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## **An Investigation of Students' Experiences of using Virtual Learning Environments: implications for academic professional development**

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### **Introduction**

Because virtual learning environments (VLEs) are amongst the most widely adopted technologies in higher education, and to justify the widespread investment in VLE technology, it is important to study patterns of actual student VLE use and student satisfaction (Naveh et al., 2010). This chapter presents the work of a multi-institutional group of educational developers who have collaborated since 2008 to gather students' views on the use of VLEs across higher education in Ireland. The project has now developed into a longitudinal study, open to participation by any educational institution, and is currently integrated in the research strategy of the Irish Learning Technology Association (ILTA). Surveys of students have been undertaken since 2008 using a common set of questions. Participating institutions, on condition of anonymity, pooled their results for comparison. The survey data provided each institution with useful information on how VLE uptake and usage patterns compared with other institutions, in a framework which prevented abuse of the findings for marketing or public benchmarking. The institutions who have participated, thus far, represent a diversity of organisational histories and VLE systems, and results to date include the responses of more than 15,000 students. The resulting database constitutes the largest collection of information on student experience related to technology enhanced learning in Ireland. We have presented and published our methods and some of our earlier results (Cosgrave et al., 2008; Cosgrave et al., 2009; Cosgrave et al., 2011). In this chapter, we will give an overview of the research methods and findings, but will focus on the implications for academic professional development and capacity building. We also describe our working processes as a self-sustaining collaborative group. Like other chapters in this publication, where the collective voice influences pedagogical practice, our contribution is driven by the desire to allow the student voice to inform the continuous improvement of their learning experiences.

This chapter demonstrates how a sustainable collaborative project has contributed to

VLE capacity building, through offering insight from lessons learned across institutions. The drivers for change at national level will be discussed first with a brief overview of other existing research on the use of VLEs. Following a summary of research methods, the findings will be presented and discussed. The main themes we are going to explore throughout this chapter are the student experience in using VLEs in HE and the implication of this for academic professional development for lecturers. The results speak to issues of capacity building in the sector, in terms of the relationship between staff and student use of the VLE. We will conclude with plans for future research which include the impact of supporting teaching and learning in higher education.

### **The Role of VLEs in the Changing Landscape of Higher Education**

Technology has certainly changed the ways and means by which all people can potentially be educated; in fact, it has fundamentally changed the sense of where people can be educated. However, one should be careful of accepting at face value the claims that the proponents of e-learning have sometimes made. Instead, we propose to investigate directly the end-users' experiences of using these tools.

In Ireland, the *National Strategy for Higher Education to 2030* (DES, 2011) has clearly articulated the role which technology should play in the provision of teaching and facilitating the learning experience. It describes a system which must be responsive to the needs of an increasingly diverse student population. The report acknowledges the advances which have occurred in Irish Higher Education in the past decade. Among these are developments in technology-supported learning which include the increasing use of virtual learning environments to support learning (DES, 2011). There is a clear focus in the strategy on the provision of flexible learning options for students including blended and online learning, while acknowledging the requirement for the development of teaching skills and the provision of ongoing opportunities to develop these skills (p.62).

Ambitious targets have been set for the numbers engaging in higher education to 2030. The impact of these projections in a time of reduced resources was outlined in a recent sustainability study 'Aligning Participation, Quality and Funding in Irish Higher Education', prepared by the Higher Education Authority (HEA) for the Minister in Education and Skills in 2011. The report comments on the use of 'options such as flexible and distance learning' providing ways to meet 'projected future demand for higher education more efficiently'; and this study refers to the enhanced use of technology as a means of assisting in such expansion (HEA, 2011).

In addition to considering the local context for this research, we have also considered international research charting the adoption of VLEs elsewhere, and whether similar shared surveys had been undertaken internationally. Initial surveys in the early 2000s already reflected the adoption of the VLE across further and higher education in the UK (Jenkins et al., 2001; Jenkins et al., 2005), and many more followed. However, there were gaps within the literature. Firstly, there was a tendency in the literature towards case studies on the use of the VLE in a particular discipline or with a particular group (Dolle and Enjelvin, 2003; Leese, 2009; McGill and Hobbs, 2008; Stricker et al., 2011). Secondly, there are few studies which focus on the use of the VLE over an extended period of time: we tend to see snapshots and census-like countable data, rather than studies which gave us a picture over a number of years of how a particular technology had been used. Our research therefore allowed us the opportunity to address this gap. We could also explore whether having institutional datasets over a number of years, and an extensive, large and widely representative dataset as a consequence, could contribute to our understanding

of the development of capacity amongst staff and students. The information might also assist us with adopting other technologies and sustaining development in this area.

This was all the more important given the wider discussion we observed within the literature. Researchers who analysed critically the use of the VLE were, by the end of the 2000s, beginning to suggest that its capacity to support innovative and active teaching and learning methods was extremely limited. They indicated that VLEs were supporting and replicating lectures and notes distribution, rather than encouraging educators towards group learning or project-based assessment of students. Blin and Munro (2008) questioned why the VLE had 'failed to disrupt' traditional lecturing practices. Kirkup (2005) found that technologies were in general adopted (at least in the first instance) to align with existing practice, and that 'evolution' rather than 'revolution' could be expected in the adoption of the VLE. We wished to explore these issues and potentially challenge some of these assessments through the dataset. We also reviewed the work of other researchers reflecting on what their own expectations of technology might have been - asking whether these corresponded with those of the users and practitioners in their universities. The use of technologies in campus-based institutions tends to be compared with that of distance institutions. For example, Guri-Rosenblit (2005) questioned whether the impact of technologies is measured in a reasonable way. The author argues, convincingly, that we need to take a different perspective on how online learning fits into a campus-based institution, when face-to-face teaching events comprise a large part of the timetable.

These questions not only encouraged us to continue the research over a period of years, but also to evaluate whether there were some forms of 'conventional' VLE use that might well be appropriate to students and lecturers in Irish HE. The next section describes the research methods we used, and the approach to the analysis of the data gathered.

## Research Methods

The project presented here is centred on a survey of student attitudes to and usage of VLEs initially designed for one of the participating universities. After an open invitation to many Irish tertiary institutions through ILTA, five institutions ran the survey and agreed to pool the data at raw level, and a common set of rules was agreed amongst the five institutions to ensure findings could not be used for marketing or advertising. In subsequent years, additional institutions joined the group, which currently includes 12 institutions and operates under the auspices of ILTA. Among the members, the following was agreed: that institutions would not be identifiable from the results; that presentations and publications were to be agreed by all members; that data protection issues were addressed by stripping all individual identifiers out before pooling the data; and that the students were aware of what the data was being used for.

The project was born out of a persistent common need for better information on student perceptions of VLEs. It developed from a grassroots approach amongst a group of educational developers interested in the issue, operating with structures at flexible levels of formality. There is no project leader, different team members contribute at different times, in proportion to their interests and capabilities. The research receives no direct funding, has no fixed costs, and the work is done at the fringes of each team member's own role. We operate as a peculiarly sustainable group, relying for maintenance on the continued interest of participants. The research has survived 'in hibernation' for periods as partner institutions run their internal surveys and gather data using the common survey tool, but it has also moved forward quickly using remote collaboration tools

(Skype, Wikis, Google Docs) to develop and share insights. The project developed a high degree of implicit sustainability, because of its in-built leanness and redundancy (no specific resources were devoted to the project, and it was designed so that participants could drop in and out as per their own requirements), and its ongoing value to the participants. Much of the value of this research is internal to each organisation, as it provides participants with a sense of how their own work and related issues fit into a wider context of their peers. We have learned that we are all facing very similar situations, and that technical and organisational factors are much less important than we thought.

The project draws on data from a student survey instrument, and that like all data sets, comes with specific caveats and biases which must be noted. Surveys were conducted online, with the survey instruments generally disseminated via email to the whole student cohort. In a small number of cases, surveys were conducted through announcements within the VLE system itself, which could have introduced an element of biased response. Response rates varied from institution to institution, from 18% to as low as 4%. As a self-selecting sample, this necessarily creates biases. Students with high digital literacy are more likely to respond; as this is a survey on VLE usage, non-users of the VLE are likely to be underrepresented in the sample. The data have not been weighted in any way, so institutions with large numbers of respondents may be overrepresented. We are mindful of the methodological limitations of this study and hence the results, notably due to the self-selecting nature of the participants and perhaps a will on the part of (some) participants to respond in a positive way to these questions. Nonetheless, we would argue that given the sheer breadth and scale of the data gathered, across the large number of institutions, over a five year period, that the data and resultant discussion have a degree of reliability.

The survey instrument itself consisted of 20 questions, some of which had large numbers of sub-questions. The design incorporated a mix of yes/no and Likert question styles, often addressing similar issues in different ways in different questions to accurately triangulate the students' perspectives, while a mix of positive and negative questions were included to avoid common survey design bias pitfalls. In addition to collecting quantitative data, a number of open-ended questions were included in the instrument to enable the respondents to provide a little more depth to their input. Once coded, these responses provide a very useful qualitative addition and thus offer a greater degree of insight into the students' perceptions and opinions. The chapter draws on a total of 15,385 responses across 12 institutions, collated from 22 survey instances from early 2008 to mid-2012. When surveys have been repeated (as is the case for six of the institutions), some of the discussion compares older data from an earlier survey in 2008/09 ( $n=4,164$ ) with newer data collected more recently in 2011 and 2012 ( $n=4,200$ ). We have previously given accounts of our results as a whole (Cosgrave et al., 2008; 2010; 2011), and in the following section we select those most relevant to the themes of this chapter. The results we are going to discuss next are the result of an inductive process of theme identification which was based on a conversational approach. From a broad dataset, we focus in this chapter on the results relevant to the experience of students using a VLE, and the implications of this for the continuing professional development of lecturers.

## Results

### *VLE as a content distribution platform*

Virtual learning environments were used frequently by the respondents: the proportion of students reporting that they accessed their system daily or a few times a week has slightly

increased from 80% in 2008/09 to more than 83% in 2011/12. A substantial majority of students reported that they found the VLE useful for getting course material from the lecturer - either lecture notes/handouts (88% in 2011/12, down from 92%) or other course documents (85% in 2011/12, up from 83%). This supports the perception of the VLE as a content distribution platform, rather than being used for more complex activities like online discussions or quizzes. Despite being substantially more demanding of lecturer time, there seems to be a significant minority using these: in 2011/12 students reported finding the VLE useful for online discussions 33% (down from 35% in 2008/09) and quizzes 42% (up from 33%). Furthermore, the proportion of students who report finding the VLE useful for submitting assignments is substantial and growing, 77% in 2011/12 (up from 52% in 2008/09) and for plagiarism detection/Turnitin 39% (up from 31%, although not all institutions asked this question in the most recent administration of the survey).

The findings suggest a model of VLE usage to solve the problem of disseminating material to students combined with early signs of using it to address the problems of managing and grading submitted work, and serving as an additional communication forum for students. Practices such as using the discussion forums in a constructive way to foster engagement, or using quizzes as formative assessment tools, are more complex and additional to the familiar work cycle of classroom based teaching, and are less widely used. It seems, therefore, that the VLE is used when it solves problems lecturers already have, and less as a framework to do new things. This appears to reinforce some of the conclusions drawn elsewhere in the literature (Kirkup and Kirkwood, 2005).

### *Consistency of Use*

Students did not seem to be seeking out more sophisticated applications like online discussions or quizzes, but mainly sought comprehensive and consistent basic usage that facilitated easier navigation of VLEs. This suggests that ensuring all staff are getting the basics right is a key objective for staff development programmes, and has implications for us as academic developers. Notwithstanding this, 58% of students agreed or strongly agreed that their lecturers made good use of the VLE in 2011/12, compared to 37% in 2008/09. This implies that capacity is gradually being developed in the academic community, with VLE users now being members of a 'late majority' rather than 'early adopters'.

Of the student population who responded to the survey after an open email invitation, only a small number of respondents did not use the VLE (3.7%). Interestingly, technical issues such as system reliability, usability, access, etc. did not represent significant barriers to use, regardless of the choice of VLE in an institution. Instead, lack of use by lecturers (24%) was by far the most common barrier to use identified, and students clearly would like their lecturers to make more use of the VLE (72% agreed or strongly agreed with this statement).

### *Enhancing and sustaining student communication*

An expected outcome of the implementation of VLEs, especially in the pre-social media landscape in which they were first deployed, was in helping the students engage with each other and with their lecturers. Our results confirm this expectation to a good extent: we find that, provided lecturers make use of the system, 64% of students report that the VLE helped to make their lecturers more accessible to them, with a third reporting that they were more likely to communicate with their lecturer using the VLE. The VLE appears to provide a forum for students unwilling or unable to communicate with lecturers in class, or in person, to make contact with them. We would expect this to be a more important issue in larger classes. It is a significant and overlooked benefit of the VLE that it can provide an 'open office door' for students to engage with their lecturers. There may be

distinct advantages to having such a platform to support and maintain dialogue between staff and students in the current higher education landscape. With decreasing numbers of full-time staff in institutions, as well as a growing number of part-time students working at a distance from the campus, VLEs offer a safe space for communication and virtual office hours where needed.

Evidence elsewhere in the literature has suggested that VLEs have not been used to their full potential (Kirkup and Kirkwood, 2005; Blin and Munro, 2008). There is, however, evidence in our data to suggest that, provided the initial resistance is surmounted and academic staff are making use of the system, VLEs are not only used for distribution of content but also for communication and discussion.

However, a much smaller proportion of respondents (29%) felt the VLE increased their access to classmates. While this was always less of an issue for on-campus students (who dominate the sample), the growth of social media tools has taken inter-student engagement away from the management space of the VLE and into spaces like Facebook or Twitter. Anecdotally, many students prefer to put their interactions, even on course discussions, in these spaces as they are often more immediate and ubiquitous, and they are not monitored or moderated by the lecturers. They are more an extension of student corridor or cafeteria conversations than of formal in-class discussions that map to online discussions within the VLE. However, there is also growing evidence that, at least for the present, the 'Facebook' generation wants to keep formal learning space separate from activities in web 2.0 (Brown, 2010; Madge et al., 2009). The chapter 'Supporting First Year Students in their Academic and Social Adjustment to Higher Education' by Diggins et al. explores in more detail the use of social networking sites for student support.

### ***Meeting Flexibility Requirements***

Regarding the flexibility of blended and online approaches advocated by the DES (2011: 52), 42% of respondents felt that the VLE changed the hours they could study. This was corroborated by a large proportion of students who reported accessing the VLE from home (89%) and outside of 'normal' working hours (39% accessed the systems after 6pm and before 9am). This increased flexibility of study time and location was a key expected outcome of the use of VLEs and may be particularly significant for part-time, mature and distance learners. In this instance, the remote availability of VLEs is certainly an important feature, enabling students to access the material from home. While this feature is of course useful to all students, it is particularly beneficial to part-time students who may attend the campus on a less regular basis:

Having access to other course material allows for further research into topic areas as I travel a long distance to (university) twice a week.

The reported use of mobile devices has increased substantially, with the flexibility they afford: 24% of 2011/12 respondents reported using a mobile device to access the VLE, compared with 4.1% in 2008/09; also, 52% of new respondents reported accessing the VLE using a laptop on campus, compared with 40% in previous administrations. In future surveys, the questions around the use of mobile devices will be updated to explore this use in greater detail.

### ***Good educational design is essential***

Student satisfaction with the VLE is intrinsically linked with the educational design behind the use of the tools. One of the ways that educational design manifests in practice

relates to attendance, which in our experience it is a key issue often raised by lecturers as a reason not to put material on the VLE. The student voice clearly disagrees: only 21% of students felt that having material on the VLE made them less likely to attend lectures, with almost two thirds disagreeing with the statement (62%). Furthermore, the 21% figure reduced to 16% in 2011/12. In future surveys, we may refine the questions to focus on students' attendance at large lectures, where the level of absenteeism can be especially problematic, but in general, the picture is encouraging and suggests the development of educationally sound uses of the VLE by academics. We would suggest that attendance issues need to be examined more broadly, and that the VLE is not in itself responsible for changes in attendance patterns, as in the insight offered by one student:

Sometimes lecturers don't use it to its full potential ... some are reluctant to put lecture notes up in the flawed attempt to make people come to class but if people don't want to be there they just won't come either way.

VLEs are also commonly criticised for serving as a 'mere' information distribution pathway that adds nothing to the in-class work. Students' views seem to disagree and suggest that, in general, the use of a VLE adds value. 71% felt that it clarified what was covered in class, 60% felt it made it easier for them to learn, and 41% felt it helped them to understand how well they were doing. Even when used 'merely' as a content dissemination tool, the VLE can help learners as a reliable, definitive curated repository of course material, providing students with a clear framework for the course. Therefore, while this role might seem to be quite basic in terms of a VLE's functionality, it may facilitate an enhanced student experience. Aside from the need to access missing class material, another advantage noted was that it facilitated the ability to access notes prior to class and thus:

... it just makes the lecture easier to understand when you have it on paper, then in the lecture you can focus on what the lecturer is saying, rather than scribbling the notes down.

In fact, time and again, it is this ability to facilitate prior access to lecture notes that is reported as being one of the most positive effects of using a VLE on student learning. To suggest that the provision of class notes in advance of lectures is merely an exercise in the distribution of material appears to be disingenuous if these quotation are taken as an indication of what VLE usage means to some students. Providing notes online supports students and therefore forms an integral part of a thoughtful teaching method.

However, while the provision of class notes seems to have a beneficial effect on the student learning experience, the data would seem to suggest that the content repository role is very dominant with far less emphasis on the utilisation of the more interactive elements available on VLEs. For example, in the 2011 dataset there were only two references to the use of YouTube as a resource, one of which was negative - '...distracted by other online sites e.g. YouTube'; while the other comment was positive - '...easy to load links to other sources including YouTube videos etc. Easy to share these links with classmates'. Nonetheless, it needs to be acknowledged that some lecturers utilise VLEs in a more proactive and interactive manner incorporating videos, podcasts, links to other resources, supplementary readings, and commentaries and as a communication tool. This may be an area which could be incorporated more specifically in future studies.

We know from anecdotal experience, in working with teaching champions in our own institutions, that VLEs are often being used to facilitate pedagogical approaches

that capitalise on student engagement and teaching innovation. This being said, a quick and obvious conclusion that can be drawn from the data that we have analysed so far is that VLEs tend to be used to facilitate more ground-level pedagogical functions related to access to and delivery of content, and management of class administration and communications. This finding is, however, hardly surprising and aligns with other national evidence (Cosgrave et al., 2011; Donnelly and O'Rourke, 2007) and evidence from elsewhere (Blin and Munro, 2008; McGill and Hobbs, 2008; Selwyn, 2007; Sun et al., 2008). More widely, this has been seen as part of a trend where lecturers tend to make, on average, only incremental changes to their practice when faced with new technology in the form of a VLE (Dutton et al., 2004; Jenkins et al., 2005; Kirkup and Kirkwood, 2005). Naveh et al. (2010) go on to suggest that, 'in fact, instructors can maintain their conservative teaching habits except for posting their course content on the website. From an organisational perspective, this can be done at low cost, yielding relatively high student satisfaction' (p. 132). One could establish parallels between VLEs and one of those sophisticated kitchen do-it-all gadgets: while a minority of cooks will use most of the tools to full capacity, most people only use it as a blender. However, the importance of facilitating greater access to learning resources should not be underestimated, and the views that students have widely expressed in this sense clearly support this point. It is not that long ago that user-friendly, non-technical, flexible and effective distribution of materials was an important barrier for most academics.

However, we have also argued that use of the VLE can lead to improved staff-student communication, assessment and feedback (partially thanks to integrations with other systems such as Turnitin), and other meaningful teaching and learning processes. The widescale implementation of a VLE can serve as a 'Trojan horse' to many other pedagogical developments in unexpected ways, including plagiarism prevention, faculty and peer interaction, greater feedback on learning, and monitoring student engagement and retention. It is difficult not to become overly focused on the views presented in literature, automatically deriving that the VLE has not delivered its promises. Instead, we need to reconcile this with the reality that the VLE is facilitating very effectively other necessary functions and that, through staff support, there is much scope for development. One thing is clear: if the VLEs were to be switched off tomorrow, the level of disruption to the normal functioning of teaching and learning at the grassroots would be huge.

From an institutional perspective, we have a responsibility to facilitate virtual spaces for academic staff and students to work in a controlled learning environment. Indeed, faculty strongly demand password-protected and supported environments that help them protect their own materials, guarantee that learning contents are reused in a lawful manner, and integrate with student registration systems. Some evidence exists that the large majority are still reluctant to engage fully with social networks for teaching and learning purposes because of concerns relating to safety, long term availability and reliability of the sites, and diluted responsibilities for support amongst many other issues (Roblyer et al., 2010). Students quite often feel the same: while making intensive use of social networking for peer to peer communication and social interaction (as dealt with more extensively in the chapter by Diggins et al.), they may prefer their formal learning to happen in a more controlled environment. VLEs provide a stable base, anchor points, and virtual infrastructures that do not necessarily exclude the use of other tools available elsewhere, but instead help to merge them in a one-stop-shop. Much has been forecasted about augmented platforms that increasingly allow for mash-ups (collections of tools under a common platform) and plug-ins to a wide range of inter-operable applications and tools available externally to the VLE on the web, and certainly there will be a growing



demand for such tools over the next few years. In light of the permeability of Web 2.0 and mobile learning, the critical question is: are VLEs here to stay in the future? The answer to this question is probably yes. Management quickly bought into VLE adoption because at the time it was the obvious straightforward e-learning choice, but most importantly, it helped to solve concrete problems. Nowadays, it is more difficult to identify what is the next most effective investment in e-learning, particularly where resources are becoming more scarce.

From our findings, the priority for educational developers is likely to gravitate around good curriculum design and the quality of the learning experience, and efforts and resources need to be invested around building human capacity to make this possible. The challenge involves aligning a 'teacher centred' approach that results in efficiency gains, with a learner/pedagogic centric approach; the chapter by McNutt in this publication deals with this tension in more detail. Renewed and focused energy and direction on the part of educational developers can translate positively to academics using VLEs. Champions of technology-enhanced learning could be targeted, in particular the early adopters or those who initially felt digitally challenged and who are now convinced of the benefits to themselves and their students. While student feedback is a valuable source of information, it is only the starting point and in order to jumpstart the discussion with faculty in relation to available resources, there is a need for specialised support by educational technologists and online content development skills. Some of the most common misconceptions can constitute in themselves an opportunity for continuous professional development, as overcoming these could lead to more meaningful work with academics. For example, discussion could be opened around the following challenges:

- Voluntary or compulsory? It is common that the use of the VLE is avoided in strategic plans and statements, and it is unclear if their use is voluntary or compulsory. What implications does this have for teaching and learning practices?
- Does the VLE determine your teaching style? Arguments have been made that some VLEs are designed with constructivist learning in mind, yet our data suggest that the VLE choice is not as relevant as would be expected, and it would be most useful for faculty to explore how the assumed pedagogical approaches of VLE designers translate into practice.
- Does the use of a VLE impact attendance negatively? Another of the key barriers to use, cited by academics in relation to the VLE, is the concern that students will not attend class if notes and course materials are available online: this has been strongly contradicted by our data. The debate should rather be around how having some useful materials to which to refer may well serve as a welcome safety net for increasingly diverse students struggling to meet the demands of class attendance.
- Is the teacher redundant? Daily, we perceive the fear that the progressive adoption of information and communication technologies threatens the relevance of the teacher as content provider and sage within the learning process. In light of concerns around job stability, intellectual property and growing accountability, this is understandable. However, it would be more productive to raise questions around what constitutes productive use of student time while attending class.

## Conclusions

Consideration must be given to the methodological constraints of the study. Response bias has been a limitation of the work thus far. To transcend this limitation, we believe it is important to draw on system level data captured by the VLE itself, for example, the

proportion of registered students who log in regularly, the proportion of modules with activity and so on. This work strand will draw the project in the direction of learning analytics, and deepen our collective understanding of system data and how it can be used to guide our professional development programmes and improve the overall student learning experience. The initial survey was designed as one element of a much larger piece of work in one of the partner institutions which drew on system data, staff survey data, student focus groups, key informant interviews and random sample staff interviews. While it is not practical to conduct large-scale evaluation projects longitudinally in all our institutions, there is scope to add additional methods to add depth and robustness to the data set.

In relation to our research as an ongoing project, we anticipate that the survey will remain in use indefinitely, with new data added each year for as long as VLEs remain a subject of interest. Review of the survey instrument is now timely: our initial question set focused on the VLE itself, and was implicitly framed around the undergraduate, lecture-centric learning paradigm. There are opportunities to survey non-traditional learners' use of VLEs in order to ascertain how best to build capacity for VLE student usage going forward. The development of VLE technologies is a further prompt to revisit the question set, and to strike a balance between the value of being current, and the need for consistency over time in a longitudinal study. We also envisage running a staff survey in the short term, to capture the perspective of staff users of the VLE. The staff perspective is also very important, and many of the authors have an internal requirement for staff survey instruments to help guide the planning of professional development programmes. As with the student survey, the development and deployment of a common staff survey instrument will enable a broader understanding of the issues.

This chapter has presented our research, including a series of snapshots from our data, and discussion of these, in terms of the VLE as a mature e-learning system in tertiary education in Ireland. On the face of it, e-learning certainly appears to offer ways and means of widening educational participation making education 'life wide'. With the support of education developers, VLEs seem to offer a sustainable and useful platform whereby content, teaching, learning and assessment can be married into one meaningful enhancement that can complement a robust pedagogic learning environment. Beyond its use as an environment regarded as supplemental to traditional learning, the challenge is to make use of these tools as enablers of truly blended learning environments. Online and face-to-face teaching do not exclude each other; on the contrary, they could enhance each other mutually in many creative and powerful ways. The widespread availability and support of an institutional VLE can provide a quick win-win solution that helps to make real the promises of blended learning. However, e-learning platforms exist within a milieu that is reliant on issues such as connectivity, access, lecturer and student experience and abilities, all of which impact on the potential effectiveness of said platforms. Whatever policies, protocols, think tanks, committees, legislation, commissions or memoranda are drawn up, designed or implemented, the reality for most learners and lecturers on the ground is frequently very different from the aspirations of such instruments or bodies. It is quite clear that aspirations and mission statements need to be turned into concrete executive decisions and actions.

**Note 1** We welcome additional participants to join the project team, from Ireland or overseas. If your institution is interested in becoming involved, please contact us.

**Note 2** While Dr Claire McAvinia, one of the authors, now works in Dublin Institute of Technology, the data that she contributed to this chapter is based on her previous work in NUI Maynooth.

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## Response to

### **An Investigation of Students' Experiences of using Virtual Learning Environments: implications for academic professional development**

by Gráinne Conole, University of Leicester.

The chapter focuses on the important topic of how students are using Virtual Learning Environments (VLEs) and in particular student satisfaction. This is timely given the recent interest in Learning Analytics, i.e. being able to data mine VLE information in order to better understand how students are using the VLE, an insight into their patterns of learning and identification of students who are having problems. The chapter draws on a rich set of empirical data gathered since 2008. The authors provide an overview of the research methods and findings and then focus on the implications for academic professional development and capacity building. The chapter is well written and logically structured. Key arguments are backed up by relevant research literature

The chapter begins by providing an overview of the role of VLEs in Higher Education Institutions. They provide an overview of VLE policy and practice in Ireland and contextualize this with international research literature on the adoption of VLEs. They found that there were few longitudinal studies; hence, the value of their research. They found that VLEs were primarily being used as content repositories, rather than supporting problem-based learning or group work, a finding echoed in other research literature.

The research method used was a survey to assess students' uses of and attitudes towards VLEs. The survey was initially run with five institutions; this later expanded to 12 institutions. The survey consisted of 20 items, some with sub-sections. The authors collected an impressive set of data; 15,385 responses across 12 institutions, collated from 22 survey instances from early 2008 to mid-2012.

Having outlined their research approach, the results are presented. The first key finding was that VLEs were primarily being used as a content distribution platform. The second key finding was around consistency of use; students sought comprehensive and consistent basic usage that facilitated easier navigation of VLEs. The third was the view from students that the VLEs did provide them with good communication tools, to connect with their tutors and peers. The fourth was that use of the VLE changed students' patterns of learning, providing them with more flexible ways of studying. The fifth finding was that student satisfaction with the VLE is intrinsically linked with the educational design behind the use of the tools.

#### **The chapter conclusions:**

VLEs seem to offer a sustainable and useful platform whereby content, teaching, learning and assessment can be married into one meaningful enhancement that can complement a robust pedagogic learning environment. Beyond its use as an environment regarded as supplemental to traditional learning, the challenge is to make use of these tools as enablers of truly blended learning environments. Online and face-to-face teaching do not exclude each other, on the contrary, they could enhance each other mutually in many creative and powerful ways. The widespread availability and support of an institutional VLE can provide a quick win-win solution that helps to make real the promises of blended learning.

The chapter would benefit from inclusion of more data to back up the claims being made, for example inclusion of more quotations. Overall, this is a strong chapter drawing on an extensive body of empirical data. It would be nice to see more in the conclusion on the key contributions to knowledge that this research provides, along with implications for learners, teachers and institutions. It would also be useful to include a little on potential future research.

The key benefit of this chapter is that it provides a longitudinal study of the use of VLEs in 12 Irish institutions. This is important given the centrality of VLEs as core learning tools. Institutions and teachers need to have a better understanding of how learners are using VLEs, along with their perceptions of the value of VLEs for their learning. Internationally this work is important and indeed the authors do draw on international research on the use of VLEs.