scheduling system?

2.4 Evaluation

What evaluation process is currently used for your blended courses? Who conducts the evaluation?

How is the evaluation data used?

- Are the evaluations uniform?
- What is your next step to develop a systematic evaluation process?

3. Support

3.1 Technical

What technical support does your institution feature?

- Does your institution offer technical support specifically for instructors implementing BL?
- Does your institution offer technical support to students using BL?
- Is technical support well-established for instructors and students? What is the next step to improve your technical support?

3.2 Pedagogical

What is your institutions BL developmental process?

Who oversees the BL course development process (e.g. colleges/ departments, administration)?

- Are instructors aware of the process?
- If your institution has developed a BL developmental process, do you regularly review and improve the process? What is your next step to improve this process?

3.3 Incentives

What types of incentives are available to faculty for implementing a blended course (e.g. monetary incentive, reduction in course load)?

- Are instructors aware of those incentives?
- If your institution established those incentives some time ago, have you reviewed and made any necessary updates/revisions to the incentives? What is your next step to improve your incentive structure?

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