CHAPTER 2

Challenges and Disappointments

2.1 INTRODUCTION: THE VIRTUAL LEARNING ENVIRONMENT AT THE CROSSROADS

Chapter 'Enter the VLE' reviewed the context in which the virtual learning environment (VLE) was introduced to higher education institutions (HEIs), and the expectations which were held for it at that time. But by the mid-2000s the VLE had reached a crossroads: VLEs were being used across all subject areas, but predominantly in supplementary roles to existing courses. Browne and Jenkins reported that the 'overall picture (was) one of evolutionary consolidation' (2003, p. 33). Weller commented that VLEs had rapidly become pervasive but have 'not necessarily caused major disruptive changes' (Weller, 2006, p. 100). VLEs were regarded as having a somewhat 'traditional' design, replicating features of the classroom, and some drawbacks including a lack of interoperability with content from other systems. Multi-institutional research into students' use of VLEs in Irish HEIs (Cosgrave et al., 2011; Risquez et al., 2013) showed that VLEs were used pervasively, but a limited range of their features had been exploited by lecturers. Internationally, research suggested that VLEs were being used predominantly to store and disseminate course materials, rather than being interactive learning environments, or providing classroom-like activities online (Blin & Munro, 2008; Conole, 2004a; Donnelly & O'Rourke, 2007; Palmer & Holt, 2009; Stiles, 2007; Weller, 2007b). The VLE was regarded as 'warehousing learning materials' (Shurville, Browne, & Whitaker, 2009, p. 205), or more pejoratively as 'shovelware' (Wheeler, 2009).

The reasons for the apparent underuse of the VLE were unclear, but literature examining the adoption of other educational technologies suggested a similar pattern of underuse (Conole, 2009; Kirkup & Kirkwood, 2005; Mayes, 1995; McMullin, 2005). Separate examinations of the uptake and use of the VLE had also been undertaken (Browne & Jenkins, 2003; Heaton-Shrestha, Edirisingha, Burke, & Linsey, 2005; McGill & Hobbs, 2007; Vogel & Oliver, 2006) to find out how people teaching used these systems in practice. However, there was little evidence of research on an institution-wide scale at any one university to explore the adoption of the VLE in full (Coates, James, & Baldwin, 2005). In this chapter, we will see how disillusionment with

e-learning has been reflected in research literature at different points in time, and how this came to be the case with the VLE. Some possible reasons for disillusionment and disappointment will be proposed. Finally, an alternative perspective will be offered as the starting point for the research to be presented later.

2.2 THE LITERATURE OF DISAPPOINTMENT

From the mid-2000s, there has been an observable trend towards reflection in e-learning literature with a tendency towards disappointment at the lack of impact of online learning on higher education. References to myth, thwarted innovations and broken promises all appear in the titles of works addressing e-learning at this time (Kanuka & Kelland, 2008; Njenga & Fourie, 2010; Zemsky & Massy, 2004). Online learning, it is argued, has merely provided new ways of doing the same things:

> the reality is that e-learning is still marginal in the lives of most academics, with technology being used for little more than acting as a content repository or for administrative purposes.
>
> *Conole (2004b, p. 2)*

> technology is mostly used to support established practices rather than transform them.
>
> *Karasavvidis (2009, p. 436)*

> in many cases, after the initial enthusiasm and funding has been exhausted, the particular innovation has been abandoned and 'business as usual' has been reinstated.
>
> *Brown (2010, p. 2)*

Expected and desired changes in teaching practices have not materialised. Online learning has not even delivered on generating income for institutions:

> Certainly, as it is currently being used on campus, eLearning is not delivering the wide benefits to education which were expected: the anticipated sweeping impact of the new technologies on restructuring the learning and teaching practices at universities (and with it their high-profit prospects) has not materialised.
>
> *Donnelly and O'Rourke (2007, p. 38)*

Teaching through lectures continues (Kahveci, Gilmer, & Southerland, 2008), and new technologies have failed to 'disrupt' this transmission-oriented practice (Blin & Munro, 2008, p. 475). Moreover, as Laurillard comments, there are more lectures on the web than ever before (Laurillard, 2013). If change *is* occurring because of technology, then it is perceived as being too slow (Aslan & Reigeluth, 2013; Conole, 2009; Karasavvidis, 2009;

Laurillard, 2008; McMullin, 2005; Oliver, 2006). The literature suggests that technology is underused in teaching, and even the resources designed to help lecturers adopt learning technologies are themselves underused. These include websites which disseminate good practice, and the repositories of ready-made digital learning materials (Conole & Culver, 2009). The consequences of this underuse of technology, and a perceived conservatism in teaching, are viewed as having very negative longer term outcomes for HEIs (Barber, Donnelly, & Rivzi, 2013). Universities are fated to end up following their students rather than leading the way in the use of technology, and ultimately losing students to those institutions that can offer more online learning (Breen, Lindsay, Jenkins, & Smith, 2001; Brown, 2007).

VLEs have been the particular focus of disappointment in publications since the turn of this decade. The advent of so-called Web 2.0 technologies (O'Reilly, 2007) in the second half of the 2000s prompted a number of researchers to ask whether the VLE remained fit for purpose as one of the principal e-learning technologies in use in higher education. Weller's (2007b) provocation, *The VLE/LMS Is Dead*, and Stiles's (2007) piece entitled *Death of the VLE? A Challenge to a New Orthodoxy* captured this viewpoint, asking whether VLEs were in fact preventing the development of teaching and learning in institutions. The argument made is that VLEs have become databases for course materials, suffer from a surfeit of underused features, and could no longer encourage 'pedagogic change' (Stiles, 2007, p. 32). Stiles asked whether it was time to consider VLE 'exit strategies' (Stiles, 2007, p. 31), arguing that although institutions began with student-centred missions for the VLE, convenience factors had since come to the fore. While acknowledging that VLEs had encouraged many staff to engage with online learning for the first time, and were positively received by students, VLEs were no longer developing pedagogically. Stiles and Weller both suggested that Web 2.0 tools could support sharing and collaboration, using devolved systems with the web as their platform. While the VLE could be developed to include social networking tools, Weller (2007a) was unsure about the wisdom of extending the VLE in this way, while Stiles would regard such change as 'systems bloat' (2007, p. 33). Coates et al. ask 'whether it is possible for the LMS to stay simple enough to be a component of everyday teaching, while at the same time supporting sophisticated and diverse educational practices' (2005, p. 28). For Brown (2007), the question was straightforward: he advocated discontinuing the use of the VLE in favour of the full exploitation of Web 2.0 tools henceforward. The individual learner or teacher could deploy such tools at will, freed from institutional firewalls and other constraints. Some 8 years later, social media are widely used in higher

education but have not supplanted the VLE (Saunders & Gale, 2012). Students have not demanded change, and usage of the VLE is lecturer-driven (Risquez et al., 2013). However, there is no sign of the debate subsiding, even as VLE/LMS (learning management system) usage and investment are predicted to grow substantially in the next 3 years (Brown, 2010; Dahlstrom, Brooks, & Bichsel, 2014; Jackson & Fearon, 2014).

The VLE has come to be regarded by many researchers as being supportive of existing (suspect) pedagogical practices rather than changing them, with its predominant uses being to carry materials and information (Macfadyen & Dawson, 2012; Phipps, Cormier, & Stiles, 2008). Its assessment functionality is regarded as limited too (Coates et al., 2005). It appears not to be functioning as a learning environment for interactions between people teaching and people learning (Corda & Jager, 2004; Hemmi, Bayne, & Land, 2008; Steel, 2009; Weller, 2006). Compared with Web 2.0 technologies and MOOCs, about which there has been excitement and optimism (Conole, de Laat, Dillon, & Darby, 2008), VLEs are cast as traditional and conservative systems:

> The currently dominant modes for e-learning within higher education—those enabled by commercial virtual learning environments (VLEs) are generally failing to engage with the rich potential of the digital environment for learning. Their tendency is to attempt to render the online learning space familiar through a conservative dependence on pre-digital metaphors, signs and practices which are increasingly anachronistic as digital modes gain in social and cultural significance.
> **Hemmi et al. (2008, p. 20)**

Naveh, Tubin, and Pliskin (2012) conclude that 'most LMS applications [are] rather trivial and insignificant with teaching and learning processes remaining unchanged in most cases' (p. 338). Through this discourse, the VLE has come to be regarded as an online filing cabinet, in an era when people are accustomed to using many different repositories and a bricolage approach to web-based tools (Jennings, 2005). Some researchers have argued that a better and more effective 'virtual learning environment' could now be constructed independently by learners using a mix of the free social networking tools available (Brown, 2007; Stiles, 2007). Others signal a wider crisis, suggesting that given the perceived failures of the VLE, e-learning will no longer attract institutional support and finance. Instead, institutions will focus spending on buildings and library resources (Holtham & Courtney, 2005). Support for online learning is arguably no longer seen as essential but optional (O'Rourke, Rooney, & Boylan, 2015). Still more forceful critiques of the VLE suggest that it has narrowed the educational experience of

students, and downgraded the position of teaching by facilitating nonatten-dance at lectures through the provision of course materials online (Brabazon, 2002; Donnelly & O'Rourke, 2007).

In summary, researchers have expressed profound disillusionment with the slow pace of adoption of e-learning and the VLE specifically has been associated with a range of practices which are regarded as being at best conservative, and at worst detrimental to the experiences of students and staff. As a practitioner and researcher in this area, one is forced to ask where we have gone wrong. To this end, investigation of the literature was under-taken to try to unpack and validate these criticisms, and to uncover pos-sible explanations. The next two sections will explore findings from this investigation.

2.3 A HISTORY OF DISAPPOINTMENT

A review of literature addressing the impact of technologies on education revealed that (1) disappointment is not a new response, and (2) the literature does not adequately explain why there is limited uptake and use of tech-nologies, and therefore it might be challenged. Critiques of the extent and kinds of use of learning technologies are not new, and are in evidence from one of the earliest issues of the journal *Computers and Education*:

> *The last twenty years have witnessed much effort devoted to increasing educa-tional effectiveness and/or efficiency through a strong alliance with technology, particularly computers. This paper attempts to demonstrate that two such applica-tion areas, instructional gaming and computer aided instruction, have been less than spectacular successes despite massive investments. The fault lies not so much in technological shortcomings, but in very incomplete theories of how these tech-nologies abet learning. We have become so enamoured with the technologies that we have failed to recognize the potential failures to which current trends have been leading.*
>
> *Neuhauser (1977, p. 187)*

This paper is almost 40 years old, and explores the examples of com-puter-aided instruction and gaming. It suggests that the problems are two-fold: first, we do not know enough about learning yet to know how best computers can assist the process. Second, once commercial interests become involved, it is difficult to keep up the discussion of how best a particular technology might be used. Six years later, Putnam (1983) comments:

> *For any use of technology to bring benefits we must make certain we know what we want; the miracles will not happen by themselves.*
>
> *Putnam (1983, p. 36)*

Putnam highlights a perceived overemphasis on case studies about the use of computers in language learning and teaching, and is highly critical of student satisfaction as a way of determining the effectiveness of a particular intervention. Nine years later, Hammond et al. (1992) explored what they regarded as a limited use of computers in teaching in UK higher education. They suggested that this was due to a lack of suitable digital materials, and a lack of institutional or departmental support. The authors were all from the *Computers in Teaching Initiative* (CTI) centres, and their centres were 'responsible for promoting computer-supported learning' (1992, p. 155) in their subject areas. Surveying staff, they found that lack of time, financial resources and local support were the major hindrances to using technology. But they also commented that there were few rewards for staff innovating in their practice. Few of the staff they surveyed perceived any need to develop their teaching, but the CTI programme leaders regarded technology as driving a potential change in teaching which would be fundamental:

> the full implementation of this idea would have the most radical consequences for higher education. **It would mean that we would be accepting responsibility for shaping the learning process.**
>
> Hammond et al. (1992, p. 161, emphasis added)

The paper notes that institutions will have to accept that technologies will not bring cost savings or quick fixes for teaching larger groups of students. Instead, a wider educational change is called for, and is the responsibility of many more people than the technologists. Such principles echo through to current strategy and underpin the drive towards changing learning and teaching practices with technologies since the end of the 1980s. This sample of papers, all published well before the year 2000, highlights issues for e-learning researchers and practitioners which remain current 15 years on from the turn of the century. These concerns may be categorised as **theoretical/pedagogical**, **organisational** and **methodological**.

Theoretical/pedagogical concerns:

- The process of learning is not fully understood, and it is therefore a significant challenge to assist this process appropriately with technologies.
- The use of technologies should be pedagogically driven.

Organisational concerns:

- Commercial interests in educational technology complicate its development and may hinder adequate discussion of what is effective.
- Technology has the potential to prompt educational change—and a renewed focus on teaching—on an institution-wide basis.

Methodological concerns:

- There is an overemphasis on case studies in research about the use of computers in specific subjects or programmes.
- There is need for appropriate research methods to measure the effectiveness of an intervention using a particular technology, and going beyond measures of student satisfaction.

Yet the fact that these issues remain current indicates that they remain unresolved. By the end of the 1990s, evaluation of the Teaching and Learning Technology Programme (TLTP) in the United Kingdom showed 'little evidence of large-scale take up or shift into mainstream teaching beyond the early innovators' (Conole, Smith, & White, 2007, p. 46), despite the earlier lessons from research. Moreover, there is a sense that we are bound to repeat a pattern of gradual adoption and underuse of new technologies (Bush, 2008). Mayes (1995), writing 20 years ago, identified this problem and suggested that it could be 'cyclical':

> People who have been involved over any length of time with educational technology will recognise this experience, which seems characterised by a cyclical failure to learn from the past. We are frequently excited by the promise of a revolution in education, through the implementation of technology. We have the technology today, and tomorrow we confidently expect to see the widespread effects of its implementation. Yet, curiously, tomorrow never comes.
>
> **Mayes (1995, p. 1)**

Mayes argues that the same cycle of excitement, confidence and subsequent disappointment is experienced each time a new technology appears which might have applications in the classroom. Within subject disciplines, the phenomenon has also been researched (Bush, 2008; Coleman, 2005). Language specialists decry the failure of the language laboratory to have the impact desired for it (Davies, 2001). Expectations were high for the mass educational potential of television, but reality did not meet expectations (Delbanco, 2013; Mayes, 1995). How does the literature account for these disappointing realities?

2.4 EXPLANATIONS AND PROPOSED SOLUTIONS

2.4.1 Theoretical Issues

E-learning researchers and practitioners, as well as policymakers, have regarded online learning as having the potential to change—even transform—teaching and learning in higher education. Hammond et al. (1992) suggested that academic and educational development were essential to the

uptake and use of technologies, and one could not happen without the other. The literature offers a number of explanations why educational change has not been prompted by, nor happened in tandem with, the adoption of e-learning in HEIs.

One of the key issues is the perceived *need* for cultural change arising from the introduction of new technologies, and which will (it is presumed) be triggered by technology. Researchers have suggested that one example of cultural change associated with e-learning is that it forces that which is tacit in teaching practices to be articulated and written down. This might be through discussion forum messages, on-screen instructions, or electronically delivered course materials. Such a change is challenging not only because it may never have been done before in a given course of study, but also because it may be resisted by a community not used to such practices (Jones & Conole, 2006). Building on this point, researchers have interpreted the development of e-learning as part of the commodification of the practice of teaching in higher education, and express concern that HEIs could repurpose or sell courses once they have been made available through a VLE or other networked system (Clegg, Hudson, & Steel, 2003), most recently the MOOC (Jacoby, 2014). Holley and Oliver (2000) suggest that this is part of a wider concern with managerialist interventions in teaching, and the connection of teaching with strategy and funding. Teachers may prefer to adopt technology in a bottom-up fashion, experimenting with it in their disciplines (Corda & Jager, 2004). Academics recognise the practical risks involved in using e-learning, and may have had experiences where it has not worked as planned (Westera, 2005). They may also have seen negative consequences to the use of the web, such as rising plagiarism (Conole et al., 2007). Some researchers have argued that the effectiveness of e-learning is dependent on teachers' beliefs about methods and technology (Errington, 2004; Moron-Garcia, 2004; Steel, 2009). In this regard, time (or lack of time) can be used as a proxy for other concerns, and to justify nonengagement with e-learning (Karasavvidis, 2009).

Much of this literature presents cultural change as a given, and explores ways for practitioners to introduce and support such change, rather than questioning or challenging it. Discussions tend to associate limited use of technologies in teaching and learning with a variety of factors external to the e-learning supporter or academic developer: managerialism, resistance, risk, and lack of time. However, Karasavvidis, examining why teachers do not make time for technology, suggests that time is rarely the real reason for this. Its lack of 'compatibility' (Karasavvidis, 2009, p. 437) with their current

practices might be more likely. Goodfellow and Lea (2007) address this idea of compatibility by investigating e-learning in the university from the perspective of literacies, drawing attention to the importance of reading and writing in universities. Although popular culture and new media are multi-modal, and visual in particular, the university functions around texts. In these terms, cultural change associated with the introduction of new technologies is problematised. Goodfellow and Lea regard the text and 'linguistic communication' (2007, p. 33) of the university as one of the central ways in which its practices are articulated, irrespective of its use of e-learning. Technologies which do not support the literacy practices of the university will be resisted, and those that can support them will be adopted. This analysis draws attention to contexts and practices influencing the use of technology, which are not always considered in e-learning research.

A further problem with literature identifying 'limited' use of technology is that researchers do not discuss what would be 'sufficient' or 'enough' use of technology in teaching and learning. Change, perhaps informed by ideas from open and distance learning (ODL), is assumed to be necessary. Guri-Rosenblit identifies this issue and argues convincingly that e-learning on campus has been too long confused with ODL (Guri-Rosenblit, 2005; Guri-Rosenblit & Gros, 2011). The conflation of online learning with ODL has led to the development of the view that new technologies would challenge (or even dismantle) the university campus, opening up access to thousands of online students and bringing about a revolution in higher education. This, she says,

> *accounts for much of the misunderstanding of the ICT roles in higher education, and for the wide gap between the rhetoric in the literature describing the sweeping future effects of ICT on educational environments and their actual implementation.*
>
> *Guri-Rosenblit (2005, p. 469)*

Essentially, there has been a misapplication of ODL models and research to the issue of e-learning adoption in campus-based institutions. Online learning in campus-based institutions is 'a relatively new phenomenon and relates to the use of electronic media for a variety of learning purposes' (Guri-Rosenblit, 2005, p. 469). Moreover, campus-based institutions would be unlikely to be able to transform themselves into distance education institutions without considerable changes in their structures (Guri-Rosenblit, 2005). ODL is cost-effective because time and resources, as well as academic effort, are invested in the production of high-quality course materials which have a defined shelf life, and which are used by large numbers of students.

Campus-based HEIs have little tradition of this kind of work, and yet it was imagined that new technologies would enable them to grow and promote distance education. Effective e-learning, on the other hand, involves academics in meeting online with groups of students. This, argues Guri-Rosenblit (2005), is a fundamentally different model than that of ODL. If distance education used technologies for small group teaching online, it would represent a much more expensive model, since academics' time would be needed throughout the teaching process and not only in production of course materials. The inappropriate conflation of ODL with e-learning, as well as being technologically deterministic, has unduly influenced the development of online learning in higher education. Guri-Rosenblit argues that these factors account for its corresponding lack of uptake and use, at campus-based institutions. The implications of her discussion are that 'sufficient' use of the VLE might be imagined to be a hybrid of ODL and campus-based teaching methods. The VLE would be the platform for online versions of the institution's courses, including electronic course materials and activities. The VLE would function as an online classroom mediating all teaching and learning activities in a taught course. Collaborative online activities would be likely to form a component of such a course.

However, such a model of collaborative learning online may be ill-suited to campus-based institutions with large undergraduate cohorts. Goodfellow and Lea (2007) raise this question, in relation to undergraduate courses which are focused on disciplinary knowledge. They differentiate between 'Mode 1' and 'Mode 2' knowledge: the former is produced by research in the disciplines, and the latter in interdisciplinary settings, sometimes outside the university. Social constructivist methods are better suited to Mode 2 knowledge, whereas many undergraduate courses are focused on Mode 1 knowledge and on inducting students into a discipline. Online discussion forums, therefore, may well be misapplied in undergraduate courses. On the other hand, the use of a VLE to publish introductory materials, lecture notes and guides to a module might well be appropriate to Mode 1 learning.

Although researchers have been keen to examine problems in the uptake and use of technologies, their focus is frequently on issues other than the models that have been used to foster online learning in traditional campus-based HEIs. Academics' resistance, or lack of time, or technological skills, and other factors have been cited as possible blocks to the uptake and use of technology. However, the arguments of Guri-Rosenblit (2005) and also Goodfellow and Lea (2007) suggest that it may be timely to consider instead

whether models of blended learning and ODL have been applied inappropriately to teaching in campus-based HEIs.

2.4.2 Organisational Issues

Researchers have proposed a number of organisational and practical reasons why there may be limited use of e-learning in higher education. There is as yet little documented evidence that e-learning can provide cost savings or genuine learning benefits (Donnelly & O'Rourke, 2007). There are few senior managers with e-learning expertise in most institutions to support decision-making in relation to e-learning (Conole, 2004a). Learning technologists are often seen as providing technical help, and not as academic developers or leaders (Donnelly & O'Rourke, 2007; Shurville et al., 2009). This is limiting their ability to bring about the kinds of academic development which researchers argue needs to take place in tandem with the use of new technologies.

There can be difficulties in mainstreaming and scaling up e-learning initiatives after the pilot phases (Franklin, 2007). Sometimes, e-learning projects can produce outcomes that are no longer relevant by the time they are completed, or the focus of the researchers and developers involved moves on, before their work is mainstreamed or adequately disseminated (Franklin, 2007). Even with good exit strategies and plans for mainstreaming, e-learning initiatives may not reach their potential if the institutional culture is not right (Garrison & Vaughan, 2013).

2.4.3 Methodological Issues

Aside from the theoretical and organisational reasons why technology might not be adopted and used extensively by academics, there are questions posed by some researchers about how much is really known about the effectiveness of e-learning (Kanuka & Kelland, 2008). Research in some areas is scarce, while there is an overemphasis on particular forms of research. Research in online learning for higher education has seen plentiful case studies of the use of technology in particular settings, but there have been fewer institution-wide or systemic studies (Bliuc, Goodyear, & Ellis, 2007; Guri-Rosenblit & Gros, 2011). One difficulty, highlighted by Murray (2005), lies in trying to generalise from research that has produced case studies in the main. Research has also tended to compare the online experience with that 'offline', rather than assessing online learning on its own terms (Graham, Woodfield, & Harrison, 2013). Shurville et al. (2009)

commented that educational technologists have too often focused on evaluation of the application of technologies rather than critically reflecting on their work or the development of new methodologies.

While e-learning research benefits from having many feeder disciplines (Conole & Oliver, 2007), different methodologies can produce different results which are then difficult to reconcile into a consistent evidence base. There are still differences of opinion in terms of what counts as valid research: Frederickson, Reed, and Clifford (2005) argue that there are few studies of online learning that can demonstrate real effects because most research does not use scientific methods, but their discipline (Psychology) is one that values these very methods. On the other hand, the use of experimental research designs in educational research is usually ethically problematic and potentially subject to research bias in the choice of analytical methods used (Cohen, Manion, & Morrison, 2007; Oliver & Conole, 2003). Research can be influenced too by the subject area in which technology is being used: Felix (2005) comments that although there are studies showing some benefits to using computer-aided learning in science and mathematics, it is much more difficult to demonstrate positive effects in literacies. It may be very difficult to measure outcomes from constructivist models focused on higher order thinking, and even more challenging to measure lifelong effects. The novelty and unclear boundaries of the field are further issues (Shurville et al., 2009).

In summary, then, researchers examining the literature for evidence of positive effects on learning from technology are faced with a mixed canon, which may be subject to problems of reliability and interpretation. It is perhaps unsurprising then that there has been disappointment and some disillusionment with the perceived lack of change in teaching and learning attributable to new technologies. Researchers must rely either on anecdotal evidence from around their institutions or on published work presenting inconclusive evidence and multiple examples of the 'no significant difference' (www.nosignificantdifference.org) phenomenon, which has been the focus of recent attention.

2.4.4 Proposals for the Future

Although researchers may express disappointment and some disillusionment with technology in education, they are also keen to propose alternative models for the future. Putnam (1983) called for a pedagogically driven approach to the use of technology, and for the development of appropriate research methods to measure its effectiveness. Hammond et al. (1992) called for institution-wide changes to support the adoption of new technologies.

Mayes (1995) argues that theories of learning should inform the use of technology to a greater extent. He proposes a constructivist model resembling that of Laurillard (1993, 2001).

If the challenge is to engage teaching staff with theory, to develop their practice, then one way of doing this is through a community or network of colleagues, all of whom are exploring the best ways to use technology in their teaching. Unwin (2007) proposes this as a solution to underuse: communities or networks could comprise technology experts along with those having subject discipline expertise. This is the 'TPCK' model, or 'Technical Pedagogical Content Knowledge' model (Mishra & Koehler, 2006), which has been widely applied in the school sector in the United States. However, this assumes that teachers will be sufficiently motivated and interested in e-learning to join a community or network. Recent experiences such as initiatives aimed to support lecturers with sharing open educational resources (McAvinia & Maguire, 2011) would suggest that this is not trivial: people teaching in higher education are unlikely to join such a network unless it speaks to pragmatic needs they have at a given time. More recently, researchers have begun to consider alternative ways of researching student use of technology, drawing more extensively on learners' experiences in the online environment and their interaction with mobile devices for learning (Gourlay & Oliver, 2013). Winke and Goertler (2008) suggest that learner identities, behaviour and the attitudes of learners towards technology should be researched. More sophisticated data are becoming available too: for example, O'Rourke (2008) suggests that alternative data sources for research might include on-screen eye tracking of the learner's use of computer-assisted language learning programs.

On the other hand, if the adoption of technology is assumed to depend on system-wide change, then it is possible to consider the literature of disappointment in terms of educational change and the reasons why this may or may not happen. Laurillard (2008, p. 14) proposes five reasons why educational systems resist change. First, they are subject to conflicting drivers, for example, curriculum delivery and assessment. There is little time for people in educational systems to keep pace with technological change. Leaders may have a lack of comfort and/or a lack of experience with technologies, but those who do have experience with technology are not in positions of responsibility. Education is not subject to the forces of innovation that work in the marketplace because it does not function as a business or market—whatever the 'branding' or strategy might say to the contrary. Education systems are hierarchical and therefore change is difficult to bring about. It is unlikely then that technology alone will be enough to trigger change.

2.4.5 Focusing on Activity

Although the literature discussed in the previous section is helpful in trying to understand the pace and extent of adoption of technology, and how this might be addressed in the future, it has predominantly focused on issues outside the classroom: theoretical and methodological issues of interest to researchers, and organisational issues of interest to managers. As has been pointed out already, the question of what is **enough,** or **sufficient,** or **adequate** use of technology has not been addressed. The inherent value of technology for teaching tends not to be questioned (Guri-Rosenblit, 2005). The analysis presented in this chapter has shown that the lack of impact of the VLE has possibly been assumed based on the evidence that some of its features are used more than others. If researchers and practitioners cannot define what constitutes sufficient use of technology, then perhaps discourses of limited use or even failure of a particular technology can be questioned. By taking an alternative perspective, some researchers have suggested that disappointment may not be an appropriate response to the gradual adoption of technology. Kirkup and Kirkwood (2005) document examples of such gradual adoption of information and communications technologies (ICT) in universities, and comment on the lack of change relative to what was anticipated. They suggest that teachers will adopt what is useful to them, rather than responding radically to a change that is merely anticipated by other people:

> if what is happening *in the sector is examined in an analytical fashion, and without prejudging against what enthusiasts said* should be happening, *ICT can be seen as being appropriated by HE teachers to support their core teaching activities.*
> **Kirkup and Kirkwood (2005, p. 185)**

Westera (2005) argues that technology is a social phenomenon which is influencing how people live and experience their lives, and it is in this light that we must review its role in education. Institutional strategies appear not to be driving the adoption of technologies either: Gibbs et al.'s (2000) analysis of the teaching and learning strategies of UK HEIs showed that institutions were not experiencing the effects they expected from ICTs in delivering flexible learning. Reviewing Gibbs and colleagues' analysis, Westera comments:

> It is becoming apparent that, in campus-based contexts, teaching staff appropriate those technologies which they can incorporate into their teaching activity most easily, that offer affordances for what they already do, rather than those which radically change teaching and learning practices.
> **Westera (2005, p. 188)**

The gradual uptake and use of technologies in teaching (Kirkup & Kirkwood, 2005) reflect that lecturers approach these technologies from their existing perspectives, and do not necessarily radically alter these views simply because there are new media available to them. The activities of lecturers need to be considered first: this is echoed by Scanlon and Issroff (2005) who suggest that post hoc evaluations of learning technology projects tend to focus on the technology, and on stakeholders' requirements, rather than the activities for which technology was being used in the classroom.

The analysis of Goodfellow and Lea (2007), referred to earlier, pointed to the importance of sociocultural practices in the university. These are mediated by the printed text, and this is not only true of universities but also of 'the professions, and Western societies in general' (2007, p. 68). Seen from this perspective, academics resist e-learning because of the 'uncertain nature of the social relations it threatens to create' (2007, p. 68). Goodfellow and Lea argue for a literacies approach to the adoption of e-learning, foregrounding existing practices in the discipline, and how technologies might be adopted within these practices. Their analysis suggests that centralised initiatives and funding requirements may have had the effect of disconnecting e-learning from the disciplines, further increasing potential resistance from lecturers. What these researchers have in common is a focus on activities rather than technologies. It follows, then, that a **focus on activities** might have value in exploring how online learning has evolved in higher education.

2.5 CRITIQUING DISAPPOINTMENT: THE CASE OF THE VIRTUAL LEARNING ENVIRONMENT

Serious criticisms have been made of the VLE in the literature, and some commentators suggest that VLEs have now served their purpose, functioning only as administrative supports to taught courses. More radical views suggest that VLEs are restrictive technologies, and that they downgrade and reduce the teaching and learning experience overall. These criticisms are worth contesting in light of the wider discussion of the literature of disappointment. The previous section concluded with the suggestion that, rather than evaluating the use of a particular technology, it may be more useful to focus research on the activities in which teachers and learners are engaged and for which they use particular technologies.

In terms of the pedagogical and theoretical issues that have been discussed earlier, it is arguable that VLEs have been associated with the (mis) application of models from ODL in campus-based education. Assessments

of the worth of the VLE have been made based not on the analysis of teaching and learning activities but on data about the use of its content management features. The VLE had the potential to function as a social constructivist online classroom, but was this necessary in campus-based institutions teaching face to face? And could any technology trigger the adoption of social constructivist methods by lecturers who might have been unfamiliar with them? These questions are not adequately addressed in the research. The criticisms made of the VLE as a repository for course materials may in turn be challenged: such a deployment of the VLE may well be appropriate for campus-based institutions and particularly for teaching Mode 1 knowledge in the undergraduate years (Goodfellow & Lea, 2007).

In relation to the organisational issues discussed earlier, the VLE has offered institutions considerable practical advantages. It is by now a well-embedded system which has been scaled up and mainstreamed across the majority of HEIs in Ireland, the United Kingdom and the developed anglophone world (Dahlstrom et al., 2014). Open source systems such as Moodle are widely adopted in the developing world too. The VLE offers a consistent interface, accessible with one login. Sclater (2008) suggests that using social networking tools as an alternative to the VLE would entail multiple accounts and login details for users (for instance, for each of Twitter, Facebook, a Wiki site, a Blog). VLEs will continue to have a purpose—if only as administrative supports to formal courses—for some time to come:

> Given that formal education remains in strong demand from learners, is supported by governments throughout the world, and is unlikely therefore to disappear in the near future, there will continue to be a need for online systems that provide administrative functionality … and provide information such as course descriptors, syllabi, reading lists, class times, examination dates and results. Centrally hosted systems are also required for the submission and marking of assignments online—and the return of marked scripts to students.
>
> *Sclater (2008, p. 7)*

According to Sclater (2008) and Weller (2007a), there are good reasons for institutions to retain the VLE, not least because they have invested considerable time and effort into VLEs and will wish to gain value for their investments. There are safety and privacy concerns for institutions once students move outside institutional systems on the web, and some students in further and higher education are under 18. HEIs are bound to protect students' personal data too. They must also be able to show assessed work and evidence of coursework to external examiners. There are risks in using external sites for assessment purposes, since these may be bought and sold or simply disappear overnight. There is evidence that some students also

wish to preserve spaces like Facebook (www.facebook.com) for their 'private' lives rather than for their learning (Jones & Lea, 2008). Even if students are happy to use their Facebook accounts for elements of their learning, teachers may not feel that the mix of formal and informal spaces and content is appropriate to what they are setting out to do.

Weller (2006) makes some further observations about the reasons why VLEs might not have been used to the extent imagined when they were introduced. First, most institutions do not have large amounts of ready-made digital materials available for inclusion in the VLE, although they do tend to have plenty of administrative and course management information in digital format. It follows, then, that this information would have been published first to the VLE. Even if there are digital learning materials available, these are quite often difficult to import to the VLE. While there are now plentiful high-quality digital resources available to academics through open access repositories, many lecturers remain unaware of these resources or of how to use them effectively (National Forum, 2015).

In terms of the methodological issues in e-learning research, published work in relation to the VLE is just as susceptible to the problems of researching the effectiveness of educational technology as any other system or software. However, there is a complicating factor with the VLE as a big system, which is adopted on an institution-wide basis. There have been few identifiable system-wide or institution-wide studies of the VLE undertaken to examine what its true impact may have been. Researchers have relied often on system data to draw conclusions about how the VLE has been used, rather than examining the activities in which the VLE plays a role. It is worth highlighting too that not all VLEs are the same, and they have developed rapidly since 2005. Previously, VLEs could justifiably have been regarded as being directive and somewhat inflexible. Usability was often fairly poor (Conniff, 2001). VLEs are dependent on server speed and Internet connectivity, as well as the speed of domestic Internet connections, all of which have improved markedly since the late 1990s. Open source, nonproprietary VLEs have offered an alternative to the earlier systems. The potential effects of these changes have been underresearched in VLE literature.

2.6 CONCLUSION

This chapter has examined what has been termed the literature of disappointment in e-learning research. The literature was seen to focus on a range of concerns—pedagogical, theoretical, organisational and methodological. Analysis of the literature of disappointment showed that there were

different concerns at play, and different degrees of disappointment. At the institutional level, research suggests that VLEs are used to support existing practices in teaching rather than to change or disrupt them. It is surmised from the available data that many VLEs are used as content repositories for lecture notes and teaching materials. VLEs are perceived as having limited usefulness as a result, and as serving predominantly administrative purposes in institutions over the next number of years. Meanwhile, Web 2.0 technologies were proposed as the means to realise the kinds of transformation in teaching and learning not brought about by the VLE. Alternatively, switching off the VLE altogether has been mooted as a more radical solution to the problem. More generally, there is a recurrent trend towards disappointment at intervals in e-learning research literature. There is disappointment that change has not been faster, that technology has been used to support existing (and suspect) pedagogical practices, and that the adoption of alternative frameworks or theories derived from specific case studies would ameliorate the situation. Despite the amount of literature documenting and exploring problems with the adoption of technology, the cyclical nature of disappointment as evidenced in the literature indicates that these issues are unresolved and concerns are expressed that this 'cyclical failure' (Mayes, 1995, p. 1) will be repeated.

At issue here, then, is whether existing research has adequately examined the problem of uptake and use of online learning through the VLE in higher education. If it is assumed that technology is genuinely underused, then this needs to be addressed. The solutions that research has proposed thus far tend to relate to the identification of ever more numerous models, methods and approaches to the adoption of technology in teaching. Well-intentioned though these texts undoubtedly are, they do not appear to be solving the problem. Waiting for change to occur for other reasons (such as the wider influence of technology in people's lives) does not appear to be an acceptable strategy either, given the amounts of public funding which have been used to support online learning in higher education (Laurillard, 2008). The activities for which the VLE is being used have not been adequately investigated: therefore, it cannot be assumed that the VLE has been underexploited, or merely supports existing practices.

It is important to remember that much of the activity described and discussed in Chapters 1 and 2 has happened from 1985 to 2015, and the life cycle of the VLE has been even shorter at a maximum of 15–20 years from 1995 to 2015 for most institutions. Institutions have had to address far-reaching changes associated with new technologies in this timescale.

Campuses have moved from having mainframe computers restricted to specialist research, to networks of desktop PCs, to the provision of computer rooms (labs), the development of managed learning environments, implementation of the VLE, and wireless access all within this time. The discourse of disappointment in educational technology research might alternatively be viewed as a set of concerns coalescing around particular technologies at different times. However, as practitioners we should question the pattern of repeated disillusionment, where it has come from, and whether a more reliable picture of the use of technologies like the VLE can be painted. The next chapter will take this discussion forward, investigating ways for practitioners to broaden the theoretical and methodological frameworks at their disposal to research the use of the VLE and other technologies.

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