

A Critical Review on Terminology and Definitions of Blended Learning

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Abstract

Blended learning seems an effective solution to knowledge dissemination among the knowledge community in the modern educational context. As the concept of ‘blended learning’ is interpreted differently by individuals, it makes a conceptual and definitional ambiguity among the practitioners over the years. This review tries to establish an insight into terminological and conceptual ambiguity over the definition of blended learning, and it would support scholars to be consistent in defining blended learning in future studies. The review was conducted with 74 research papers published in international peer-reviewed journals accessed via *Google Scholar* and *Scinapse*. The findings were thematically analysed in-depth and identified four dimensions of blended learning: Technology, Pedagogy (Educational), Cultural and Social, and Economical. The further analysis of review results could lead into formulating an amenable definition on blended learning - a combination on face-to-face and online instruction which ensure greater flexibility in students’ learning and congruity of course delivery - which is termed as ‘popular sense’ in this paper. Further, it is noted that blended-learning definition often tends to get influenced by contextual and personal experiences of the educationalists.

Keywords: Blended Learning, Blended Learning Definitions, Technology-integrated Learning

Introduction

Blended Learning (BL) is a contemporary debating distance educational approach (Model). As technology advancements encroach the boundaries of almost all the fields, including the social sciences, educational practitioners are also interested in making use of technology applications in teaching and learning. It seems that there is an issue between the “revolutionary expansion of knowledge” and “knowledge receiving”. In other words, it can be concluded as a spinning effect of education. The most challengeable task is making a match between the supply (delivery of lessons by the side of teacher) and demand (acquiring knowledge by the learner) or balancing the two drives

(teaching and learning) in education. In the time being, the spinning effect becomes more extensive due to both the demand and supply of education is getting increased. Educational practitioners, over the last two decades, are trying out different solutions for this issue in ways of e-learning, online learning, computer-assisted learning (CAL), technology-integrated learning, and finally Blended Learning (BL). Preliminary, the focus of all these try-outs was on finding out a “best match” (equilibrium) between delivery (supply) and receiving (demand) of knowledge.

BL is still controversial and trivial in its meaning. As Oliver and Trigwell (2005, p. 18) describe “the breadth of interpretations means that almost anything can be seen as blended learning, and consequently, that use of the term does not help us to understand what is being discussed”. It seems that still, this critique remains valid and proactive. One observation was that many scholars (e.g. Singh and Reed (2001), Driscoll (2002), Graham, Allen and Ure (2003), Osguthorpe and Graham (2003), Garrison and Kanuka (2004), Graham (2006), and So and Brush (2008) are hesitant to reject the popular notion of blended learning definitions (i.e. combination of face-to-face and online learning). This motivated us to further explore the meaning of blended learning and its contemporary usage in the context of teaching and learning.

This review was led by three research objectives: *(1) identify disputes in defining of blended learning; (2) explore existing conceptual and terminological clarifications on blended learning; and (3) suggest an acceptable definition on blended learning which minimises definitional inconsistencies over blended learning.* The review was conducted on 74 research papers published in international peer-reviewed journals since 2000 via “Google Scholar” and “Scinapse” research databases.

Defining Blended Learning: Definitional Ambiguity

Singh and Reed (2001, p. 1) pointed out that “blended” combinations of both traditional and technology-based learning methods”. This is the most popular sense of BL referred to in this review. BL is not something other than combinations of both traditional (face-to-face) and technology-based learning methods. Here, they affirm that traditional and technology-based learning methods are combined in BL. Though it seems that the focus is on learning, the actual emphasis is on the design and delivery of learning educational programs. Further, they suggested BL is not merely mixing or

matching different delivery modes, it is of re-thinking and re-designing of learning to optimise learning outcomes and cost of program delivery (Singh and Reed, 2001).

However, the emphasis of Singh and Reed's definition is on technology integration into program design and delivery. The most popular sense of BL comes in front. The right learning technology is not decided by the learner. It is a duty of the program designer or instructor. Oliver and Trigwell (2005) rightly argued that though BL seems learning-focused, it does not happen. What happens is combining of different delivery modes and learning activities (Oliver and Trigwell, 2005, p. 18)

Garrison and Kanuka (2004, p. 96) defined blended learning as "At its simplest, blended learning is the thoughtful integration of classroom face-to-face learning experiences with online learning experiences". They suggested that blended learning can be simple and complex as Picciano (2009, p. 10) asserted later – broader and narrower senses of BL. Garrison and Kanuka (2004) declared that the complexity of BL comes in the implementation of BL with virtually limitless design capacities and applicability in many different fields. This is still problematic. How this simplicity and complexity of BL is decided? Can it be understood by technology utilisation (virtually limitless design technology and applicability)? Which technology is referred – web-technology? ICT? or what else? They narrowed down the technology utilisation of BL into online opportunities but they are not clear as to how much or how little the online learning is emphasised in BL (Garrison and Kanuka, 2004, p. 96). A question emerges is 'Can online learning (internet communication technologies) only be integrated into BL?' They also held the same notion that blending varied with contextual needs and contingencies. One blended learning approach is not identical to another approach. Learner satisfaction should be prioritised. Blending should be focused on the maximisation of learning experiences. This again adds a value to the assertion made by Oliver and Trigwell (2005). Blended learning should be learner-focused, but the term is used ironically as "blended learning" so it would better be used as "Blended pedagogies" or even as "blended teaching". Student focus can be maintained when it is termed as "Learning with blended pedagogies" (Oliver and Trigwell, p. 21).

Defining blended learning seems a laborious task. Consequently, in 2004 and 2005, in two different workshops funded by the Sloan Foundation, they invited over 300 scholars from various universities, institutions, and societies in the world, aiming at defining blended learning. Ultimately, at the end of the second workshop held in 2005, the scholars defined the BL as the integration of online and traditional face-to-face class activities in a planned and pedagogically valuable manner, and where a portion (institutionally defined) of face-to-face time replaced by online activities (Picciano, 2011, p.4).

This view is also not rejecting the so-called popular notion of blended learning. It permits us to think that “blend” means mixing two educational modalities: face-to-face and online. Again the strike of Oliver and Trigwell comes forth. To what extent that the modalities are mixed? And based on what criteria that the blending is done? Here the freedom of blending is left for the institutions. If an institution uses online technology (LMS or CMS) to distribute some materials used in the class, can it be regarded as blending? Or if the institution uses live chats and asynchronous forums as extensions to face-to-face lectures (Singh, 2003; Graham and Kaleta, 2002), can it be a real blending? The answer is debatable. As a solution, Allen and Seaman (2010) referring to Sloan Consortium, suggested that blending is a blend of face-to-face and online delivery where 30%-79% of course content is delivered online. But this is still being an issue. This issue inclines with the notion that “It means different things to different people. The word “blended” implies a mixture rather than merely an attaching of components.” (Picciano, 2009, p. 10 & 2014, p. 36; Driscoll, 2002, p. 1). It seems again that the terms “Mixture”, “Integration” and “combination” come in BL definitions have been the issue. While discussing the above notion, Picciano (2009, p. 10) in the same paper is referring to the following definition; “in the broadest sense, blended learning can be defined or conceptualised as a wide variety of technology/media integrated with conventional, face-to-face classroom activities”. As this led him to come out with a definition in a narrower sense, it has been “centred on an online component that replaced seat time in the conventional classroom”. He further explained that these broader and narrower senses on blended learning definitions do not stand as an absolute and limiting declaration but a guideline (Picciano, 2009 and 2014). It seems, in this review, that he agrees with the popular notion of blended learning definitions, generated by the participants of the Sloan workshop in 2005. But the triviality in blended learning definitions has yet been accepted.

Norberg (2017) pointed out that the term BL concerns especially about what components should be considered to be blended. The idea presented here is less valid and unacceptable. Though we can argue that once one decides what to blend, then the problem is over. “Yes” it is, but it is “Yes” only for the intended purpose in the particular context. For the others it will not be “Yes”. The terminological uncertainty of “blended learning” raised by Driscoll (2002), Garrison and Kanuka (2004) and Picciano (2009) are still valid, and they validate the popular critique declared by Oliver and Trigwell (2005, p.19). The terminological uncertainty of BL cannot be defended by merely deciding “what to blend”. Significantly, there is an issue defining the term “Technology”. Does it limited to online, internet or ICT technology? Oliver and Trigwell (2005, p. 19) are correctly questioning this aspect of blended learning – “.... all activities involve a technology of some sort,

and there is no particular reason to distinguish between those with and without the ‘e-’ prefix”. Even when an instructor uses a blackboard or a poster in the classroom, it involves some technology. If a teacher uses direct teaching (lectures) while combining it with group works or pair works, it is also a mixture. Therefore, “blend” does not necessarily mean technology integration all the time. Driscoll (2002) stated that “blended learning means different thing to different people” and these definitions illustrate the untapped potential of blended learning” (Driscoll, 2002, p. 1). Apathetically, defining blended learning is limited to so-called popular notion “combination of face-to-face learning with online learning activities” (Garrison and Kanuka, 2004; So and Brush, 2008; Davis and Fill, 2007; Harris et al., 2009; Poon, 2012; Graham et al, 2013; Francis and Shannon, 2013; Alammary et al., 2014; Buran and Evseeva, 2015; Nazarenko, 2015; Dziuban et al., 2018).

Jackson (2011) used his pen against blended learning. He stated that for some, it is a fad. “It’s not about really providing a coherent mix of learning. They point to the duplication of content that happens in many organisations. Just the same old stuff being churned out in a variety of flavours.” Further, he assures that blended learning is a ploy of e-learning vendors. It is just used to cut off their classroom training cost from the back door. In order to get the blend right, there are three things to be mixed right: Modes (communication modes),

¹ Jackson, A., (2011). What are the pros and cons of Blended Learning – Part – 1.

<http://www.pacificblue.co.uk/learning-academy-blog/bid/55914/What-Are-the-Pros-and-Cons-of-Blended-Learning-Part-1>

Methods, and instructional Design. As he elaborated in the popular blogosphere, “Building expertise through effective learning, it is not the medium, but the mix of Modes, Methods and Design that will support you achieve your goals and outcomes”.

However, with all these controversies in blended definitions, blended learning has been an innovative move. Controversies are raised on the terminology used in blended learning definitions - i.e. Mixture (what to mix and how to mix), Combine (what to combine, how to combine and when to combine) and Integrate (what to integrate and how to integrate).

Oliver and Trigwell (2005) are not entirely opposing to “blending”. They questioned the uncertainty of the approach. Since face-to-face teaching evolved through centuries and gained much glamour of student learning, technology integration into teaching is there every time. The issue came with ICT integration into teaching in the early 1990s. To emphasise the use of internet and online technology (ICT) in teaching, the popular term “blend” is used. It can be termed as the “popular notion” regarding

blended learning which is not right for all. Oliver and Trigwell (2005) suggested a solution to this issue. That is the use of “Variation theory of learning” (p. 24).

Learning is varied to student to student. Two learners who attend to different aspects of a phenomenon will experience the same phenomenon in different ways. Learners perceive the environment with their own perspectives and interpret it accordingly (Orgill, 2012, p.3391). The learner does not experience the phenomenon as exactly the teacher experiences. Although the same phenomenon can be experienced in different ways, some ways are more powerful than the other ways for achieving certain aims; and one of the main goals of education is to support learners to understand the phenomena in powerful ways. In blended learning, the teacher organises the learning environment with possible resources (It may include technology tools, and materials and other physical resources) to make some learning outcomes achieved in powerful ways. In this sense, technology is integrated and combined with face-to-face learning. It seems that blended learning is an extension to the face-to-face classroom. Standing on this assertion, some scholars are referring it as “new traditional model” (Ross and Gage, 2006, p. 167 as cited by Dziuban et al. 2018) and “new normal” (Norberg et al. 2011, p. 207 as cited by Dziuban et al. 2018).

3. Blended Learning: Conceptual and Terminological clarifications

¹ Jackson, A., (2011). Blended Learning: Is There a ‘Best’ Medium for Learning. <http://www.pacificblue.co.uk/learning-academy-blog/bid/55292/Blended-Learning-Is-There-a-Best-Medium-for-Learning>

Over the past two decades, there can be found many places where blended learning is defined in research articles and books (see Figure 1). According to Guzer and Caner (2013), 2003 to 2006 is definition period of BL (p. 4597). As Figure 1 displays, their observation is valid. Many definitions were found during this period. Almost all the definitions are centred on four definitions: (a) Singh and Reed (2001, p.2), (b) Driscoll (2002, p. 1), (c) Graham et al. (2003) & Graham (2006) and (d) Garrison and Kanuka (2004, p. 96). Blended learning has gained much attention from scholars as a new educational approach in higher education contexts and has become a popular teaching phenomenon (Alammary et al., 2014, p. 440). During this period, the initial emphasis of blended learning has evolved significantly.

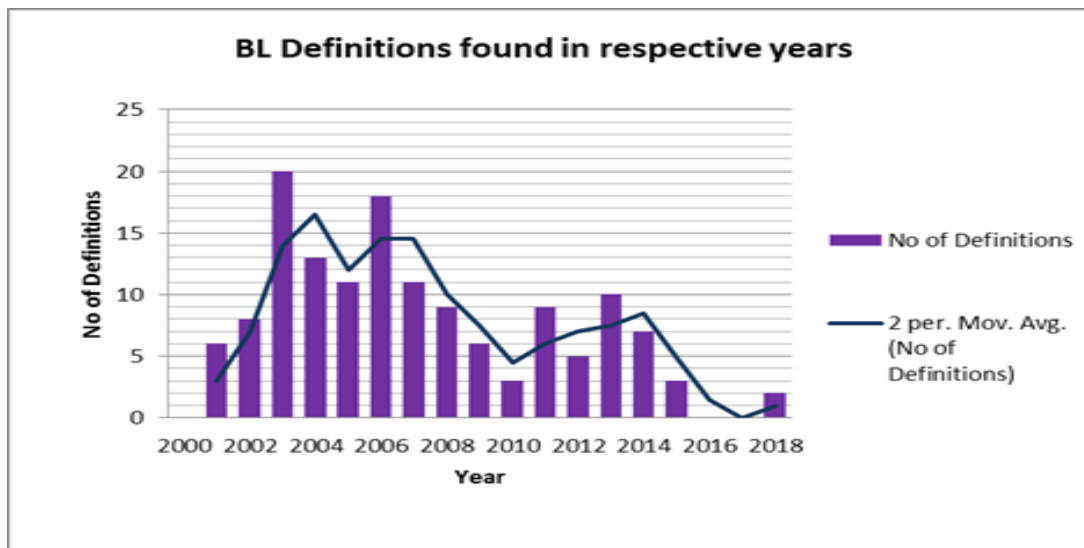


Figure 1: BL Definitions found during 2000 - 2018

Singh and Reed (2001) defined blended learning specifically as using right learning technologies to match with the right personal learning styles to transfer the right skills to the right person at the right time (p. 2). It seems more logical and learner-focused. But instructional design and technology integration is done by a person individually or a group of people in an institution, university or school. Technology is used only to deliver the content or instructional stuff to the learners. By this, we can understand that blended learning, at the outset, is a mere extension to face-to-face learning (Colis and Moonen, 2001).

Driscoll (2002, p. 1) has suggested possible blending options as follows. Any of the following options can be considered as blended learning.

1. Combine or mix the 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. Combine various pedagogical approaches (e.g., constructivism, behaviourism, cognitivism) to produce an optimal learning outcome with or without instructional technology
3. Combine any form of instructional technology (e.g., videotape, CD-ROM, web-based training, film) with face-to-face instructor-led training
4. Mix or a combine instructional technology with actual job tasks to create a harmonious effect of learning and working

The second option highlights that technology integration is optional in blended learning. Except this, in all other definitions found during this period, technology integration (internet and online technology) with learning-practices has been the focal point of blended learning (Voci and Young,

2001; Thorn, 2003; Osguthorpe and Graham, 2003; Nuckles et al., 2004; Ellis and Calvo, 2004; Lai et al., 2005).

Garrison and Kanuka (2004) defined blended learning as “the emerging trend in higher education to blend text-based asynchronous Internet technology with face-to-face learning—often referred to as blended learning (p. 96). As they emphasised, blended learning emerges in response to the technology transformation in the modern educational context, and it alters how people think, communicate and learn. And further, they elucidated the idea in a more precise manner “At its simplest, blended learning is the thoughtful integration of classroom face-to-face learning experiences with online learning experiences” (Garrison and Kanuka, 2004, p. 96). The complexity of blending comes with virtually limitless design possibilities and applicability in many fields as they said. Accordingly, blended learning is not something other than a combination of online learning with face-to-face learning experiences. This combination is made in view of providing the learner a meaningful learning experience. But the question is “who is doing this blending (combination/integration)?” Willfully, it is done by the teacher or the instructional designer. At the outset, blended learning is also a teacher-driven and teacher-dominated approach though there is an attempt to safeguard it as a learner-oriented or learner-focused approach. The other argument is on how this “meaningful learning experience” is defined, which is highly bound with contextual, theoretical and psychological factors of education.

In the vicinity of literature, defining blended learning is centred around three terms: “Mixture”, “Integration”, and “Combination”. Somebody hardly finds a definition without these three terms. Mostly the interpretative issues are bound with this terminology. When some researchers describe blended learning as an integration of different delivery modes or learning experiences (Garrison and Kanuka, 2004, Finn and Bucci, 2004, Graham, 2006, Garrison and Vaughan, 2008), some other researchers define it as a mixture or mixing of face-to-face instruction with instructional technology (Driscoll, 2002, Valiathan, 2002, Bliuc et al., 2007, Fleck, 2012). Frequently, the term “combination” is used in blended learning definitions – i.e. “combination” of face-to-face teaching with computer technology (online and offline activities) (Voci and Young, 2001; Heinze and Procter, 2004; Sloman, 2007; Kim, 2007; Teng et al., 2009; Sherimon et al., 2011; Jokinen and Mikkonen, 2013; Buran and Evseeva, 2015; Hockly, 2018).

Instead of the afore-mentioned three terms, the terms “Fusion” – i.e. “fusion of face-to-face and online learning experiences” (Garrison and Vaughan, 2008); “Amalgamation” – i.e. “Seamless

amalgamation of carefully selected online modules with face-to-face instruction” (Francis and Shannon, 2013), and “Hybrid” – i.e. “Hybrid of traditional face-to-face and online learning...” (Falconer and Littlejohn, 2007) are used in the BL definitions. All the nouns, except the noun “hybrid”, denote “addition of two or more elements/things”. “Hybrid” means combining two elements belongs to two different varieties (Oxford Advanced Learner’s Dictionary. (1999). 5thEd.). Usually, “Hybrid” replaces “blend” (Colis and Moonen, 2001; Miller and King, 2003; Sancho et al., 2006; Napier et al., 2011; Hsu, 2011). All these nouns are synonyms.

As it appears, “blend” can be any “blend”. It would be mixing homogenous (Fleck, 2012) or heterogeneous (Halverson et al., 2014) elements. And it does not necessitate combining “online technology/web-based technology” and “face-to-face instruction”. As suggested in Sloan Consortium, blended learning is 30% - 79% (See Table 1) mixture of face-to-face and online learning (Allen et al., 2007, p. 5).

Table 1: prototypical course classification

The proportion of content delivered online	Types of course	Typical description
0%	Traditional	A course with no online technology used — content is delivered in writing or orally.
1 to 29%	Web Facilitated	A course which uses web-based technology to facilitate face-to-face sessions- Uses a course management system (CMS) or web pages to post the syllabus and assignments, for example.
30 to 79%	Blended/Hybrid	A course that blends online and face-to-face delivery – A substantial proportion of the content is delivered online, typically uses online

80+%	Online	discussions, and has some face-to-face meetings. A course which delivers most or all of the content online - Typically have no face-to-face meetings.
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The literature suggests that blended learning is a combination of face-to-face and online learning somewhere in the middle in a continuum – face-to-face learning at one end and pure online learning at the other end (Picciano, 2006). The blend can be done in varying ratios based on the contextual contingencies (Garrison and Kanuka, 2004). But, as an observation, the term “blend” does not necessarily mean that blended learning is the only possible combination of face-to-face and online learning. However, we take it either combination of homogenous elements or heterogeneous elements. There are some other possible combinations within the teaching and learning process. With this sense, it can be concluded that the combination of online and face-to-face teaching is one of the connotations dealing with the term “blend” in educational contexts. Again, justifiable reasons cannot be found in the literature to prove such mix as “Blended Learning”. There are many research findings to prove the fact that such mix is “Blended Teaching” (Graham et al., 2012; Zhu et al., 2009; Poon, 2012; Kim, 2007; Bliuc et al., 2007). Integration or combination is decided by the institutions (Picciano, 2006; Alammery et al., 2014). What researchers have done is that checking the student responses or feedbacks and measuring the learner achievements/performances in response to the particular mix or blend (Ayala, 2009; So and Brush, 2008; Melton et al., 2009). Particularly, the reason behind blended delivery mode has been to overcome the limitations of time and space, support instructional methods that are hard to achieve using textbooks and reach a large number of students without increasing resource requirements (Gray and Tobin, 2010; Singh and Reed, 2001). Anyhow technology is used to make things easy in any context. If the task is teaching, it can be supported by the technology available. So, blended learning can be the “new normal move”, and it will probably be replaced soon (i.e. Ubiquitous Learning). It seems that BL is all about instructional design and delivery.

(a). Syntheses (based on the priorities of BL definitions)

In many definitions (altogether 141: See Figure 2) reviewed, the priority has been given to the face-to-face component (48%) – i.e. “blended learning is the thoughtful integration of classroom face-to-

face learning experiences with online learning experiences” (Garrison and Kanuka, 2004). Some others have emphasised the value of online component (37%) – i.e. “integration of online activities and traditional face-to-face class activities” (Alebaikan and Troudi, 2010; Napier et al., 2011).

Some BL definitions describe a combination of web-technology with face-to-face teaching (8%) – i.e. “a learning environment that combines the advantages offered by the web-based computer-assisted learning environment and face-to-face learning” (Osguthorpe and Graham. 2003). Some definitions refer to blended learning as a combination of face-to-face learning with e-learning (7%) “enriched, student-centred learning experiences made possible by the harmonious integration of various strategies, achieved by combining f2f interaction with ICT” (Torrissi-Steele, 2011; NEUMEIER, 2005; Stacey and Gerbic, 2007; Stubbs, Martin, and Endler, 2006; Hockly, 2018).

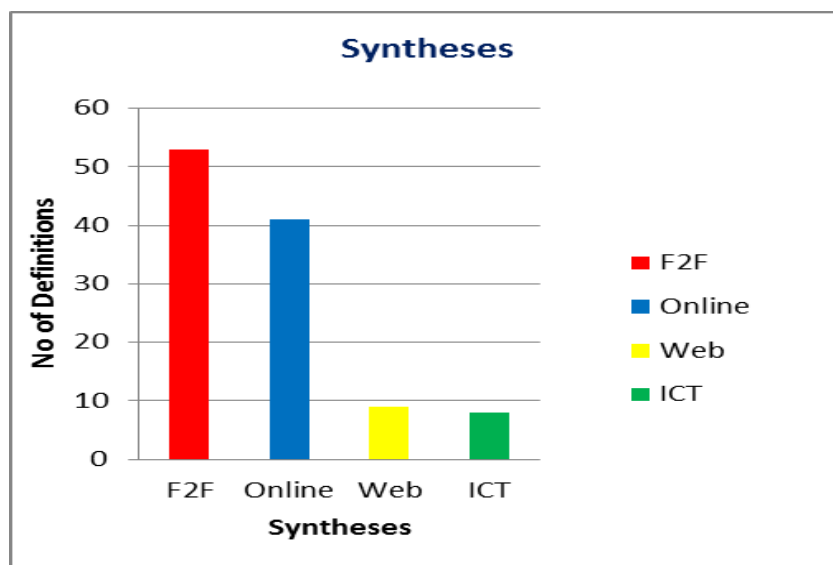


Figure 2: Syntheses of Bended Learning

In addition, in some definitions, authors highlight the integration of face-to-face learning with e-learning (Ellis, Steed, and Applebee, 2006; Alebaikan and Troudi, 2010; Hsu, 2011). This background is also evident for someone to decide that still blended learning approach is lacking its clarity in terms of “what to blend” and “how to blend” in different contexts. And it proves that “blending” is subjective and highly context-bound.

(b). Aspects of Blended Learning Definitions

The review identified four aspects of blended learning definitions (See Figure 3): **Technology, Pedagogy (Educational), Cultural and Social, and Economical aspects**. These demarcations rely on the dominant ideas conveyed in definitions. Scholars engaged in defining BL with different contextual and disciplinary backgrounds have highlighted varying interests. Mostly, scholars have

defined BL with technology aspects – i.e. “courses and programs that combine internet-based and traditional education components are often referred as to hybrid, web-enhanced, mixed-mode, or blended (Miller and King, 2003; Driscoll, 2002; Valiathan, 2002; Kerres and DeWitt, 2003; Ellis et al., 2006).

The other leading aspect has been the pedagogical (educational) aspect. In such definitions, student learning and achievements/performances are highlighted. One of the more popular definitions provided by Singh and Reed (2001, p. 2) exemplifies this aspect - “optimising achievements of learning objectives by applying the ‘right’ learning technologies to match the ‘right’ personal learning styles to transfer the ‘right’ skills to the ‘right’ person at the ‘right’ time”. Apart from this, many more definitions can be classified under this aspect (Garrison and Kanuka, 2004; Prinsloo and van Rooyen, 2007; Sherimon, Vinu, and Krishnan, 2011).

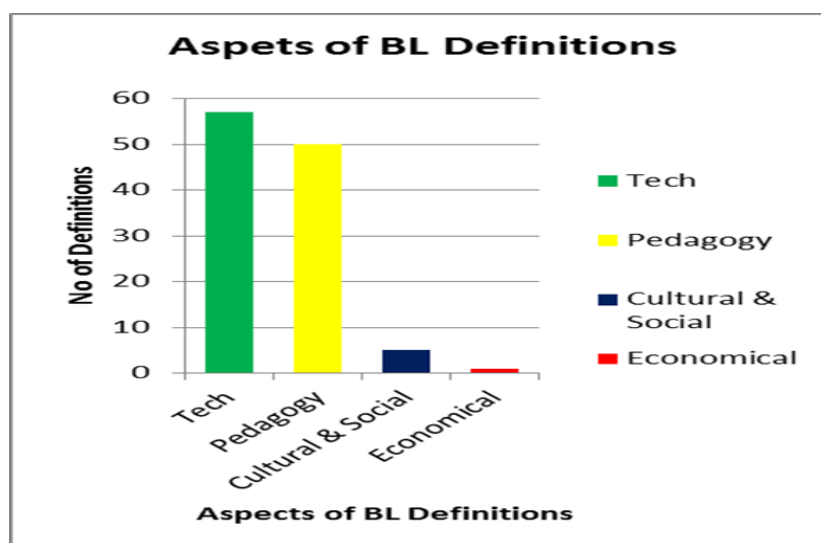


Figure 3: Aspects of Blended learning Definitions

Social and cultural attributes can also be identified in the definitions. The popularity of this “new normal move” among many nations generates social and cultural aspects. “This blend of technologies will provide students with access to both synchronous and asynchronous communication and information. This is very beneficial when we consider the number of international off-campus students studying the course at the tertiary level and the geographical and access issues associated, and to create an environment which is accommodating to cross-cultural learners” (Al-Hunaiyyan et al., 2008, p. 18). Blended learning has been considered as a successful way of learning for the students who are having different cultural and social backgrounds (Naaj et al., 2012; Dziuban et al., 2004). Some definitions accommodate these aspects. – i.e. “combining the two learning environments

retains the potential for the immediate feedback learners value while enabling greater participation on the part of learners who require more flexible schedules” (Lotrechiano et al., 2013). Bonk and Graham (2006) acknowledge the role of blended learning in customising globally distributed materials and making them more locally and culturally relevant (p. 16).

Eventually, some definitions highlight economic factors. This is best exemplified in Singh and Reed’s ideas (2001, p. 1). i.e., “learning program where more than one delivery mode is being used with the objective of optimising the learning outcome and cost of program delivery” They emphasised in the paper that principles of BL are putting into practice aiming at radical improvements in the effectiveness, reach and cost-effectiveness of learning programs relative to traditional approaches. However, blended learning is economical. It supports solving the issues related to time, space and resource redistribution in teaching and learning (Bonk and Graham, 2006; Graham and Kaleta, 2002; Ferson et al., 2011).

Mostly the definitions are produced in respect to the personal or institutional educational experiences. This has been a critical issue in developing a common consensus about BL.

(c). Educational (pedagogical) Focuses on Blended Learning

Pedagogical aspect of BL definitions (See: Section (b)) can be sub-divided into three: Learning focused, Teaching focused and Instructional design-focused (See: Figure 4). Definitions vary with these focuses as observed. Chew (2009) has identified two trends in BL definitions: educational-focused and technology-focused (p. 3). But, closer scrutiny reveals some specific trends than the above two.

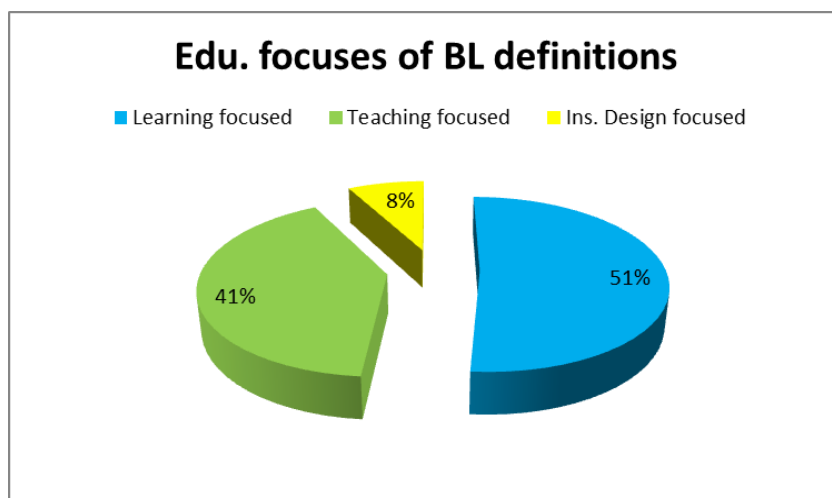


Figure 4: Educational focuses of Blended Learning Definitions

Seemingly, the popular definitions are learning focused or learner-oriented (Singh and Reed, 2001; Garrison and Kanuka, 2004; So and Brush, 2008). Apparently, the other definitions are teaching-focused (Voci and Young, 2001; Garrison and Vaughan, 2008; Singer and Stoicescu, 2011; Owston, 2013). On the other hand, some definitions are dealing with instructional design aspects of BL – i.e. “combination of traditional face-to-face learning integrated with the emerging technologies like pervasive learning, virtual classrooms, online training, web-based study materials etc. it creates an integrated learning experience to achieve a complete knowledge” (Sherimon et al., 2011). Sloman (2007) stated that blended learning is seen as an approach to training design that involved a combination of delivery methods and in some cases learning methodologies. Frequently, scholars tend to suggest possible blending capacities in the definitions, or sometimes authors list out possible blends (Singh and Reed, 2001; Driscoll, 2002; Whitelock and Jelfs, 2003; Kim, 2007; Prinsloo and van Rooyen, 2007; Sethy, 2008; Bohle Carbonell, and Dailey-Hebert, 2013; Tshabalala et al., 2014).

4. Concluding remarks

The review findings, with reference to the first review objective, confirmed that probably blended learning definitions are produced with contextual and personal experiences. Scholars tend to report their best practices in the definitions (i.e. Picciano, 2006; Alammery et al., 2014). Still, there is room to interpret blended learning in different perspectives by practitioners (i.e. Driscoll, 2002). It seems that scholars suggest possible “blends” rather than defining blended learning. The review indicates that Social and cultural aspects of learning are totally ignored in defining blended learning. The review findings, with reference to the second review objective, indicate that there are some possible terms (i.e. Hybrid Learning) which can substitute the term ‘blended learning’. The term “learning” refers to teaching and teaching organisation or design in the definitions (i.e. Singh and Reed, 2001). The review asserted that the “blend” is only a possible connotation for mixing different learning and teaching modes and modalities. Apart from the combination of face-to-face learning and online and internet technologies, some definitions emphasise some different combinations (i.e. mobile learning; ubiquitous learning). Technology integration into teaching and learning is a natural tendency as found out in the review (i.e. Oliver and Trigwell, 2005). With reference to the third review objective, it is understood that blended learning is a combination on face-to-face and online instruction which ensure greater flexibility in students’ learning and congruity of course delivery (i.e. Garrison and Kanuka, 2004; So and Brush, 2008; Davis and Fill, 2007). It is termed as “popular sense” in this review. Hence, it is noteworthy to state that blended learning could be brought into further highest once the

scholars tend to define it consistently as a combination of face-to-face and online instruction, the decisions regarding the possible combinations of face-to-face and online instruction could be determined by the institutions.

References

- Alammary, A., Sheard, J., & Carbone, A. (2014). Blended learning in higher education: Three different design approaches. *Australasian Journal of Educational Technology*, 30(4).
- Alebaikan, R., & Troudi, S. (2010). Online discussion in blended courses at Saudi Universities. *Procedia-Social and Behavioral Sciences*, 2(2), 507-514.
- Al-Hunaiyyan, A. A., Salah, A. S., & Al-Huwail, N. (2008). Blended e-learning design: Discussion of cultural issues. *International Journal of Cyber Society and Education*, 1(1), 17-32.
- Allen, I. E., Seaman, J., & Garrett, R. (2007). Blending in: The extent and promise of blended education in the United States. Sloan Consortium. PO Box 1238, Newburyport, MA 01950.
- Bliuc, A. M., Goodyear, P., & Ellis, R. A. (2007). Research focus and methodological choices in studies into students' experiences of blended learning in higher education. *The Internet and Higher Education*, 10(4), 231-244.
- Bonk, C. J., & Graham, C. R. (2006). *The handbook of blended learning*. San Francisco, CA: Pfeiffer.
- Buran, A., & Evseeva, A. (2015). Prospects of Blended Learning Implementation at Technical University. *Procedia - Social and Behavioral Sciences*, 206, 177–182.
- Carbonell, K. B., Dailey-Hebert, A., & Gijsselaers, W. (2013). Unleashing the creative potential of faculty to create blended learning. *The Internet and Higher Education*, 18, 29-37.
- Colis, B., & Moonen, J. (2001). *Flexible Learning in a Digital World: Experiences and Expectations*. Open & Distance Learning Series.
- Davis, H. C., & Fill, K. (2007). Embedding blended learning in a university's teaching culture: Experiences and reflections. *British Journal of Educational Technology*, 38(5), 817–828.
- Driscoll, M. (2002). Blended learning: Let's get beyond the hype. *E-learning*, 1(4), 1-4.
- Dziuban, C., Graham, C. R., Moskal, P. D., Norberg, A., & Sicilia, N. (2018). Blended learning: the new normal and emerging technologies. *International Journal of Educational Technology in Higher Education*, 15(1).
- Dziuban, C., Graham, C. R., Moskal, P. D., Norberg, A., & Sicilia, N. (2018). Blended learning: the new normal and emerging technologies. *International Journal of Educational Technology in Higher Education*, 15(1).
- Elaine Allen, I., & Seaman, J. (2007). Changing the landscape: More institutions pursue online offerings. *On the Horizon*, 15(3), 130-138.
- Ellis, R. A., & Calvo, R. A. (2004). Learning through discussions in blended environments. *Educational media international*, 41(3), 263-274.
- Ellis, R. A., Steed, A. F., & Applebee, A. C. (2006). Teacher conceptions of blended learning, blended teaching and associations with approaches to design. *Australasian Journal of Educational Technology*, 22(3).
- Falconer, I., & Littlejohn, A. (2007). Designing for blended learning, sharing and reuse. *Journal of Further and Higher Education*, 31(1), 41-52.
- Fearon, C., Starr, S., & McLaughlin, H. (2011). Value of blended learning in university and the workplace: some experiences of university students. *Industrial and Commercial Training*, 43(7), 446–450.

- Fearon, C., Starr, S., & McLaughlin, H. (2011). Value of blended learning in university and the workplace: some experiences of university students. *Industrial and Commercial Training*, 43(7), 446–450.
- Finn, A., & Bucciari, M. (2004). A case study approach to blended learning, retrieved January 15, 2008 from http://www.centra.com/download/whitepapers.CaseStudy_BlendedLearning.pdf.
- Fleck, J. (2012). Blended learning and learning communities: opportunities and challenges. *Journal of Management Development*, 31(4), 398–411.
- Francis, R., & Shannon, S. J. (2013). Engaging with blended learning to improve students' learning outcomes. *European Journal of Engineering Education*, 38(4), 359–369.
- Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7(2), 95–105.
- Garrison, D. R., & Vaughan, N. D. (2013). Institutional change and leadership associated with blended learning innovation: Two case studies. *The Internet and Higher Education*, 18, 24–28.
- Graham, C. R. (2006). Blended learning systems. *The handbook of blended learning*, 3-21.
- Graham, C. R., Allen, S., & Ure, D. (2003). Blended learning environments: A review of the research literature. Unpublished manuscript, Provo, UT.
- Graham, C. R., Woodfield, W., & Harrison, J. B. (2013). A framework for institutional adoption and implementation of blended learning in higher education. *The internet and higher education*, 18, 4-14.
- Graham, C. R., Woodfield, W., & Harrison, J. B. (2013). A framework for institutional adoption and implementation of blended learning in higher education. *The Internet and Higher Education*, 18, 4–14.
- Graham, C., & Kaleta, R. (2002). Introduction to Hybrid Courses. *Teaching with Technology Today*, 8(6). Retrieved November 13, 2018, from <http://uwsa.edu/ttt/articles/graham.htm>.
- Güzer, B., & Caner, H. (2014). The past, present and future of blended learning: an in depth analysis of literature. *Procedia-social and behavioral sciences*, 116, 4596-4603.
- Halverson, L. R., Graham, C. R., Spring, K. J., Drysdale, J. S., & Henrie, C. R. (2014). A thematic analysis of the most highly cited scholarship in the first decade of blended learning research. *The Internet and Higher Education*, 20, 20–34.
- Harris, P., Connolly, J., & Feeney, L. (2009). Blended learning: overview and recommendations for successful implementation. *Industrial and Commercial Training*, 41(3), 155–163.
- Heinze, A., & Procter, C. T. (2004). Reflections on the use of blended learning.
- Hockly, N. (2018). Blended Learning. *ELT Journal*, 72(1), 97–101.
- Hsu, L.-L. (2011). Blended learning in ethics education: A survey of nursing students. *Nursing Ethics*, 18(3), 418–430.
- Jokinen, P., & Mikkonen, I. (2013). Teachers' experiences of teaching in a blended learning environment. *Nurse Education in Practice*, 13(6), 524–528.
- Kerres, M., & Witt, C. D. (2003). A Didactical Framework for the Design of Blended Learning Arrangements. *Journal of Educational Media*, 28(2-3), 101–113.
- Kim, K.-J., Bonk, C. J., & Teng, Y.-T. (2009). The present state and future trends of blended learning in workplace learning settings across five countries. *Asia Pacific Education Review*, 10(3), 299–308.
- Kim, W. (2007, August). Towards a definition and methodology for blended learning. In *The Proceedings of Workshop on Blended Learning* (pp. 1-8).
- Lai, S.-Q., Lee, C.-L., Yeh, Y.-J., & Ho, C.-T. (2005). A study of satisfaction in blended learning for small and medium enterprises. *International Journal of Innovation and Learning*, 2(3), 319.

- Melton, B. F., Bland, H. W., & Chopak-Foss, J. (2009). Achievement and satisfaction in blended learning versus traditional general health course designs. *International Journal for the Scholarship of Teaching and Learning*, 3(1), 26.
- Miller, T., & King, F. (2003). Distance education: pedagogy and best practices in the new millennium. *International Journal of Leadership in Education*, 6(3), 283–297.
- Naaj, M. A., Nachouki, M., & Ankit, A. (2012). Evaluating student satisfaction with blended learning in a gender-segregated environment. *Journal of Information Technology Education: Research*, 11, 185-200.
- Napier, N. P., Dekhane, S., & Smith, S. (2011). Transitioning to blended learning: Understanding student and faculty perceptions. *Journal of Asynchronous Learning Networks*, 15(1), 20-32.
- Nazarenko, A. L. (2015). Blended Learning vs Traditional Learning: What Works? (A Case Study Research). *Procedia - Social and Behavioral Sciences*, 200, 77–82.
- Nazarenko, A. L. (2015). Blended Learning vs Traditional Learning: What Works? (A Case Study Research). *Procedia - Social and Behavioral Sciences*, 200, 77–82.
- NEUMEIER, P. (2005). A closer look at blended learning — parameters for designing a blended learning environment for language teaching and learning. *ReCALL*, 17(02), 163–178.
- Norberg, A. (2017). From blended learning to learning onlife: ICTs, time and access in higher education (Doctoral dissertation, Umeå University).
- Nückles, M., Schwonke, R., Berthold, K., & Renkl, A. (2004). The use of public learning diaries in blended learning. *Journal of Educational Media*, 29(1), 49-66.
- Oliver, M., & Trigwell, K. (2005). Can 'blended learning' be redeemed?. *E-learning and Digital Media*, 2(1), 17-26.
- Orgill, M. (2012). Variation theory. In *Encyclopedia of the Sciences of Learning* (pp. 3391-3393). Springer, Boston, MA.
- Osguthorpe, R. T., & Graham, C. R. (2003). Blended learning environments: Definitions and directions. *Quarterly review of distance education*, 4(3), 227-33.
- Owston, R. (2013). Blended learning policy and implementation: Introduction to the special issue. *The Internet and Higher Education*, 18, 1–3.
- Picciano, A. (2011). Introduction to the special issue on transitioning to blended learning. *Online Learning Journal*, 15(1).
- Picciano, A. G. (2009). Blending with purpose: The multimodal model. *Journal of asynchronous learning networks*, 13(1), 7-18.
- Picciano, A. G. (2014). Big data and learning analytics in blended learning environments: benefits and concerns. *IJIMAI*, 2(7), 35-43.
- Poon, J. (2012). Use of blended learning to enhance the student learning experience and engagement in property education. *Property Management*, 30(2), 129–156.
- Prinsloo, P., & van Rooyen, A. A. (2007). Exploring a blended learning approach to improving student success in the teaching of second year accounting. *Meditari Accountancy Research*, 15(1), 51–69.
- Ross, B., & Gage, K. (2006). Global perspectives on blending learning. Bonk J. C. Graham R. C. (Eds.), *The handbook of blended learning*, 155-168.
- Sancho, P., Corral, R., Rivas, T., González, M. J., Chordi, A., & Tejedor, C. (2006). A Blended Learning Experience for Teaching Microbiology. *American Journal of Pharmaceutical Education*, 70(5), 120.
- Sherimon, P. C., Vinu, P. V., & Krishnan, R. (2011). Enhancing the learning experience in blended learning systems. *Proceedings of the 2011 International Conference on Communication, Computing & Security - ICCCS '11*.

- Singer, F. M., & Stoicescu, D. (2011). Using blended learning as a tool to strengthen teaching competences. *Procedia Computer Science*, 3, 1527–1531.
- Singh, H. (2003). Building effective blended learning programs. *Educational Technology-Saddle Brook Then Englewood Cliffs NJ-*, 43(6), 51-54.
- Singh, H., & Reed, C. (2001). A white paper: Achieving success with blended learning. *Centra software*, 1, 1-11.
- Sloman, M. (2007). Making sense of blended learning. *Industrial and Commercial Training*, 39(6), 315–318.
- So, H.-J., & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors. *Computers & Education*, 51(1), 318–336.
- Stacey, E., & Gerbic, P. (2008). Success factors for blended learning. *Hello! Where are you in the landscape of educational technology? Proceedings ascilite Melbourne 2008*, 964-968.
- Thorn, K. (2003). Blended learning: how to integrate online and traditional.
- Torrisi-Steele, G. (2011). This thing called blended learning—a definition and planning approach. *Research and development in higher education: Reshaping higher education*, 34, 360-371.
- Tshabalala, M., Ndeya-Ndereya, C., & van der Merwe, T. (2014). Implementing Blended Learning at a Developing University: Obstacles in the Way. *Electronic Journal of E-learning*, 12(1), 101-110.
- Valiathan, P. (2002). Blended learning models. *Learning circuits*, 3(8), 50-59.
- Voci, E., & Young, K. (2001). Blended learning working in a leadership development programme. *Industrial and Commercial Training*, 33(5), 157–161.
- Whitelock, D., & Jelfs, A. (2003). Editorial for special issue on blended learning: Blending the issues and concerns of staff and students. *Journal of Educational Media*, 28(2-3), 99-100.