Report: Defining Blended Learning

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EXECUTIVE SUMMARY:

The meaning of "blended learning" has changed over time; only definitions from 2006 and later are to be considered current. Consequently, a suggested composite definition is:

"Blended learning" designates the range of possibilities presented by combining Internet and digital media with established classroom forms that require the physical co-presence of teacher and students.

The coherence and consistency of this definition is illustrated through examples from the literature, and via a decision tree offered as a heuristic.

"Blended learning" appears to have been in use since the popular advent of the Internet and the World Wide Web in the late 1990s. However, like many other Internet buzzwords around this time (e.g., new economy, e-learning), its precise connotations have changed and subsequently converged and stabilized. From 2006 to the present, blended learning has been understood as a combination of face-to-face and technology-mediated instructional forms and practices. At the same time, the phrases "face-to-face" and "technological mediation" themselves may generally benefit from further definition and contextualization. As a result, this paper traces out the etymology of the evolving meaning of the term "blended learning," and it also maps out analytically the significance of the opposed terms that have come to be seen as "blended" in it. It offers these etymological and analytical accounts in order to provide clarity on the current meaning of "blended learning."

Part I: History and Etymology

   a. Origin and Divergence: 1999-2004

The precise origin of the term "blended learning" is uncertain. However, one of the first occurrences that have been identified is its use in a 1999 news release from EPIC Learning, an Atlanta-based computer skill certification and software training business:

> The company currently operates 220 on-line courses, but will begin offering its Internet courseware using the company's *Blended Learning* methodology [sic]. Select courses will continue to offer the traditional course content online, but will also offer live instruction and other collaborative components, all from the student's desktop. (PR Newswire, March 5, 1999, n.p.; emphasis added)

The definition of blended learning implied in this announcement is ambiguous: Does "live instruction" suggest the physical co-presence of instructor and student? Or does it mean that the instructor is online

at the same time as the student? Is the student's desktop a literal place, or is it the virtual one simulated on a computer screen?

Questions of these kinds are multiplied when other, relatively early definitions of blended learning are consulted. For the years 2002-2003 in particular, many eclectic definitions of blended learning seem to be available. For example:

Blend-ed learn-ing v. [sic]

1. To combine or mix modes of web-based technology (e.g., live virtual classroom, self-paced instruction, collaborative learning, streaming video, audio, and text) to accomplish an educational goal.
2. To combine various pedagogical approaches (e.g., constructivism, behaviorism, cognitivism) to produce an optimal learning outcome with or without instructional technology.
3. To combine any form of instructional technology (e.g., videotape, CD-ROM, web-based training, film) with face-to-face instructor-led training.
4. To mix or combine instructional technology with actual job tasks in order to create a harmonious effect of learning and working.

The point is blended learning means different things to different people. This may appear to be an academic point but in reality these definitions illustrate the untapped potential of blended learning. (Driscoll, 2003, p. 1)

Blended learning, in other words, is almost any combination of technologies, pedagogies and even job tasks. It includes some of the oldest mechanical media (e.g., film) and theories of learning (e.g., behaviourism), as well as the newest. It is therefore not surprising that EPIC Learning, having referenced "blended learning methodologies" earlier, found themselves trying to clarify their own use of the term. In a white paper written specifically for this purpose, another example of a definition is quoted –this time from training sector expert Elliot Masie– which is so broad as to again include nearly all forms of learning and instruction:

What is 'blended learning'? It is the use of two or more distinct methods of training. This may include combinations such as: blending classroom instruction with online instruction, blending online instruction with access to a coach or faculty member, blending simulations with structured courses, blending on-the-job training with brownbag informal sessions, blending managerial coaching with e-learning activities. (from: Clark, 2003 p. 4)

This white paper goes on to define blended learning as a mix appropriate to training and job performance, one which would include performance support technologies, knowledge management and online training technologies.

It is likely that the very breadth and inclusivity of these definitions of blended learning, as Driscoll suggests, initially helped make the term popular as a buzzword. Although these early definitions provide

little clarity in including or excluding courses in "blended learning," the way the term is defined or described indicates at least three things about this type of learning:

1. First, in contradistinction to the Driscoll definition, blended learning is a noun or a noun-phrase (a gerund), not a verb. This underscores that it is not so much about students' activity (as in: "I'm blended learning today"), as it is a method of instruction, of greater concern to instructional and institutional personnel.
2. Although blended learning can involve a combination of any number of technologies and techniques, most examples include only *two*, for example: classroom with online, online with coaching, instructional technology with actual job tasks, etc.
3. Finally, the combination of classroom with online activities or modalities is conspicuous in the two definitions cited above (and in other examples from this time; e.g., Singh & Reed, 2001; Orey, 2003).

b. Consolidation and Clarification: 2006-2012

The middle of the first decade of the 21st century marks a shift in the use of the term blended learning: The importance of this term in the higher education context (rather than industry and training) became clear, as did a broadly consensual understanding of its meaning. 2006 is the year of the publication of the first *Handbook of Blended Learning*, (Bonk, Graham, Cross & Moore), and a year later, the book *Blended Learning in Higher Education: Framework, Principles, and Guidelines* by Randy Garrison and Norman Vaughan appeared. The first of these books was introduced with a chapter titled "Blended Learning Systems: Definition, Current Trends, and Future Directions," by Charles Graham. This chapter works towards a definition of blended learning that has come to be widely accepted; and it does so by first reviewing the very broad kinds of definitions cited above, and then concluding:

> these positions suffer from the problem that they define [blended learning] so broadly that they encompass virtually all learning systems. One would be hard pressed to find any learning system [or combination of methods] that did not involve multiple instructional methods and multiple delivery media. (Graham, 2006, p. 4)

Speaking specifically of blended learning *systems* (from a systems-theory rather than a technical perspective), Graham then goes on to define such systems as ones "that combine face-to-face instruction with computer mediated instruction" (p. 5). He justifies this approach as follows:

> Th[is] working definition … reflects the idea that [blended learning] is the combination of instruction from two historically separate models of teaching and learning: traditional F2F learning systems and distributed learning systems. It also emphasizes the central role of computer-based technologies in blended learning. (2006, p. 5)

Graham's definition and explanation are particularly helpful in that they reference traditions, practices and norms with which many educators will be long familiar. These are practices and norms of the physical, bricks-and-mortar classroom on the one hand, and of distance delivery (presumably including

postal correspondence through teleconference to fully online methods) on the other. Graham continues this differentiation by explaining that blended learning

> is part of the ongoing convergence of [these] two archetypal learning environments. On the one hand, we have the traditional F2F learning environment that has been around for centuries. On the other hand, we have distributed learning environments that have begun to grow and expand in exponential ways as new technologies have expanded the possibilities for distributed communication and interaction. (2006, p. 5)

Garrison and Vaughan, for their part, cite Graham's definition in their 2007 book, and portray blended learning, thus defined, as having a natural place in higher education contexts. Furthermore, in distinguishing between online and classroom settings, Garrison and Vaughan emphasize the particularly *textual* nature of many online contexts as opposed to the *oral* communication typical of the classroom:

> Recognizing true blended learning is not obvious. Blended learning is the thoughtful fusion of face-to-face and online learning experiences. The basic principle is that face-to-face oral communication and online written communication are optimally integrated such that the strengths of each are blended into a unique learning experience congruent with the context and intended educational purpose. Although the concept of blended learning may be intuitively apparent and simple, the practical application is more complex. (2007, p. 5)

In developing their account of blended learning, Garrison and Vaughan have in mind a particular kind of online learning experience: that of text-based, threaded communication forums which are often used to hold class or group discussions. Despite this emphasis, however, their understanding of blended learning is broadly consistent with that of Graham. The example of Garrison and Vaughan is also followed by others from the higher education sector, who similarly begin affirming and elaborating upon the same definition, seeing it as having clarified earlier confusion. For example, in a 2009 *Introduction to Blended Learning Practices,* Stacey and Gerbic observe:

> Cross (2006), also from the corporate training sector, writes that in this context blended learning is only a transitory term, it is a term which has gained ongoing currency and aroused great interest in the higher education sector and appears to be surviving its "buzz word" status and taking "its rightful place as signifying a particular idea or practice." (p.2)

Stacey and Gerbic go on to explain that since blended learning has come to signify specific ideas and practices, it can be described in terms of a continuum, along which a series of variations in practice and thinking can be arranged: "Blended learning can be placed… between fully online and fully face-to-face courses, and one of the definitional issues is where this might be on such a continuum." Blended learning, to adapt Stacey and Gerbic's phrasing, designates the many possible combinations of instruction, information and interaction that can occur in the classroom context of physical co-presence together with various forms of technical (generally online and digital) mediation. By indicating that these combinations are on a continuum (as do many others, e.g. Mortera-Gutiérrez, 2006; Watson, 2008;

Jones et al, 2009), Stacey and Gerbic anticipate one of the principal challenges to which this widely-accepted definition gives rise:

- Where on the continuum of possible combinations is there not enough of either online or face-to-face activity to merit the designation "blended learning"? Or, to put it another way:
- When is online technology so pervasive in a course that phrases like face-to-face or bricks and mortar are metaphorical rather than literal in significance?

Providing answers to these questions is the principal intent of the second part of this report, which shifts from an etymological to an analytical emphasis.

Part II: Current Use and Elaboration

Having stabilized mid-decade in the higher education context, one can say that blended learning as a term depends on the differences, similarities and compatibilities evident between two sets of terms: These are (to borrow from Graham) "F2F" and "distributed" systems, modes or forms of instruction. To answer the questions, posed above, about the minimal acceptable quantities of each of these two forms in blended learning, this part of the report analyzes three examples:

a. Examples of the instructional forms and practices that are opposed to one another in definitions and discussions of blended learning, and to clarify the meaning of each set.
b. An example of an analysis and taxonomy of blended learning forms for the primary and secondary educational sectors.
c. An example of a decision tree developed for this report that combines common definitions of blended learning together with other widely-accepted definitions of other course types.

a. Opposed Forms, Contexts and Practices in Blended Learning

The table below lists common examples of the two sets of opposed terms that are generally said to be "blended" in blended learning courses. Within each set, the terms listed should be viewed as being broadly interchangeable or synonymous. Thus, physical co-presence, in-class instruction and face-to-face have generally the same meaning, and the term online is generally considered interchangeable with the terms virtual and distributed.

Physical Co-Presence	Technical Mediation
- Face-to-Face (F2F) (Graham, 2006; Stacey & Gerbic, 2009) - Oral communication (Garrison & Vaughan) - In-class instruction (Chase, 2012) "place of the classroom" (Friesen, 2011) - Bricks, mortar (Schulte, 2011) "a supervised brick-and-mortar location away from home" (Staker & Horn, 2012)	- Online (Graham, 2006; Stacey & Gerbic) - Written communication (Garrison & Vaughan, 2007) - Distributed learning (Graham, 2006) "space of the screen" (Friesen, 2011) - Clicks, virtual (Schulte, 2011) "online delivery of content and instruction" (Staker & Horn, 2012)

Of the various opposed expressions and phrases used in this table, only one or two have been defined in a manner that is rigorous and formalized. The terms "face-to-face" and "technical mediation" are both widely used and are discussed in formal terms in the literature of (mediated) social interaction, Internet communication, and also business communication. For example, an article on "mediated social interaction" in the *International Encyclopedia of Communication* offers the following:

> Mediated social interaction refers to the interaction between two or more individuals, normally separated in time and/or space, enabled by various communication technologies. Mediated social interaction may take various forms, depending on how many people are involved in message construction and reception… [and on] what kinds of modalities are being used (e.g., text vs. full motion video); and so forth. (Lee, 2008, p. 3034)

"Mediation" can thus involve a wide range of modalities or technologies, including video conferencing separated by space, video recording and playback separated by time, and forms of a more quotidian nature, such as asynchronous email or synchronous (i.e. "real-time") chat. "Face-to-Face," on the other hand, is actually only rarely defined in such explicit terms. One exception is provided in the *Microsoft Computer Dictionary,* which explains that the abbreviation F2F simply means "in person" rather than "over the Internet." Further context is provided by an article in the business literature titled "A Cost-Benefit Analysis of Face-to-Face and Virtual Communication:"

> many observers argue that there is no replacement for face-to-face contact, regardless of how far technology has evolved. For example, face-to-face contact facilitates the transfer of tacit knowledge or knowledge that is not written or definable, but gained through experience. When communicating face-to-face, the speaker can draw on visual cues from the audience to gain quick, immediate feedback and make rapid adjustments as necessary.... Visual cues and social presence in face-to-face dialogue also enable members to more easily learn about one another's background, skills, experiences, and areas of expertise. These cues build trust within groups that interact face-to-face. Although organizing and planning for face-to-face contact can be difficult and costly, this in itself can send a message of value to the recipients. (Heller, 2010, p. 9)

Face-to-face communication thus takes place in the form of both oral and non-verbal communication, but not in written form. Significantly, this description also indicates that non-verbal communication in face-to-face settings can extend to and encompass aspects of the context that the speakers inhabit, since this context is shared by speakers for a period, however brief or lengthy. At the same time, this account of face-to-face communication also suggests that oral communication, and even some kinds of non-verbal communication, does not need to occur strictly in a face-to-face setting. This communication can take place through the mediation of audio technologies such as teleconferencing or audio/visual media such as Skype or H.323 video systems. In these cases, communication is both oral and mediated, rendering problematic this particular part of the Garrison and Vaughan definition of blended learning, as quoted above.

b. A Taxonomy of Blended Learning Forms

One particularly detailed model of blended learning has been recently formulated for the primary and secondary school sectors in a report for the Innosite Institute (Staker and Horn 2012). The report breaks down the continuum of possible combinations of these blended learning forms into four discrete combinations or models. At least two of these combinations (1 and 4) are of direct relevance to higher education, while the others show the kinds of combinations that are educationally feasible, but probably best suited for K-12 settings. These models move from relatively classroom-intensive combinations to ones that are more dependent on online mediation:

1. "The rotation model," in which online engagement is combined or rather, embedded, within a range of face-to-face forms of instruction in a cyclical manner;
2. "The flex model, in which multiple students are engaged primarily online, but under the supervision of a teacher who is physically present;"
3. "The self-blending model," in which students choose different courses to take independently, but do so in a setting where a supervising teacher and other students are co-present;
4. "The enriched-virtual model," in which online, virtual experiences are seen as being enriched only periodically through arrangements of physical co-presence. (pp. 8-15)

The first, *rotation model* can be seen as involving arrangements in which a class and a cohort (who spend the majority of their time in the same space) are given opportunities to "go online" to engage in instructional activities. Staker and Horn explain that these opportunities can be provided in the classroom, at a nearby computer lab, or at home, and they can be arranged according to a student's individual needs. Because of the general co-location of students and teacher in an ongoing face-to-face course setting, these activities are presumably related to accessing materials (e.g. podcasts of teacher presentations) or communication opportunities with those *outside* of the classroom (e.g. with experts or with students in other locations).

The second, *flex model*, suggests proctoring or supervision arrangements that are likely to be of limited use in higher education settings, as is the case for the third, *self-blending* approach. In both models, students take one or more courses online, all the while being situated with a physically co-present teacher and other students where this work can be supervised. Although approaches like this proven successful, including in one K-12 setting in the British Columbia Interior (Khelouiati, 2012), the emphasis on instructor supervision central to both is likely *not* to be suitable for higher education. Gathering adults together in a single space to supervise their learning on an ongoing basis would generally not be seen as appropriate; in addition, no one teacher would be able to adequately advise students taking courses in different disciplines.

This leaves the fourth, *enriched-virtual model*, which is likely of greatest relevance to higher education, and involves one or more occasions of the physical co-presence of a teacher and students to enrich an otherwise virtual experience. There are a wide range of possible combinations that afford this kind of contact: the teacher may travel during the delivery of a course to visit small gatherings of students who

constitute parts of a given cohort; the cohort as a whole may meet at with the instructor at the sponsoring institution for a meeting to "kick off" a given course; or such meetings may be held with somewhat greater frequency, for example, at the beginning, middle and conclusion of a course.

c.   *Combining the Options in a Decision Tree*

The taxonomy provided by Stalker and Horn, together with the other definitions and contexts provided above can be combined in a decision tree. The process it describes is assumed to apply to courses with significant online components, and it may thus serve as a heuristic for determining whether a course is blended or of another kind altogether. At the same time, it may fulfill a more analytical purpose: to isolate the decision points, or the occasions of convergence or divergence, that may occur in defining blended learning or determining the "blended" status of a given course.
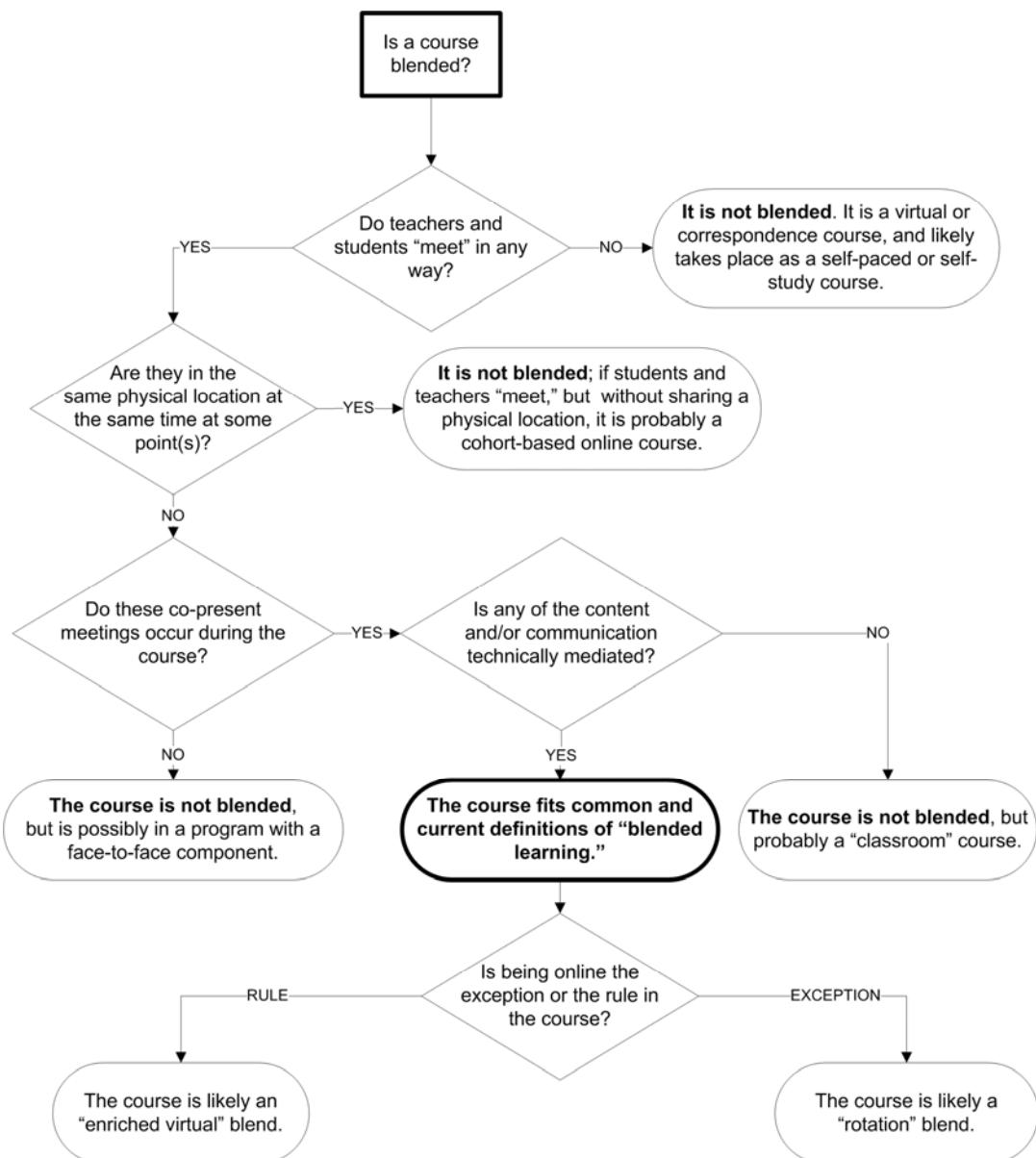
The inclusion of the first and fourth models ("rotation" and "enhanced virtual") of Stalker and Horn in the final stages of the decision tree diagram (above) is not absolutely necessary for determining a course's "blended" status. However, the integration of these two models in this diagram is meant to demonstrate the overall coherence of the suggested decision process with the relevant and accepted vocabulary. A similar intention is expressed through the inclusion of a distinction between "self-paced" and "cohort-based" online courses, a kind of differentiation common in the literature (e.g., Russell et al, 2009) and identified in the first two terminator (rounded rectangular) elements of the decision tree.

Part III. Conclusion

Even though blended learning is a design construct rather than one proper to students or learners, in any determination of a course as "blended," the benefits accruing to students should be of principle concern. As the cost-benefit analysis from Heller (2010) quoted above indicates, organizing and planning for face-to-face contact can be difficult and costly; however, its prevalence as a component in complex communications –whether they occur in business or in other knowledge-intensive areas– suggests the value of this type of communication for these undertakings. This value should be balanced with a second main student concern, "access" or "flexibility." Like blended learning itself, achieving a balance between these two elements –as along a continuum extending from maximum flexibility to maximum quality or "value"– is the goal of educational providers.

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