



# What Do We Mean by Blended Learning?

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## Abstract

The term blended learning is used frequently, but there is ambiguity about what is meant. What do we mean by blended learning? What, how and why are we blending? In this paper different definitions, models and conceptualizations of blended learning and their implications are discussed. Inclusive definitions and models, and diverse conceptualizations, mean that essentially all types of education that include some aspect of face-to-face learning and online learning is described as blended learning in the literature. Blended learning has become an umbrella term. Blended learning is also used to describe other blends, such as combining different instructional methods, pedagogical approaches and technologies, although these blends are not aligned with influential blended learning definitions. Since blended learning has many meanings, it is important that researchers and practitioners carefully explain what blended learning means to them. It is also suggested that alternative, more descriptive terms, could be used as a complement or replacement to blended learning.

**Keywords** Blended learning · Definitions · Models · Conceptualizations

The term blended learning is frequently used among both researchers and practitioners. However, what do we mean by blended learning? What, how and why are we blending? Even though the term blended learning is frequently used, there is ambiguity about what is actually meant (Oliver and Trigwell 2005). In a critical review, Oliver and Trigwell concluded that the term blended learning simply requires two or more different kinds of things that can then be mixed. They argued that the breadth of interpretations means that almost anything can be regarded as blended learning. Driscoll (2002) also argued that blended learning has taken on several means, such as combining modes of web-based technology, pedagogical approaches, instructional technologies and actual job tasks. However, she argued that the point of blended learning is that it means different things to different people which “illustrate the untapped potential of blended learning” (p. 1).

While much of the debate and theoretical development on what blended learning actually is peaked more than a decade ago (e.g., Driscoll 2002; Garrison and Kanuka 2004; Graham 2006; Oliver and Trigwell 2005), the interest in blended learning among researchers and practitioners has remained high.

Although, the term blended learning was coined in the late 1990s (EPIC Learning 2013), it could still be characterized as pre-paradigmatic, searching for generally acknowledged definitions and ways of conducting research and practice. “In the absence of a paradigm, or some candidate for a paradigm, all of the facts that could pertain to the development of a given science are likely to seem equally relevant” (Kuhn 1962, p. 15). To understand the practice and effects of blended learning, there is a need for established and clear definitions, models and conceptualizations. This makes it achievable to validate previous research in new settings, contribute to developing a cumulative tradition, and enable deeper exploration of foundational ideas (Kane and Alavi 2007).

In this paper, definitions, models and conceptualizations of blended learning and their implications are discussed. It is important to reflect on how blended learning is being defined and conceptualized since this affects research and practice, and helps us understand what blended learning is, and what it is not. The paper is organized as follows. First, three influential definitions of blended learning are introduced. This is followed by a discussion of influential models and conceptualizations. Finally, recommendations for research and practice are put forth.

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## Blended Learning Definitions

There are two blended learning definitions that are most frequently cited in the literature. These have been suggested

by Graham (2006), and Garrison and Kanuka (2004), and have been cited 2149 and 3116 times, respectively (Google Scholar, Oct 25, 2018). Graham (2006) defines blended learning as follows: “Blended learning systems combine face-to-face instruction with computer-mediated instruction” (p. 5). Garrison and Kanuka (2004) define blended learning as “the thoughtful integration of classroom face-to-face learning experiences with online learning experiences” (p. 96). Thus, we can conclude that there is general agreement that the key ingredients of blended learning are face-to-face and online instruction or learning.

There are at least three differences worth noting between these two definitions. 1) The first definition is more inclusive when stating there should be a combination (Graham 2006), while the second definition include a quality dimension, i.e. that there should be thoughtful integration (Garrison and Kanuka 2004). 2) The first definition uses the term computer-mediated while the second definition uses the term online. However, these days computers are rarely used offline. 3) The first definition uses the term instruction while the second definition uses the term learning experience. In blended learning research, it is unusual to focus on instruction *or* learning, instead these are regarded as two sides of the same coin. For example, an empirical study on blended learning commonly describes instructional methods and media and then conducts an evaluation from the learner perspective. For this reason, it can be assumed that blended learning research has an interest in instruction *and* learning.

A third, slightly less influential, definition was put forth by Allen and Seaman (2010, cited 988 times according to Google Scholar, Oct 25, 2018). They define a blended learning course as follows: “Course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has a reduced number of face-to-face meetings” (p. 5). The definition is quite like the definition proposed by Graham (2006). However, they note that a substantial proportion should be delivered online. In their paper, they also suggest that the proportion of content delivered online should be 30 to 79% in blended learning.

The use of the term blended learning is relatively new. Before the term became widely used, the term hybrid learning was used quite often. These days the terms blended learning and hybrid learning are used interchangeably (Graham 2009; Watson 2008). Similarly to the reviewed blended learning definitions, a hybrid learning environment has been described as combining face-to-face education with access to online learning tools (Hall and Davison 2007). In fact, Olapiriyakul and Scher (2006) state the following: “These two terms (hybrid learning and blended learning) are used alternatively, but refer to the same concept.” (p. 288). The term hybrid learning might have been more widely adopted in practice than in research, as

there are quite few highly cited papers on hybrid learning, as compared with blended learning research.

## Blended Learning Models

Following the influential definitions described above, many different blended learning models have been suggested. Blended learning models have commonly focused on physical or surface-level characteristics rather than pedagogical or psychological characteristics (Graham et al. 2014). However, the first model that is described is an exception.

Although not developed specifically for blended learning, one of the most influential blended learning models is the community of inquiry framework. It has been argued that the generic nature of the framework, and that it resonance well with both face-to-face and online learning, make it useful for understanding and designing blended learning (Garrison and Vaughan 2008). A community of inquiry is described as “the ideal and heart of higher education” and “shaped by purposeful, open, and disciplined discourse and reflection” (p. 14). It is based on three types of presence: cognitive presence, teaching presence and social presence. From the perspective of this framework, a community of inquiry is regarded as the ideal higher education experience, no matter whether education is conducted face-to-face, online or blended. Blended learning should thoughtfully integrate classroom face-to-face learning experiences with online learning experiences to enable communities of inquiry.

Watson (2008) described blended learning as a major segment of a continuum between fully online and traditional face-to-face settings. The blended learning continuum comprises the following categories: “1) Fully online curriculum with all learning done online and at a distance and no face-to-face component, 2) Fully online curriculum with options for face-to-face instruction, but not required, 3) Mostly or fully online curriculum with select days required in classroom or computer lab, 4) Mostly or fully online curriculum in computer lab or classroom where students meet every day, 5) Classroom instruction with significant, required online components that extend learning beyond the classroom and beyond the school day, 6) Classroom instruction integrating online resources, but limited or no requirements for students to be online, 7) Traditional face-to-face setting with few or no online resources or communication” (p. 6).

Staker and Horn (2012) presented four models of blended learning that they argued categorize most blended learning programs across the K-12 sector. These are: 1) The rotation model where students rotate between learning modalities, one of which is online learning. Other modalities include full-class instruction, group projects and individual tutoring. 2) The flex model where content is delivered primarily online and students move on an individually customized schedule. The

teacher or other adults provide face-to-face support as needed through activities such as small-group instruction, group projects and individual training. 3) The self-blend model where students take one or more online courses to supplement traditional courses. 4) The enriched-virtual model where students divide their time between attending a campus and learning remotely in an online setting.

Graham (2006) described a model to find desirable blends, as opposed to undesirable blends, that take advantage of the strengths and avoid the weaknesses of face-to-face learning and online learning. He illustrated the model by describing different strengths and weaknesses of conducting class discussions in classrooms as compared with online environments. For example, an instructor “might choose to blend the two learning environments, starting with a brief exploratory [face-to-face] discussion to generate excitement for the topic and set the stage for a more in-depth follow-up discussion [in an online] environment” (pp. 18–19).

## Blended Learning Conceptualizations

The first three conceptualizations below are based on the three definitions previously described (i.e., Graham 2006; Garrison and Kanuka 2004; Allen and Seaman 2010, respectively). The remaining conceptualizations were identified in the blended learning literature.

### The Inclusive Conceptualization

The inclusive conceptualization emphasizes that blended learning should be viewed in an inclusive way. Based on a literature review, the three most common types of blended learning were: combining instructional modalities (or delivery media), combining instructional methods and combining face-to-face and online instruction (Graham 2006). Graham argued that, although the first two positions reflect the interest in influences of media and method on learning, these positions define blended learning so broadly that they would include more or less all learning systems. He suggested that the third position is more useful when putting forth the definition mentioned above: “Blended learning systems combine face-to-face instruction with computer-mediated instruction” (p. 5). However, this definition could also be interpreted quite broadly, since all types of education that combine some aspect of face-to-face or computer-mediated instruction could be labelled blended learning.

On the one hand, it could be argued that the point of blended learning is that it means different things to different people which “illustrate the untapped potential of blended learning” (Driscoll 2002, p. 1). On the other hand, it could be argued to be problematic that there is ambiguity on how to define blended learning (Oliver and Trigwell 2005). Many universities or

schools use a learning management system. It can be discussed whether such contexts should be labelled blended learning, or if this has become the conventional education of our time. For example, in one study 612 courses delivered on campus were labelled blended learning courses, based on that there was an available learning management system, which was used to a limited extent in many of the courses (Park et al. 2016).

### The Quality Conceptualization

The quality conceptualization of blended learning emphasizes the improvement of quality, or other positive effects, by thoughtfully integrating benefits of face-to-face and online learning. As noted above, Garrison and Kanuka (2004) defined blended learning as “the thoughtful integration of classroom face-to-face learning experiences with online learning experiences” (p. 96). They distinguished blended learning from that of enhanced classroom or fully online learning experiences, although they recognized that the boundaries between these concepts are not clear. Garrison and Kanuka acknowledged the great complexity of blended learning since no two blended learning designs are identical. They suggested that the term blended learning should be used when face-to-face and online learning are integrated and done so in a thoughtful way.

Many studies have maintained that the aim should be that face-to-face and online teaching and learning should complement each other, by combining different advantages (e.g., Bicen et al. 2014; Cakir and Bichelmeyer 2016; Deschacht and Goeman 2015). However, it is often not specified what these advantages actually are, although there are exceptions. For example, Zacharis (2015) suggested that blended learning could support learning beyond the classroom. Thus, since teachers and learners have limited time in the classroom, a seminar might continue in an online setting by using a discussion board or other media. A similar example is to prepare students for face-to-face activities, such as the flipped classroom approach where “the participants accessed the learning materials such as video lectures at home, so that in-class face-to-face time was used for classroom discussion on the subject, and for carrying out student-centered learning activities such as group work” (Tan and Hew 2016, p. 22).

### The Quantity Conceptualization

The quantity conceptualization of blended learning emphasizes the quantity of face-to-face and online learning. As previously mentioned, Allen and Seaman (2010) defined a blended learning course as follows: “Course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has a reduced number of face-to-face meetings” (p. 5).

They also suggested that the proportion of content delivered online should be 30 to 79% in blended learning.

There are different examples of how to enumerate the necessary quantity of face-to-face and online teaching and learning in the literature. Bernard et al. (2014) stated that at least 50% of total course time should be face-to-face in order to be included in their meta-analysis of blended learning and technology use in higher education. Porter et al. (2014) reviewed universities' blended learning definition, where the percentage of required online instruction typically was around 50%. Diep et al. (2017) studied two different blended learning modes, one with 25% online and the other with 50% online. There are also more specific examples in the literature. For example, Zacharis (2015) illustrated the transformation from a campus based course into a blended learning course by reducing class time: "From being a traditional campus based fulltime course, it has evolved into a blended learning course in which online activities replaced 16 h of classroom lectures with online self-study modules" (Zacharis 2015, p. 48). Another paper focused on a course that included "two hours per week in a computer lab, two hours per week synchronously on the Internet, and, [communication] asynchronously on the Internet" (Bicen et al. 2014, p. 536).

### The Synchronous Conceptualization

The synchronous conceptualization of blended learning emphasizes teaching and learning that occur in real-time and include both campus and online learners. Blended synchronous learning has been defined as follows: "Learning and teaching where remote students participate in face-to-face classes by means of rich-media synchronous technologies such as video conferencing, web conferencing, or virtual worlds" (Bower et al. 2015, p. 1). It is characterized by using different technologies to support synchronous class discussion, problem solving and collaboration, and student interaction (Bower et al. 2014). This conceptualization includes varying degrees of technological complexity, ranging from inviting online students to participate in scheduled campus classes via Skype on iPads and laptops (Cunningham 2014) to collaborative learning across physical and virtual worlds (Bower et al. 2017).

### The Digital Classroom Conceptualization

The digital classroom conceptualization of blended learning emphasizes the use of online technologies in the classroom. Blended learning is commonly used to describe the use of digital technology in the classroom. Many such studies are conducted in K-12 settings (e.g., Cakir and Bichelmeyer 2016; Hong et al. 2016; Smith and Suzuki 2015), although there are also such papers from higher education settings (e.g., Jou et al. 2016; van Niekerk and Webb 2016). An example is a study where students accessed multimedia lessons by using

a tablet computer and earphones that they received when entering the classroom (Smith and Suzuki 2015). Another study evaluated a curriculum with online and hardcopy materials that was developed to be used in schools (Cakir and Bichelmeyer 2016).

### Other Conceptualizations

In a critical review, Oliver and Trigwell (2005) concluded that the term blended learning simply require two or more different kinds of things that can then be mixed. They identified the following different types of mixes: mixing e-learning with traditional learning, mixing online learning with face-to-face, mixing media, mixed contexts, mixing theories of learning, mixed learning objectives and mixed pedagogics. Oliver and Trigwell argued that the breadth of interpretations means that almost anything can be regarded as blended learning. More than a decade later, there are still many different conceptualizations of blended learning in the literature. Suggestions include that blended learning should thoughtfully integrate different instructional methods (Alammary et al. 2014), employ active learning strategies and a variety of pedagogical approaches (Zacharis 2015), include both asynchronous and synchronous online learning (Diep et al. 2017), provide access to rich learning materials and course content, and to facilitate rapid feedback on course progress of students through in-class meetings and online tools (Cakir and Bichelmeyer 2016). These conceptualizations do not seem aligned with the reviewed definitions.

### Recommendations for Research and Practice

Based on the discussion of different definitions, models and conceptualizations of blended learning, recommendation for research and practice are suggested.

### Blended Learning Has Become an Umbrella Term

The inclusive conceptualization posits that any combination of face-to-face and online learning could be described as blended learning. More than a decade ago it was argued that blended learning could take on many different means (Driscoll 2002; Oliver and Trigwell 2005). Some argued that the point of blended learning is that it means different things to different people (Driscoll 2002), while others found it be problematic that there is ambiguity on how to define blended learning (Oliver and Trigwell 2005). In an intentionally provocative foreword to *The Handbook of Blended Learning* (Bonk and Graham 2006), Cross (2006) described blended learning as "a stepping-stone on the way to the future", but also argued that blended learning is a transitional term that would end up in the dust-bin, together with other forgotten terms, such as programmed instruction. He

could not imagine unblended learning. Today the term blended learning seems to be more popular than ever. It seems to have become a mainstream term that describes “modern education” that aim to take advantage of online technologies. Blended learning is, for example, used to describe the use of learning management systems as a complement to campus education and the use of digital technology in K-12 classrooms. If conceptualizing blended learning in such a broad way, we can expect that most education institutions conduct blended learning, or will, in the near future. Two conclusions might be drawn.

One conclusion would be to encourage more specific ways of defining blended learning (Oliver and Trigwell 2005). However, considering the popularity and diverse use of the term, maybe it is more realistic to accept that blended learning has become an umbrella term that describes the use of technology in education. There are many subsets of blended learning, such as the different conceptualizations discussed in this paper. The term has become adopted by researchers and practitioners in a way that other terms, such as computer-assisted learning or technology-enhanced learning, never were.

### Provide a Detailed Description of What Blended Learning Means to you

Since blended learning could mean many different things, it is important that researchers and practitioners carefully explain what blended learning means to them. The quality and quantity conceptualizations attempt to move beyond the fact that face-to-face and online learning is combined in some way. The quality conceptualization emphasizes the improvement of quality, or other positive effects, by thoughtfully integrating benefits of face-to-face and online learning. If drawing on this conceptualization, researchers and practitioners should be expected to carefully consider how different face-to-face and online learning activities have been thoughtfully integrated. For example, the model on desirable blends might be used (Graham 2006). Following the model, the strengths and weaknesses of different face-to-face and online learning activities could be analyzed. Then, the challenge is to integrate the benefits of the chosen learning activities to identify a desirable blend. The quantity conceptualization emphasizes that substantial parts of the course need to occur in face-to-face settings and substantial parts in online settings. If drawing on this conceptualization, it needs to be described to what extent a course is conducted in face-to-face vis-à-vis online settings, and motivate why.

### Use Other more Descriptive Terms as a Complement or Replacement

Based on the conclusion that blended learning means very different things, other more specific, descriptive terms should be considered as a complement or replacement to blended learning when appropriate. The synchronous conceptualization is

underlined by a clear definition, specifically used to describe teaching and learning that occur in real-time and include both campus and online learners (Bower et al. 2015). Another example is the flipped classroom model, which in turn, has been described to be part of the enriched-virtual model of blended learning (Staker and Horn 2012). It is likely that papers that use more specific terms, such as blended synchronous learning or flipped classroom, can be found among the huge number of papers that fits under the inclusive blended learning umbrella. More specific terms and conceptualizations is a foundation for sub-communities that deeply explore foundational ideas and contribute to a cumulative tradition (Kane and Alavi 2007; Kuhn 1962).

## Conclusion

The breadth of conceptualizations means that essentially all types of education that include some aspect of face-to-face learning and online learning are being described as blended learning in the literature. Since blended learning seems to mean many things, it is important that researchers and practitioners carefully describe what blended learning means to them. Blended learning is also used to describe other blends, such as combining different instructional methods, pedagogical approaches or technologies, although these blends are not aligned with the most influential blended learning definitions. It was suggested that researchers and practitioners should carefully consider whether using a more specific, descriptive term as a complement or replacement to blended learning when appropriate. Further research and debate are necessary in order to further develop definitions, models and conceptualizations of blended learning. What do we mean by blended learning? What fits under the blended learning umbrella? What are we blending? How are we blending? Why are we blending?

## Compliance with Ethical Standards

**Ethical Approval** This article does not contain any studies with human participants performed by the author.

**Conflict of Interest** Stefan Hrastinski declares that he has no conflict of interest.

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