

Chapter 1

Revisiting the Definitions and Implementation of Flexible Learning



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Abstract For decades, flexibility has been a focus of attention and efforts in the field of education. Flexibility in learning, which emphasises student choice, has been considered one key to enhancing education quality and satisfying highly diverse student needs. It is often associated with the terms ‘open learning’, ‘distance learning’, and ‘e-learning’. With the increasing application of information and communication technologies in the field of education, flexible learning has been especially closely associated with e-learning and sometimes is considered to be the essence of the term. Since the ambiguity of the term could be counterproductive in discussions of flexible learning, a systematic review of the relevant literature is badly needed to put the meanings of the term in perspective. This paper provides a critical review of the literature relevant to flexible learning. The development of the use of ‘flexible learning’ and the implementation of the term are summarised. In this paper, the term ‘flexible learning’ is redefined with an aim to clarify its relationship with relevant terms and a proposed system of its dimensions. Suggestions for future research are also provided.

Keywords Flexible learning · Flexible education · Open learning · Distance learning · E-learning

Development of the Use of Flexible Learning

In the early 1970s, when Britain and other advanced economies went into a post-Fordist era, the economic paradigm was often referred to as ‘flexible production’. It was then when the education systems were required to become more flexible responding to the new economic paradigm (Chalkley, 1997). The term ‘flexible

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learning' originated in the United States during the 1970s, and the term started to appear in the literature in Britain during the early 1980s (Bell, Bowden, & Trott, 1997). In the late twentieth century, the word 'flexible' became highly frequently used (Nunan, 1999). The twenty-first century witnesses a more rapid increase in the interest in flexible learning. This is reflected in the number of papers on the topic. From a search done in June 2015 on the topic of 'flexible learning' in the Web of Science, results show that there were 431 papers on flexible learning in 1980–2000. During the following 5 years, another 409 papers on flexible learning were published. The number of papers in 2006–2010 increased to 1301 and then 1943 in 2011–2015.

The growing use of 'flexible learning' has raised such questions as 'What does "flexible learning" mean' (Roebuck, 1987) and 'what does flexible learning look like in practice' (e.g. Hudson, Maslin-Prothero, & Oates, 1997; Lindberg & Olofsson, 2006; Sadler-Smith & Smith, 2004; Wade, Hodgkinson, Smith, & Arfield, 1994). Analysing the way the term 'flexible learning' is used, it is found that learners are often put in the centre (Collis & Moonen, 2002a, 2002b; Li, 2014; Moran & Myringer, 1999). For example, flexible learning is defined as a teaching and learning approach which is learner-centred (Moran & Myringer, 1999) or as an approach revolving around the provision of learning options based on students' specific needs and preferences (Demetriadis & Pombortsis, 2007).

Since its conception, flexible learning was used as a term which was closely associated with 'open learning' and 'distance learning'. It was also associated with information technology with its boom at the end of the twentieth century. As Ellington (1997) noted, flexible learning was interpreted very loosely at that time, but Ellington suggested that we should not aim to overly define the term but should let practitioners interpret and develop its meanings when they adopt and implement flexible learning. Despite various attempts to define the term during the last few decades, up to now, defining flexible learning is still a highly perplexing task. There is still no universally accepted definition for the term (Casey & Wilson, 2005; Tucker & Morris, 2011). In addition to its association with open learning and distance learning, flexible learning is now also closely associated with e-learning or technology-mediated learning.

Despite its haziness and indistinctness in meaning, flexible learning has been pursued by many educators and researchers. As Collis and Mooner (2002a, 2002b) point out, 'Flexible learning is becoming somewhat a buzzword: everyone is for it, but often people have not thought further about it' (p. 218). However, the ambiguity of the term is sometimes counterproductive, as this may lead to confusion among teaching staff in regard to what flexible learning refers to technically (Kirkpatrick, 1997). Thus, there are ongoing efforts to clarify the definition of flexible learning and its semantic dimensions.

Meaning and Semantic Dimensions

Flexible Learning and Open Learning

One way to clarify the meaning of flexible learning is to distinguish it from the terms that it is often associated and used interchangeably with. Although both open learning and flexible learning try to minimise constraints of access, time and place, pace, and methods of study (Kember, 2007; Khan, 2005), open learning targets at democratisation of access to education by not requiring entry qualifications (Olakulehin & Singh, 2013), while flexible learning targets at providing learning flexibility to satisfy diverse student needs. According to Demetriadis and Pombortsis (2007), flexible learning refers to the learning where ‘learners are offered a variety of options for personalising the learning experience based on their specific needs and preferences’ (p. 148).

Learning equity, or having equal opportunities to receive education, is the core concern of open learning (Perraton, 2007), while learners’ choice of the learning approach that suit them is the crux of flexible learning (Collis & Moonen, 2002a, 2002b). As Collis and Moonen (2001) suggested, to increase flexibility, students should be allowed to choose what is best for them as the key dimensions of learning. Entry requirements could be one aspect of flexibility (Collis & Moonen, 2002a, 2002b; Li, 2014; Tucker & Morris, 2011), but flexible learning should cover many more aspects in the learning process (Collis & van der Wende, 2002).

Flexible Learning and Distance Learning

Besides ‘open learning’, ‘distance learning’ is often associated with flexible learning. From this perspective, flexible learning ‘has replaced distance education as a means of servicing the needs of geographically distant or remote students’ (Kirkpatrick, 1997, p. 160). However, flexibility does not necessarily refer to distance, and there is a lot more than distance that flexible learning refers to. As Collis and Moonen (2002a, 2002b) note:

There are many ways to make education more flexible that can benefit students who are in full-time residence on a campus and even benefit those who are in the same room together. Flexibility can involve options in course resources, in types of learning activities, in media to support learning, and many other possibilities. There is more than distance that can vary. (p. 218)

Although many efforts in flexible learning focused on allowing and facilitating students to learn at a place which is at a distance from the teacher or teaching

institution (e.g. Cartier, 2014; Casey & Wilson, 2005; Drennan, Pisarski, & Kennedy, 2005; Lindberg & Olofsson, 2006), flexibility also covers students' learning on campus or in classrooms, with the provision of flexible learning time, learning contents, and instructional approaches (e.g. Casey & Wilson, 2005; de Boer & Collis, 2005).

Flexible Learning and Technology Mediated Learning

Sometimes, technology-mediated learning is used synonymously with flexible learning (Irvine & Cossham, 2011), and there is a widespread perception that flexible learning means the use of technology (Cybinski & Selvanathan, 2005; Kirkpatrick, 1997), or technology is at least a main component in the provision of flexible learning (Collis & Moonen, 2002a, 2002b; Khan, 2005; Sadler-Smith & Smith, 2004). With the development of information and communication technologies in the field of education, flexibility is often associated specifically with e-learning (Khan, 2005). Not only academic researchers but also teaching academics see flexible learning as 'learning that was carried by information technologies' (Kirkpatrick, 1997, p. 170). However, concerns have been addressed about the appropriateness of overweighting the role of technology in flexible learning (Casey & Wilson, 2005). Casey and Wilson (2005) argue:

It is much better to regard technology as a set of generic 'services' or tools that may be called on to support flexibility, and instead concentrate our efforts on the far more profound issues of designing for flexible learning. (p. 3)

It is inappropriate to take flexible learning as the use of technology in learning, though technology is an important enabling factor of flexible learning (Casey & Wilson, 2005; Kirkpatrick, 1997). As much as flexible learning means more than distance learning and open learning, flexible learning embraces technology but means much more than the use of technology.

Dimensions of Flexible Learning

Identifying dimensions or components of a term is an effective way to comprehend and operationalise a concept with broad connotation. Table 1.1 summarises the components of flexible learning proposed in previous works and reorganises these components in a multidimensional system.

In addition to the above-mentioned efforts to understand the meanings of flexible learning by comparing and contrasting it with associated terms such as distance learning, open learning and e-learning attempts have been made to clarify the term 'flexible learning' by analysing the dimensions that flexible learning may cover, such as time, contents, entry requirements, instructional approaches, assessment,

Table 1.1 Components of flexible learning

Time	<i>Time and date to start or finish the course/module</i> (Collis & Moonen, 2002a, 2002b; Goodyear, 2008; Hart, 2000; Li, 2014; Race, 1988; Tucker & Morris, 2011)
	<i>Pace of learning in a course</i> (Collis & Moonen, 2002a, 2002b; Goodyear, 2008; Li, 2014; Ling et al., 2001; Race, 1988; Tucker & Morris, 2011)
Content	<i>Level of difficulty of module content</i> (Hart, 2000; Race, 1988; Tucker & Morris, 2011)
	<i>Sequence in which topics are covered</i> (Chen, 2003; Collis & Moonen, 2002a, 2002b; Li, 2014; Tucker & Morris, 2011)
	<i>Topic to learn</i> (Collis & Moonen, 2002a, 2002b; Hart, 2000)
Entry requirement	<i>Prerequisites for module/course participation</i> (Collis & Moonen, 2002a, 2002b; Goodyear, 2008; Hart, 2000; Li, 2014; Tucker & Morris, 2011)
Delivery	<i>Channels for course information</i> (Collis & Moonen, 2002a, 2002b; Li, 2014; Tucker & Morris, 2011)
	<i>Place for learning</i> (Chen, 2003; Collis & Moonen, 2002a, 2002b; Goodyear, 2008; Hart, 2000; Li, 2014; Ling et al., 2001; Race, 1988; Tucker & Morris, 2011)
Instructional approach	<i>Amount of learning activities</i> (Goodyear, 2008; Li, 2014; Tucker & Morris, 2011)
	<i>Instructional language</i> (Collis & Moonen, 2002a, 2002b; Li, 2014; Tucker & Morris, 2011)
	<i>Modes and structures of presentation</i> (Sadler-Smith & Smith, 2004)
	<i>Social organisation of learning</i> (group or individual) (Collis & Moonen, 2002a, 2002b; Goodyear, 2008; Hart, 2000; Li, 2014; Ling et al., 2001; Race, 1988; Tucker & Morris, 2011)
	<i>Time and duration of learning activities</i> (Chen, 2003; Collis & Moonen, 2002a, 2002b; Goodyear, 2008)
	<i>Type of learning activities</i> (Collis & Moonen, 2002a, 2002b; Goodyear, 2008; Hart, 2000)
Assessment	<i>Assessment mode</i> (Chen, 2003; Hart, 2000; Ling et al., 2001)
	<i>Assessment standard</i> (Collis & Moonen, 2002a, 2002b; Tucker & Morris, 2011)
	<i>Assignment requirement</i> (de Boer & Collis, 2005)
	<i>Weighting of assignments and examination in the course result</i> (Li, 2014)
	<i>Examination dates and assignment deadline</i> (Collis & Moonen, 2002a, 2002b; Tucker & Morris, 2011)
Resource and support	<i>Amount of learning materials, tools, and support</i> (Race, 1988)
	<i>Method of obtaining learning materials, tools, and support</i> (Collis & Moonen, 2002a, 2002b; Tucker & Morris, 2011)
	<i>Place where learning materials, tools, and support are available</i> (Li, 2014; Tucker & Morris, 2011)
	<i>Time available for support</i> (Hart, 2000; Li, 2014; Tucker & Morris, 2011)
	<i>Type of learning materials, tools, and support</i> (Chen, 2003; Collis & Moonen, 2002a, 2002b; Goodyear, 2008; Hart, 2000; Li, 2014; Tucker & Morris, 2011)
Orientation or goal	<i>Orientation of the course</i> (theoretical, practical) (Collis & Moonen, 2002a, 2002b)
	<i>Goal of learning the course</i> (Goodyear, 2008)

resource and support provided, the goal of learning, etc. (e.g. Collis & Moonen, 2002a, 2002b; Goodyear, 2008; Li, 2014; Ling et al., 2001; Race, 1988; Tucker & Morris, 2011). Yet those who analyse the dimensions of flexible learning tend to look at only certain dimensions rather than all possible dimensions from a holistic view. Thus different scholars comment on different dimensions, and it may not be easy to add all these dimensions together in a comparable manner.

Implementation of Flexible Learning

It is not realistic to expect that all the dimensions/components should be involved to implement flexible learning. The dimensions listed in Table 1.1 are only our effort to enlist the dimensions we have found in process of the literature review. More work is required to align these dimensions into a certain framework in order to arrive at a holistic view. As Chen (2003) argued, flexibility should not be always presumed good, and ‘flexibility is but one way to approach learning’ (p. 27). Collis and Moonen (2002a, 2002b) suggest when carrying out flexible learning in practice, an institution needs to decide which dimensions and what range of options within these dimensions it will focus on. For example, Li (2014) and Tucker and Morris (2011) take into consideration the perceptions of practitioners and learners when they choose to provide and develop certain dimensions of flexible learning. Great efforts have been made to discuss the implementation of flexible learning in terms of dimensions of learning (e.g. Cavus & Al-Momani, 2011; de Boer & Collis, 2005; Demetriadis & Pombortsis, 2007; Dorrian & Wache, 2009; Sadler-Smith & Smith, 2004; Wilkinson, Forbes, Bloomfield, & Gee, 2004). An example of implementing flexibility with respect to language is allowing international students to do assignments in their own mother languages (de Boer & Collis, 2005). Examples of implementing flexibility regarding channels for module/course information are providing a wide range of alternative delivery mechanisms (Sadler-Smith & Smith, 2004), creating online learning environment (Ash, 2012; de Boer & Collis, 2005), reducing physical meetings (Olakulehin & Singh, 2013), etc. We have identified 20 papers discussing the implementation of flexible learning. The numbers of cases described in these papers are presented in Table 1.2. These cases reflect the implementation of specific dimensions of flexible learning.

Table 1.2 indicates that among the dimensions proposed in Table 1.1, ‘delivery’, ‘assessment’, and ‘resource and support’ are the ones that are implemented by most of the studies reviewed. As regards components, ‘place for learning’, ‘channels for course information’, and ‘type of learning materials, tools and support’ are implemented the most often according to the studies reviewed. No study is found to implement flexibility regarding the dimension of ‘entry requirement’. Some components of flexibility are not implemented in the studies either, which include ‘amount of learning activities’, ‘time and duration of learning activities’, ‘level of difficulty of module content’, ‘sequence in which topics are covered’, and ‘pre-requisites for module/course participation’.

Table 1.2 Number of cases of implementation of flexible dimensions and components

Dimension	Component	N
Delivery	Place for learning (Ash, 2012; Casey & Wilson, 2005; Cybinski & Selvanathan, 2005; Herat, 2000; Lutteroth & Luxton-Reilly, 2008; Phillips, 2004; Wilkinson et al., 2004)	7
	Channels for module/course information (Ash, 2012; de Boer & Collis, 2005; Dowling, Godfrey, & Gyles, 2003; Gutl, Chang, & Freudenthaler, 2010; Lindberg & Olofsson, 2006; Nisselle, Hanns, Green, & Jones, 2012; Richardson, 2009; Sadler-Smith & Smith, 2004)	8
	<i>Total</i>	15
Assessment	Examination dates and assignment deadline (de Boer & Collis, 2005; Dorrian & Wache, 2009; Lindberg & Olofsson, 2006)	3
	Assessment mode (Barron & Whitford, 2004; Cybinski & Selvanathan, 2005; Lutteroth & Luxton-Reilly, 2008; Wilkinson et al., 2004)	4
	Assessment standard (de Boer & Collis, 2005; Lutteroth & Luxton-Reilly, 2008)	2
	Assignment requirement (de Boer & Collis, 2005)	1
	Way of submitting assignment (Phillips, 2004)	1
	Weighting of assignments and examination in the course result (Barron & Whitford, 2004; Cybinski & Selvanathan, 2005)	2
	<i>Total</i>	13
Resource and support	Type of learning materials, tools, and support (Collis & Moonen, 2002b; Cornelius, Gordon, & Ackland, 2011; Cybinski & Selvanathan, 2005; de Boer & Collis, 2005; Lutteroth & Luxton-Reilly, 2008; Richardson, 2009; Sadler-Smith & Smith, 2004; Wilkinson et al., 2004)	8
	Amount of learning materials, tools, and support (Harper, Oliver, & Agostinho, 2001)	1
	Method of obtaining learning materials, tools, and support (Phillips, 2004; Wilkinson et al., 2004)	2
	Time available for support (Ash, 2012)	1
	Place where learning materials, tools, and support are available (Ash, 2012; Cornelius et al., 2011; Dorrian & Wache, 2009; Herat, 2000)	4
	<i>Total</i>	16
Content	Topic to learn (Barron & Whitford, 2004; Casey & Wilson, 2005; Sadler-Smith & Smith, 2004)	4
	<i>Total</i>	4
Instructional approach	Social organisation of learning (Barron & Whitford, 2004; Cornelius et al., 2011; de Boer & Collis, 2005; Sadler-Smith & Smith, 2004)	4
	Type of learning activities (Herat, 2000; Sadler-Smith & Smith, 2004)	2
	Modes and structures of presentation (Sadler-Smith & Smith, 2004)	1
	Language (de Boer & Collis, 2005)	1
	<i>Total</i>	8
Time	Time and date to start or finish the course/module (Ash, 2012; Casey & Wilson, 2005; Richardson, 2009)	4
	Pace of learning in a course (Ash, 2012; Casey & Wilson, 2005)	3
	<i>Total</i>	7
Orientation or goal	Orientation of the course (de Boer & Collis, 2005)	1
	Goal of learning the course (Herat, 2000)	1
	<i>Total</i>	2

Note: N = number of cases

Conclusion and Suggestion

The past three decades has witnessed an increasing growth of research on flexible learning. Efforts to pursue flexible learning have been made by not only researchers but also practitioners. However, the term is often used in an unclear way. As assumed in most relevant literature, ‘flexible learning’ is closely associated with ‘open learning’, ‘distance learning’, and ‘e-learning’. However, the connotations of ‘flexible learning’ should contain more than these associated terms.

Based on the literature reviewed, the current paper proposes a multidimensional system of flexible learning. The dimensions of flexible learning include time (time and date to start or finish the course/module and pace of learning in a course), content (level of difficulty of module content, sequence in which topics are covered, and topic to learn), entry requirement (prerequisites for module/course participation), delivery (channels for course information and place for learning), instructional approach (amount of learning activities, instructional language, modes and structures of presentation, social organisation of learning, time and duration of learning activities, and type of learning activities), assessment (assessment mode, assessment standard, assignment requirement, weighting of assignments and examination in the course result, and examination dates and assignment deadline), resource and support (amount of learning materials, tools, and support; method of obtaining learning materials, tools, and support; place where learning materials, tools, and support are available; time available for support; and type of learning materials, tools, and support), and orientation or goal of the course.

Among the dimensions and components, some have been the focus of most researchers when discussing the implementation of flexible learning, but some have not attracted much interest. Future studies on flexible learning could be devoted to the dimensions and components which have attracted less attention.

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