

Eroding distinctiveness: Blurring the boundaries between on- and off-campus students by the adoption of learning management systems

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Learning management systems (LMS) have been widely adopted in the tertiary sector and Deakin University is no exception. What is more exceptional is Deakin's policy that, from the start of 2004, every unit being taught at Deakin University is required to establish a Deakin Studies Online [DSO] site and there must be at least one fully online unit for each program. This paper reports on the findings of an online survey of teaching and learning using DSO that was conducted in 2004 and repeated in 2005. This study provides some compelling evidence that the traditional distinctiveness of on- and off-campus study is eroded when all students study online.

Context

University LMS, policy and procedures

In the past ten years learning management systems [LMS] have had such widespread and rapid adoption they have become almost ubiquitous in many parts of the world with recent estimates suggesting that in many countries about three quarters of institutions have an LMS (Coates, 2005). In a recent survey undertaken by the American Society for Training & Development (2005) 81.7 per cent of the 153 responses indicated their organisation used a LMS. Deakin University's learning management system is WebCTVista, repackaged as Deakin Studies Online (DSO).

From January 2004 each unit offered by Deakin University has at least a basic online presence using its LMS. In practical terms this means that a Deakin Studies online (DSO) site is established that normally includes the unit guide, a 'resources area' where an electronic version of the readings (where appropriate) and other resources are placed, and the opportunity for the teaching staff to communicate with students through a noticeboard. All students in units that do not meet face-to-face at least once a week will have facilitated online interaction. The unit chair must be prepared to report to their unit community through the DSO site established for their unit. Extended online units are characterised by additional resources, more advanced and diverse communication strategies and embedded pedagogies.

At the same time, and of particular relevance to this paper, every program taught is required to have at least one wholly online unit which has all teaching resources and teaching undertaken online including:

- All content (either commercial print-based textbooks or commercial e-texts may be used as supplementary material),
- All communication and interaction with students,
- Assignment submission and feedback,
- At least one session each week of interactive communication (synchronous, asynchronous, or both) between teacher and students,
- Resources such as video and audio which are provided on CD-ROMs for off-campus students where appropriate. (Deakin University, Online technologies in courses and units – procedure, July 25, 2003)

LMS [DSO] survey

From the purchase of WebCTVista and its introduction to the university community as DSO in 2003, seeking feedback from users was seen as essential. This was done in several ways, but the main instrument has been a university-wide online questionnaire and these are the data used to inform this paper. Following a pilot in 2003, essentially the same questionnaire has been used in 2004 and 2005. Although both staff and students were surveyed, this paper concerns the responses from students: 2,887 in 2004 and 2,526 in 2005, making the total respondent sample 5,413: see Table 1. Because the focus of this paper is the contended similarity between the responses of on- and off-campus students, the statistical data reported below separate the two years to show pattern of response.

Table 1 Survey respondents overall and in terms of mode of study					
	All students	On-campus as primary mode	Off-campus as primary mode	Over-seas	None of these, so off-campus
2004	2887	1799	1088 [506]#	75 [6]	589
2005	2526	1560	966 [442]	55 [9]	478
		On-campus		Off-campus	
2004	2887	2223		664	
2005	2526	1993		533	
<p>Note: #The numbers in square brackets refer to the number of those indicated off-campus as their primary mode of study but also indicated attendance at a national campus: see discussion below. For this reason they have been included as part of the on-campus sample here. In the case of overseas students this means those who have indicated on-campus as their primary status as a student. As this means attendance at an overseas campus they have been included in the off-campus sample.</p>					

The first section of the survey dealt with demographics, the next with support, and then 15 questions asked students to rate the importance of various teaching/learning aspects of DSO and their satisfaction with each. The final set of questions asked for responses to three key propositions regarding the learning experience:

- The use of DSO enhanced my learning experience
- I felt adequately supported by those teaching my units to use DSO effectively
- I felt adequately supported technically to use DSO effectively.

The survey ended with an invitation to provide written feedback. In 2004, 1,180 students chose to comment with 70,236 words of text. In 2005, 948 comments were received with 76,489 words of text.

The university's survey tool allows data to be readily interrogated across specified variables, such as gender, mode of study, campus, faculty, level of study. To inform this discussion, the key variables selected were mode of study and campus. The paper also draws on the responses to the three propositions stated above and to six of the fifteen questions regarding teaching/learning aspects of DSO which were selected because they are core components of the learning experience: accessing course materials, online discussions, assignment submission and feedback. Each aspect had two questions. Where importance and satisfaction are rated side by side the University's survey tool imposes a scale with 1 (Low) and 7 (High) in contrast to the 1 (Low) to 5 (High) scale used elsewhere.

While this broadly based survey does not capture the differences between an online experience in different units – although this is highlighted in a large proportion of the open ended comments – it does provide a broad picture of how DSO is being received by students. Being open in mid-year (from just before the end of semester one to the second week of semester two) it comes at a time when respondents have experienced at least one semester of DSO, although (as could be expected) increasingly experience is growing with over 50 per cent of student responses this year indicating they have used DSO for at least three semesters.

Although it needs to be recognised that the sample is not random in that students chose to complete the survey, the sample size and the fact that all campuses, disciplines and modes of study are represented give some confidence that this is a reliable indicator of student perceptions of learning using Deakin's LMS in 2004/5.

Blurring the boundaries between on- and off-campus learning

In his book *Why Distance Learning?* Berg (2002, p.xvi) suggests that the main elements of distance learning are:

- physical separation (complete or more than 50% reduced contact time) between teacher and learner;
- administration by an education organization;
- frequent use of various media, including print, video, film, computer, and audio;
- communication between student and teacher, synchronous or asynchronous; and
- often an administrative focus on the non-traditional learner.

By introducing and implementing the online technologies policy with the procedures quoted above, Deakin University essentially provided an identical learning experience for on- and off-campus students. In practice, even the one stated area of distinctiveness (the use of CD-ROMs for off-campus students) disappeared as integrating multimedia provided on CD-ROM with DSO became common practice for all students. That it clearly meets the criteria Berg identifies is compelling evidence that what we have traditionally associated with the distance learner is now at least part of the experience of those who could come on-campus to experience face-to-face higher education.

Rapid advances mean technology is increasingly pervasive in all aspects of life - including how one learns - and this, in turn, puts pressure on educators to use technology. Consequentially, as Bates (2000) claims:

Because such technologies are valuable both on and off campus, it is natural then to see a convergence between distance education and face-to-face teaching. While there are still differences, it is now much easier to move between the two previous solitudes.

Perraton (2004, pp.15-16) points to evidence of convergence between distance and conventional education speculating that as e-learning develops on any significant scale it 'may therefore bring down the barriers between different modes of teaching'. He recognises that in this way distance education is 'becoming part of the mainstream educational system'. Both modes are affected as the boundaries between them are blurred. Weigel (2005), for instance, acknowledges the early association between the LMS and distance learning but explicitly links these systems with face-to-face teaching when he refers to their 'uncritical acceptance of the traditional features of the classroom model'. Roberts (2003) similarly refers to both modes when he states that, as the Open University (UK) discovered nearly by accident, the internet challenges traditional distance teaching as much as it does the traditional classroom.

While challenging both and offering enhancements to both (see below), online education offers increased flexibility to all students. While distance students have long valued the emancipation from time and place constraints, their school-leaver on-campus counterparts are increasingly reliant on such flexibility as they accommodate highly mobile lifestyles with complexities such as meeting employment commitments that were earlier associated with mature age distance learners. The most recent statistics of Deakin's first year cohort (Deakin University, December, 2004) reported (p.4) that for on-campus students the age profile 'was heavily weighted towards the 19 and under age group' while most off-campus students were over 30. The same report (p.6) indicates that, even at first year, 62% of on-campus students indicated they were currently working (90% of the off-campus cohort) and, of those not working, half were looking for work. A national study of the first year experience (Krause et al., 2005) stated that the last decade has seen a progressive decline in both the days and number of hours full-time students spend on campus with a significant rise in the proportion of students committed to paid employment. The impact of work on tertiary study has been well documented by McInnes & Hartley (2002). The

point here is that although there are differences in age and the type of work undertaken by on- and off-campus students, typical students in both groups are seeking flexibility in when they learn and this is arguably best catered for online.

The situation regarding on- and off-campus students is made complex because a significant number of students who identify their primary status as a student as off-campus, indicate also that they attend either a Deakin campus in Victoria or one overseas. This, in itself, is a definite blurring of boundaries and its extent is worth noting. In the most recent survey (see Table 1), half of those (488 of 966) who described their primary status as a student as off-campus, indicated they attended a campus with most of them (442) indicating a Victorian campus, and the rest (46) overseas. The situation was similar in 2004. A less ambiguous grouping 'none of these' (i.e., no Victorian or overseas campus) clearly identifies off-campus students who attend no campus and it is this cohort that has been identified for statistical comparison. To these, for the sake of this exercise (and in accord with the University's statistical reporting), have been added all overseas/offshore students: see Table 1.

Students, themselves, recognise the similarity of the experience for both on- and off-campus students.

DSO allows all students access to the same material. It no longer matters whether you are an on-campus student or off-campus students, we all benefit. (Student response, June 7, 2005)

DSO is a great learning environment for both on and off campus students. (Student response, June 23, 2005)

Even though I am an off campus student, the use of DSO made me feel like an 'on campus' student. (Student response, June 28, 2005)

That is not to say that all students were happy with this seemingly merged situation:

As a full-time on-campus student, I feel like an off-campus student. All I'm ever told is 'go to DSO'. That pisses me off. (Student response, June 9, 2004)

[DSO is] not focused enough for off-campus students in terms of details that may be explained in lectures, not transferred to DSO notes. (Student response, June 5, 2004)

The higher education learning experience

What is the essential learning experience for tertiary students? Arguably, one would list engaging with the literature and discourse of the discipline through interaction with academic teaching staff, peers and text as key elements. This translates in the face-to-face on-campus environment as the lecture, the tutorial or laboratory/practical class. When the face-to-face component is removed, and the experience is online, it could reasonably be premised that on-campus students would be less satisfied as they no longer have the personal immediacy of customary face-to-face teaching/learning. Conversely, it could be premised that off-campus students will be more satisfied because their teaching/learning experience is likely to be enhanced through the increased functionality of a learning management system and the offer of increased opportunities for interaction with texts as learning resources and mentors and peers through online discussion. Such enhancements as receiving audiostreamed lectures and having complex data presented visually with animation present a demonstrably different learning experience from printed readings.

From the telling summary data of level of satisfaction with DSO (see Table 2 below), it is immediately apparent that mode of study is not (of itself) a critical determinant. The response from all students is markedly similar with the most recent data revealing just a 0.13% difference in the satisfaction index. Moreover, the converse of the premise suggested above is – even if to a very small extent – the case. Off-campus students are less satisfied than on-campus students, with the margin reduced in 2005.

Table 2 Level of satisfaction on 1 [Low] -7 [High] scale and as % (satisfaction index)				
	2004		2005	
On-campus	4.17	59.59%	4.56	65.06%
Off-campus	3.94	56.19%	4.55	64.93%

Note: In surveys run using Deakin's survey tool the following explanation is provided by the Planning Office for the 'calculation of an accurate Satisfaction Index'.

In order to provide a consistent overall outcome from customer satisfaction survey, an agreed method for the calculation of 'satisfaction' has been established. With the use of both importance and satisfaction measures within surveys, it is possible if a 7 point scale is used for divisions to produce a satisfaction index that takes account of importance weighting factors.

Weighting: To calculate the Weighting Factors add up all the importance scores and then express each one as a % of the total.

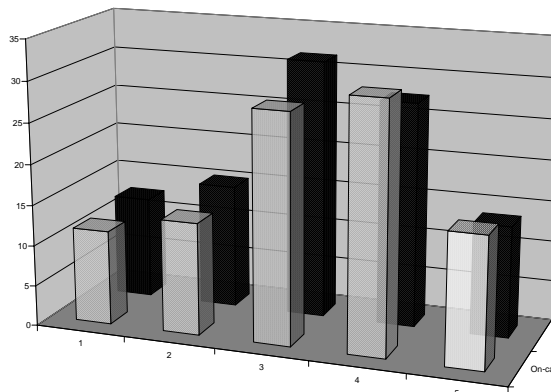
Satisfaction Index: To calculate the Satisfaction Index each satisfaction score is multiplied by its corresponding weighting factor to produce weighted scores. The weighted average is found by adding up the weighted scores.

In regard to the actual learning experience, the key survey question was the overall proposition that 'the use of DSO enhanced my learning experience'.

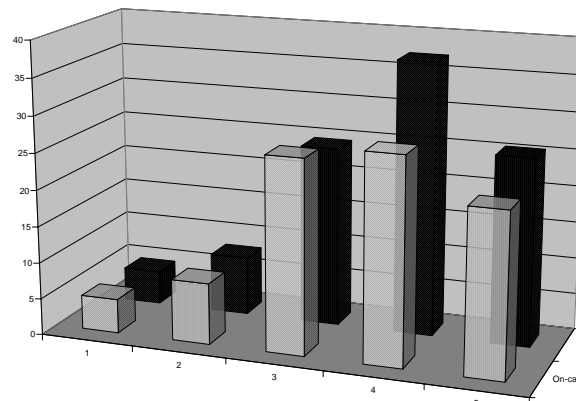
The pattern of the responses for the two cohorts in each year is close to identical as can be seen very clearly when graphed: see Graph 1. This is the case even though the actual responses do show difference over the two years.

Graph 1 The use of DSO enhanced my learning experience [in %] 1=Low; 5=High

2004



2005



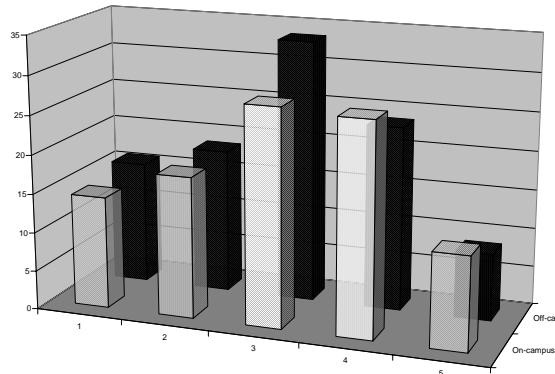
Coupled with this were two other questions regarding support by those teaching the unit and technical support: see Graphs 2 and 3 below.

The written comments from both surveys provided compelling evidence that the key to the success (or otherwise) of learning with an LMS was how it was supported both academically and technically. Although the quantitative data (See Graphs 2 and 3) indicate progress and improvement, often this support was highly variable. Here, the situation for distance students who have fewer options for contact and who are often in areas with restricted and expensive internet access, would suggest they are more vulnerable as well as more reliant on the system. As one student put it 'As an off-campus student studying online from Thailand ... DSO is my whole point of reference with the university and of huge importance to me' (Student comment, June 14, 2005). It is not surprising that the greatest area of variance is in technical support (See

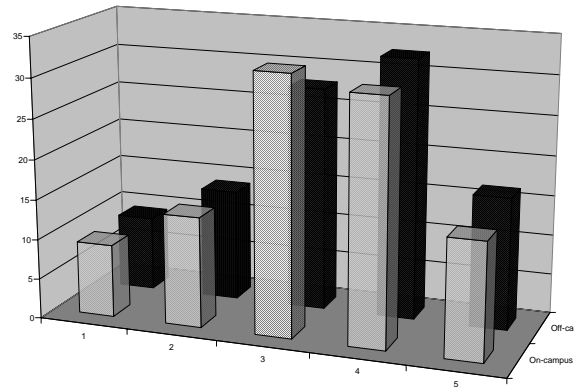
Graph 3) as one would expect the substantively metropolitan profile of on-campus students to be a predictor of more ready access to technical expertise, but even this variance is not overwhelming. Again it is the similarity of the responses from both on- and off-campus students that remains a dominant impression.

Graph 2 I felt adequately supported by those teaching my units to use DSO effectively [in %]
1=Low; 5=High

2004

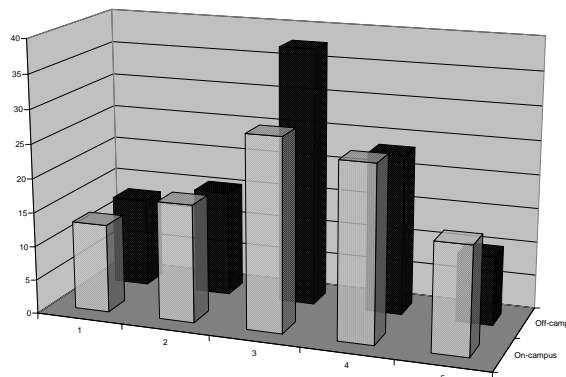


2005

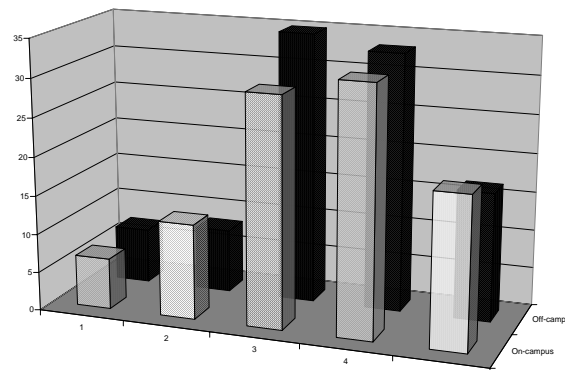


Graph 3 I felt adequately supported technically to use DSO effectively [in %] 1=Low; 5=High

2004



2005



Three core aspects of higher education learning

Accessing course material

In its traditional sense, delivery of the course material for on-campus students is through the face-to-face lecture with access to additional resources through the library. Deakin, with its long history of distance education, introduced the Study Guide to all students when it moved into a mixed mode learning environment with the amalgamations with essentially on-campus colleges of advanced education. Within DSO the print Study Guide is now online and the print reader that formed the basis of much distance education is being replaced by a series of URLs, supplemented (as deemed appropriate) by print textbooks and, increasingly, CD-ROMs and audio streamed lectures.

Two survey questions asked students how important accessing basic course material was using DSO. Their responses (See Table 3) indicate that this aspect was the most important aspect of their learning and the patterns of response are markedly similar when the cohorts are

disaggregated. A noteworthy difference is the higher percentage of on-campus students who ranked accessing course material as extremely important in both years, again the converse of what had originally been premised and reinforcing the conclusion that on-campus students are seeking such learning online.

Table 3 Accessing unit guides & information/accessing course notes 1=Low; 7=High				
Mode	Year	Importance	Satisfaction	7/7 # [in %]
On-campus	2004	6.0/6.5	4.8/4.7	53.2%/69.8%
Off-campus	2004	6.0/6.2	4.5/4.2	51.1%/52.5%
On-campus	2005	6.4/6.6	5.2/5.0	60.3%/71.5%
Off-campus	2005	6.3/6.4	5.1/5.0	60.8%/60.6%

Note: # 7/7 here, and in the tables below, refers to those who gave the highest possible ranking to the importance of each aspect.

The written feedback sent a strong message that to access such material efficiently a broadband connection was imperative for all students:

I can see the potential for DSO, but for an off-campus student on a dial-up connection, it is extremely slow and gets in the way of learning. It becomes a time waster, taking too long to load for the most trivial of tasks. (Student response, June 2, 2004)

Basically as a dial up internet user DSO was/is a nightmare! seeing the difference with broadband is amazing! so much quicker! actually able to access lecture notes, etc & NOT have to go on to campus to print them out there, then put them on the "share" drive to finally access them at home. So I guess I have NO CHOICE eh? Next semester I have to go to broadband as this semester with DSO has been a continuing headache. (Student response, June 16, 2005)

Discussions

The tutorial/seminar has (with the lecture) characterised much university teaching. Having the opportunity to interact with mentors and peers and discuss perceived significant aspects of the course as well as to gain assistance and support are seen as very important. In this regard on-campus students generally have weekly face-to-face encounters in seminars and tutorials and their off-campus counterparts who used to forfeit interaction with peers unless they had telephone tutorials now, with the advent of computers, have the opportunity of online discussion. Again, although there is a discernible trend that off-campus students (as one would expect) value this opportunity more highly, the difference is not as marked as one may have surmised: see Table 4. Both groups rate reading other's contributions as more important for their learning than making their own contribution, with this being most pronounced for off-campus students in 2005. It is of interest that this learning function facilitated through DSO is not seen as important as we had anticipated and is the least important of the three aspects being considered here: see Table 4.

Student comment revealed considerable concern when lecturers were not active members of discussions —

Our lecturers did not communicate effectively through DSO. I believe it is an excellent forum for discussion and initially they responded to one or two messages but largely the silence was deafening. This has been extremely frustrating. (Student response, June 7, 2005)

and also irritation with the perceived lack functionality of DSO that made the discussions cumbersome —

I find that DSO is poorly designed in the way discussion threads are able to be viewed, and there are CONSTANT misunderstandings and mistakes made by users who are just coming to grips with it. This often makes discussions very hard to follow, as they often take no logical or chronological sequence. (Student response, June 8, 2005)

Table 4 Contributing to discussions online /reading online contributions to discussions				
Mode	Year	Importance	Satisfaction	7/7 # [in %]
On-campus	2004	5.0/5.5	4.3/4.7	20.6%/28.5%
Off-campus	2004	5.3/5.5	4.3/4.6	28.45%/29.05%
On-campus	2005	5.0/5.5	4.7/5.0	21.0%/31.2%
Off-campus	2005	5.3/5.7	4.7/5.0	32.0%/40.0%

While there were some comments that the situation was exacerbated for off-campus students because it is the only contact, this is not the case where the unit was taught wholly online. The vast majority of comments reflected a shared experience with difference in reaction being attributable not to mode of study but essentially to how discussions were managed and integrated into the learning experience.

Submission of assignments and receipt of feedback

It could reasonably be surmised that off-campus students would especially rate submission of assignments online as more important than would their on-campus counterparts for two main reasons: the extra time allowed for completion when conventional mail does not have to be factored in and the convenience for those who cannot drop an assignment into the assignment box on-campus. As one student explained:

For students studying off campus the use of the DSO is critical in submitting assignments. ... In my case and living in Brisbane I lose 3 days of work through mailing assignments which were predominantly due on a Monday. This meant a mail out on Saturday. Living with the email should allow distance students to always email their assignments irrespective of location, state based or overseas. ... Being allowed to email assignments is a fundamental part of distance education. (Student response, June 28, 2005)

Table 5 Online submission of assignments and online receipt of feedback on assignments in terms of importance & satisfaction 1=Low; 7=High				
Mode	Year	Importance	Satisfaction	7/7 # [in %]
On-campus	2004	6.2/6.3	4.2/3.5	52.3%/52.4%
Off-campus	2004	6.3/6.3	3.8/3.5	54.8%/58.0%
On-campus	2005	6.3/6.4	4.5/3.8	53.9%/54.6%
Off-campus	2005	6.3/6.4	4.7/3.9	61.0%/60.3%

Analysis of the data over the two years indicates this is something that all students regard as very important with a very small range of 6.2 to 6.4 of 7: see Table 5 above. While off-campus students were more likely to consider online assignment submission and feedback were extremely important (7/7) again the difference is not as great as one may have surmised: see Table 5. The convenience of the greater immediacy of online submission and feedback are

desired by most students and technical problems have led to much lower scores in the level of satisfaction and a plethora of student complaints – again reinforcing how important this aspect is to all students.

Conclusion

While the distinctiveness of distance education is inevitably eroded once its salient characteristics become part of the mainstream, as occurred here, this does not necessarily translate into an erosion of the significance of their role. Commentators, such as Neave (1999, pp.ix-x), claim that 'what was once heralded as the daring experiment in distance teaching universities has now become the template: the referential vision against which even well-established universities now seek, in varying degrees of accommodation, to align themselves'. No longer cast as 'one particular form of peripheral provision in higher education', they now 'occupy a strategic position at the very centre of current thinking'. In the non-western world, Gnanam and Stella (2005) write that the emergence of information and communications technologies has led to the concept of open and distance learning 'as the panacea for the growth, cost reduction, and quality of higher education in India' to the extent that 'some people even seem to imagine that the new systems will replace traditional campus-based education'.

As Moore (1983, p.156) identified decades ago, there is a transactional separation between learner and teacher in all educational situations but in face-to-face teaching the interactive (as compared with the preparation) stage of teaching has a shared physical presence. The introduction of flexible resource-based learning through an LMS means on-campus teaching becomes more distant in transactional terms. With the online enhancements to traditional print-based learning, off-campus teaching is characterised to a greater extent by the proximity of interaction associated with face-to-face education. As discussed above, this change to teaching is accompanied by changes to the profile of the tertiary learner that mean on-campus students are increasingly seeking and valuing the kinds of flexibility that have traditionally been associated with their off-campus counterparts.

Where, as in the situation described above, there is a requirement for all students - irrespective of their mode of study - to participate in online teaching and learning through an LMS, customary boundaries are indeed blurred. What this study reveals is a high level of convergence between the responses of on- and off-campus students. The pattern, while changing over the two years in terms of level of satisfaction, remains markedly constant as far as the similarity between the two cohorts is concerned. This is not only in a generalised sense at the macro level but also in detail in terms of such key indicators as ranking and responses to questions at the micro level. It is recognised that this is but one study of the experience of one university, but it does provide evidence to support speculation, such as that from Perraton (2004) quoted above, that e-learning on a significant scale will bring down the barriers between different modes of teaching.

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