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## Use of The Le@rning Federation digital curriculum resources in Australian pre- service tertiary institutions

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Report prepared by The Le@rning Federation  
for Curriculum Corporation

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## 1.0 Highlights

- Since 2006 there has been a very substantial increase in access to and use of The Le@rning Federation digital curriculum resources by education faculty staff and students.
- The number of tertiary institutions licensed to use The Le@rning Federation digital content has more than doubled (from 16 to 36) as of March 2009.
- In the last 15 months the number of staff registered to access content from The Le@rning Federation *e-content* repository has more than doubled from 363 to 743. The number of registered student users almost quadrupled during 2008, from 1,359 to 5,279. During the March quarter of 2009 student registrants more than doubled compared to the corresponding period in 2008.
- Students are using the digital curriculum resources in a variety of ways, but primarily for the purpose for which they were intended – integrating items of digital content into practicum lessons and assessment tasks. This contrasts markedly with earlier data.
- Almost all (95%) staff users commented positively on the usefulness of the resources.

## 2.0 Introduction

This report provides a snapshot at 31 December 2008 of the use of The Le@rning Federation (the Initiative) digital curriculum resources by education faculty staff and students at licensed tertiary institutions. Following provision of access to The Le@rning Federation *e-content* repository: <http://econtent.thelearningfederation.edu.au> in July 2007, and a concerted campaign to inform Deans of Education and relevant faculty members about the Initiative and the availability of the content, there has been a significant increase in uptake for pre-service courses since 2006.

By the end of 2008, 34 tertiary institutions with education faculties were licensed to access the digital curriculum resources published by the Initiative, and 617 staff members and 5279 students had registered to use the repository. This report also shows that the digital curriculum resources are starting to be integrated into a range of pre-service courses in interesting and diverse ways.

A further snapshot of data was taken at the end of March 2009. Full details are included in Section 7. These continue to show increased interest in the digital curriculum resources by staff and students in education faculties around the nation.

Despite this increase in uptake by the institutions that are preparing the next generation of teachers to work in 21<sup>st</sup> century schools, there are still challenges to meet before access and use of the digital curriculum resources becomes routine. These issues include different access arrangements at the institutions and school jurisdictions and the uneven awareness and preparedness of staff willing to integrate digital materials – through lack of expertise, support or available time. Pre-service student teachers also report that, even when they prepare to include digital content during practicums, access to computers, digital content and support at the school level often is not readily available.

## 3.0 Background

The first snapshot of this kind showed that in May 2006, 16 universities had taken up the offer of a licence to access The Le@rning Federation digital content. Despite the positive responses by key personnel interviewed about the potential of the content, there was little evidence of take-up and integration into pre-service courses by staff. The main inhibitor identified was access – at this time a few institutions were using LORAX transfer, and the others had taken the multiple CDs (which were shortly replaced by one DVD). These were easily misplaced or required considerable effort to

upload onto the institution's system. Communication from the key contact to other staff members within their institution was also problematic.

Several factors have contributed to the significant change that took place by the end of 2008. Commencing in June 2007, awareness-raising forums were conducted with tertiary institutions in all states and territories. In July of that year, the *e-content* repository was first made available to both staff and students at licensed pre-service institutions. Thus there was now a single, straightforward point of access and the issue of tertiary institutions not having access to the portals and content repositories in their particular geographical regions was solved. A database of staff registering interest in TLF has been maintained and regular information and newsletters sent to the growing number of contacts. Key contacts often use the newsletter updates in their own on-campus communication. Personal support by The Le@rning Federation has also been available when required.

## 4.0 Data collection

Data for the 2008 snapshot was gathered through:

- the *e-content* repository's reporting functions
- an online survey to all staff registered with the *e-content* repository which provided useful qualitative data
- visits to selected education faculties which included conversations with staff and some students.

## 5.0 Findings

### 5.1 Licensed tertiary institutions

Thirty-four tertiary institutions representing all Australian states and territories had obtained a licence to access TLF digital content by December 2008 (see Table 1).

In addition, expressions of interest to obtain a licence have been received from:

|                                 |     |
|---------------------------------|-----|
| University of Ballarat          | Vic |
| University of Newcastle         | NSW |
| University of Western Australia | WA  |
| Bond University                 | Qld |

### 5.2 Staff and student registrations on the *e-content* repository

Table 1 shows that in 2008, 617 faculty members from the licensed tertiary institutions had registered on the *e-content* repository. All but one institution had at least one staff member registered, with Charles Sturt University in rural NSW having the largest number of staff registrants (134) across its regional campuses.

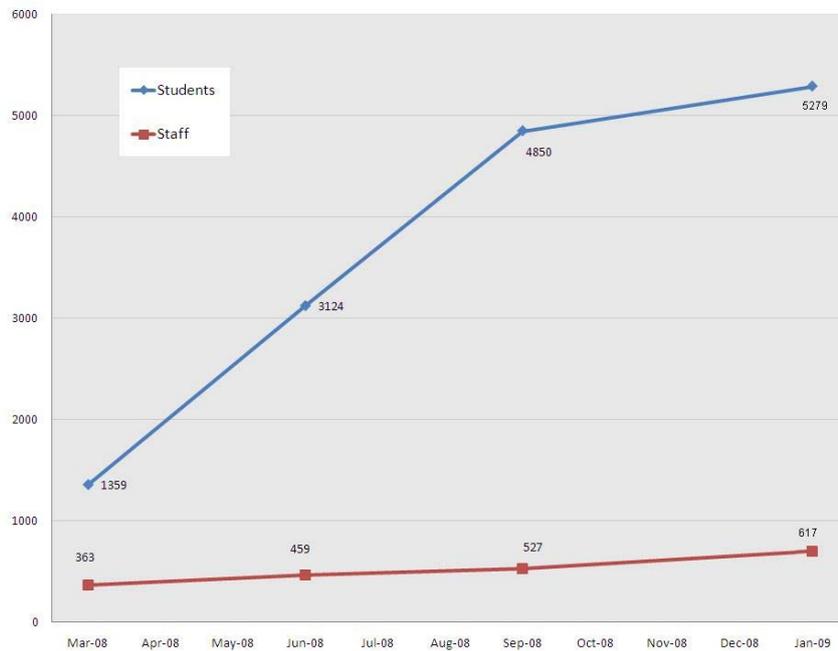
In 2008 there were 5279 student registrants, with Deakin University Victoria having the largest number (523). Four universities had no student registrations.

Figure 1 shows there was a steady increase in staff registering on the *e-content* repository over the course of 2008, with the numbers of student registrants increasing dramatically, especially over the first half of the year.

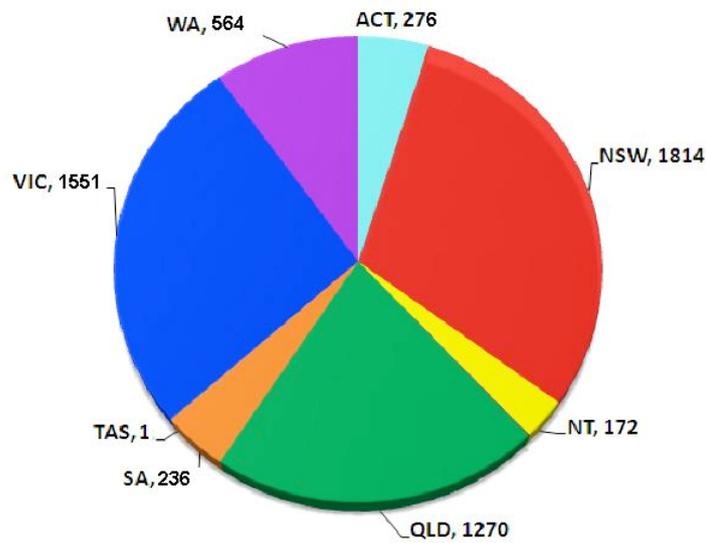
**Table 1: Licensed tertiary institutions and staff and students registered by December 2008**

| <b>Institution</b>                                   | <b>State</b> | <b>Staff</b> | <b>Students</b> |
|--|--------------|--------------|-----------------|
| University of Canberra                               | ACT          | 18           | 258             |
| Charles Sturt University                             | NSW          | 134          | 403             |
| Macquarie University                                 | NSW          | 11           | 109             |
| Southern Cross University                            | NSW          | 1            | 234             |
| University of New England                            | NSW          | 12           | 84              |
| University of NSW                                    | NSW          | 2            | 27              |
| University of Sydney                                 | NSW          | 2            | 193             |
| University of Technology, Sydney                     | NSW          | 1            | 152             |
| University of Western Sydney                         | NSW          | 4            | 7               |
| University of Wollongong                             | NSW          | 5            | 433             |
| Batchelor Institute of Indigenous Tertiary Education | NT           | 4            | 0               |
| Charles Darwin University                            | NT           | 20           | 148             |
| Central Queensland University                        | Qld          | 5            | 49              |
| Griffith University                                  | Qld          | 68           | 172             |
| James Cook University                                | Qld          | 15           | 270             |
| Queensland University of Technology                  | Qld          | 40           | 383             |
| University of Queensland                             | Qld          | 27           | 104             |
| University of Southern Queensland                    | Qld          | 20           | 109             |
| University of the Sunshine Coast                     | Qld          | 5            | 3               |
| Flinders University                                  | SA           | 8            | 97              |
| University of Adelaide                               | SA           | 4            | 64              |
| University of South Australia                        | SA           | 17           | 46              |
| University of Tasmania                               | Tas          | 1            | 0               |
| Deakin University                                    | Vic          | 15           | 523             |
| La Trobe University                                  | Vic          | 27           | 378             |
| Monash University                                    | Vic          | 0            | 0               |
| RMIT University                                      | Vic          | 12           | 308             |
| University of Melbourne                              | Vic          | 22           | 260             |
| Victoria University                                  | Vic          | 6            | 0               |
| Australian Catholic University                       | National     | 12           | 0               |
| Curtin University                                    | WA           | 6            | 56              |
| Edith Cowan University                               | WA           | 60           | 180             |
| Murdoch University                                   | WA           | 5            | 11              |
| University of Notre Dame                             | WA           | 28           | 218             |
| <b>TOTAL users</b>                                   | <b>34</b>    | <b>617</b>   | <b>5279</b>     |

**Figure 1: Student and staff registrations, March – Dec 2008**



**Figure 2: Staff and student registrations for each state and territory, March – Dec 2008**



Whereas tertiary institution faculty members can maintain registration in perpetuity while employed in their particular institution, students are required to re-register each year. Information has been sent to each institution advising them of the 2009 student registration procedure and it will be useful to compare patterns of registration at the end of this year.

### 5.3 Use of TLF digital content by pre-service institutions

Understandings about the ways in which staff and students are using The Le@rning Federation content come from the online survey, on-site focus group sessions and interviews and other more informal discussions conducted during December 2008.

#### 5.3.1 Online survey respondents

Forty-six faculty members from 26 tertiary institutions in all states and territories responded to the online survey posted for two weeks in December 2008. The respondents included lecturers (29), senior lecturers (8), associate professors (5), professors (2), course coordinators (2) and librarians (2). Their specialties included secondary focus (16), primary focus (14), information and communication technologies (14), early childhood (2) and library/information resources (2).

Eighty-three percent of the respondents stated that they have responsibility for disseminating information about TLF among their colleagues and/or students.

#### 5.3.2 Use of TLF content

Staff were asked to respond to structured questions about how TLF digital content was being used in their institution.

|   |       |
|---|-------|
| Students are integrating items of digital content into practicum lessons and assessment tasks.                                  | 80.6% |
| Students are considering pedagogical uses (e.g. How a photograph might be used to develop visual and critical literacy skills). | 75.0% |
| Course lecturers are embedding sessions about TLF digital content into ICT components of their programs.                        | 66.7% |
| Lecturers require students to evaluate items of content (e.g. How useful is a simulation for teaching a scientific concept?).   | 63.9% |
| Students are posting reflections about TLF digital content in wiki and blog sites.  | 16.7% |

In addition to these structured responses, many respondents chose to give more specific details about the approach being taken by themselves and others on their campus. A selection of these comments is included below. The comments demonstrate that, since 2006, integration of The Le@rning Federation content has increased dramatically. The activities referred to range from generalised use in courses, specific review and evaluative tasks, requirements for students to integrate digital curriculum resources published by the Initiative into the design of learning tasks with a range of other ICT and for application during practicums.

**Comments on broad use of The Le@rning Federation digital curriculum resources in courses:**

- I have shown students the learning objects and pointed to the digital content. We have used the learning objects in class and in one unit evaluated them in a piece of assessment. I have also encouraged students to use them when on practicum and have been told of the experiences this has enabled in their classrooms.
- I have also shared them with other staff. The staff in the mathematics and literacy areas also use them with their students.
- I had first-year students use a communication activity as part of their own learning and as an introduction to the TLF materials.
- These resources are used in tutorials and for assignments.
- TLF material is one of the resources students are encouraged to use in constructing SOSE units but it is not a requirement as that is too constrictive.
- Students were demonstrated the content and log in process during a lecture in first-year first semester. The students were then required to explore and look at several learning objects.
- Embed TLF activities digital curriculum resources into seminar activities – individual & show and tell & literacy presentations.
- No specific task around TLF content is done. Students are made aware of the content as a resource for their teaching.
- Support for students and staff to access materials.

**Comments on review and evaluation tasks:**

- Students are expected to review an object from the TLF and include in this how they would use this in a classroom environment.
- Students are required to evaluate learning objects and compare them to other digital resources suitable for primary and early childhood. They analyse the embedded pedagogies and the content of the LOs.
- Evaluate TLF content, utilise in a teaching sequence and then respond to its effectiveness using defined measures.
- Review a selection of learning objects digital curriculum resources and other content for integration into units of work.
- Students have been asked to evaluate a multimedia educational resource for use in a particular learning context and they have been given the option of using a TLF resource as the focus of their evaluation.
- Students complete an assignment that includes evaluating a learning object and designing its use in the classroom. TLF resources are one of the major recommended sources.

- Students explore various interactive tasks from TLF and evaluate how they might be used in schools.

### **Comments on integration of The Le@rning Federation digital curriculum resources into units of work along with other ICTs:**

- Writing units of work embedding learning objects in meaningful ways.
- Students expected to incorporate some ICT resources in a sequence of lessons.
- 1. Develop a lesson plan showing the integration of digital educational materials.  
2. Select and review a digital educational resource and present it to a tutorial group.  
3. Modify an existing curriculum learning outcome in the light of the affordances of a selected digital educational resource.
- Lesson presentations; webquests; reflection through blogs; reviews.
- Students are later expected to develop an ICT-rich unit of work incorporating TLF learning objects if appropriate (most do).
- Students are asked to peruse TLF digital content, select a suitable learning object and present it to the tutorial group using the electronic whiteboard plus a justification for using the learning object.
- Students are asked to use a photograph/visual image in connection with a piece of music. The students are then asked to consider its pedagogical use and effectiveness and discuss the multi-modal approach on their wiki/blog.
- Identifying and discussing key science content and process outcomes in TLF objects. These are linked to interactive whiteboard notebooks.
- Built into their web quests as excellent learning materials for use in their classroom.
  
- Students are required to embed ICT components into their assessment tasks and pedagogical practice throughout the course. Depending on the unit emphasis, students access relevant tools, communication methods and information in order to critically assess; then use in their own practices.

Thus, compared to the last snapshot, use of digital curriculum resources is starting to become a component part of pre-service courses for staff and students.

## **5.4 Usefulness of the e-content repository and its features**

When asked, 'How useful have you found access to The Le@rning Federation digital curriculum content in preparing pre-service teachers for teaching in today's classrooms?', the staff were resoundingly positive, with 95% finding it useful, very useful or extremely useful. They like the design, browse and search functions, however more than half have yet to use some of the more advanced *e-content* features such as filter search, save to favourites (now overtaken by the revamped Learning path

options), display on maps and timelines. This provides opportunities for The Le@rning Federation to provide more detailed information in 2009.

Improved access has also brought staff back to have another look at the content:

- It is over a year since I searched the TLF content. At the time I found variable quality in the items reviewed. I am now pleased to see the increase range and quality, plus rating methods on the materials.
- I think the utility of the TLF resource is increasing steadily as the range of resources increases.

## 5.5 Campus discussions

Discussions with key personnel and some students at three tertiary institutions also provided further insight into current practice and local issues.

**Flinders University, South Australia** has eight faculty members and 97 students registered to access The Le@rning Federation content. Dr Trudy Sweeney is one of a limited number of staff who actively pursues ICT integration into the pre-service courses on offer. Dr Sweeney's role includes responsibility for several courses relating to ICT and learning and she has made concerted efforts to introduce ICT into the pedagogical practice of new teachers. She is especially committed to her students learning about, and through, Web 2 technologies. She introduces students to The Le@rning Federation content via the *e-content* repository and requires them to further explore, reflect on and design lessons that integrate The Le@rning Federation content. Each of her students, working individually, in pairs or larger groups, is required to share the fruits of research, lesson design and teaching experiences in a collaborative online space. Although she has responsibility for ICT in the pre-service courses, Dr Sweeney has little influence on ICT integration in the discipline-based subjects. Her students also report that, outside of her elective courses, they rarely use computers for purposes other than research, document writing and presentation. They say that they have never before been required to share work with others in the class, let alone explore the possibilities ICTs may have for learning. So where there is some standout work relating to the use of technologies at this institution, it is limited and affects a relatively small number of students.

Students also indicated their frustration about difficulties of access to The Le@rning Federation content in the schools they visited in the course of practicums, compared with the ease of access via the *e-content* repository at the university. With the adoption of Scootle across all sectors in South Australia in 2009, this issue should no longer be prevalent. However, early this year Dr Sweeney has already raised the matter of

Scoutle access for South Australian schools running alongside the *e-content* repository access for the pre-service sector and is concerned about the confusion this may cause the trainee teachers.

An Australian Government Quality Teaching Program (AGQTP) partnership with the Association of Independent Schools South Australia has been a stimulus for two other Flinders University staff members to gain an understanding of the possibilities of The Le@rning Federation content for teaching and learning numeracy. These staff supported mathematics teachers as they designed challenging units of work and action research projects incorporating ICT, including The Le@rning Federation mathematics digital curriculum resources. Initial reports indicate that this has been a successful project, with teachers appreciating the easy access to digital content through Scoutle and the enhancement of their programs with content-specific interactive digital materials.

**Edith Cowan University (ECU), Western Australia** has a large number of both staff and students on their various campuses registered with the *e-content* repository (see Table 1). Under the leadership of Associate Professor Dr Paul Newhouse, who has wide-ranging research and teaching interests relating to learning and technology, the information dissemination process to ECU staff about the Initiative and the offer of access has worked well. Many staff now know about and incorporate The Le@rning Federation content into various course offerings. However, Dr Newhouse reports that there is little shared, common purpose on the part of the university's staff about the use of learning technologies, including The Le@rning Federation digital content. The large number of part-time sessional staff operating under reduced face-to-face teaching time means that staff tend to work independently, with little knowledge of what each other is doing in relation to ICT. Some on-campus teaching and learning activities reported include student selection and evaluation of mathematics items; exploration of the use of The Le@rning Federation science content on interactive whiteboards; evaluation of the digital curriculum resources as a blogging activity; and the incorporation of digital curriculum resource items into Early Childhood Education courses.

As Executive Director of the Centre for Schooling and Learning Technologies (CSaLT) at ECU, Dr Newhouse is involved in various research and evaluation projects in Western Australia. He comments that, although he has witnessed some use of The Le@rning Federation content in his work, the variable access to the digital curriculum resources appears to be a major barrier to take-up in the WA school sector.

**La Trobe University, Victoria** experienced a steady increase in the usage of the Initiative's *e-content* repository during 2008 by staff and students. Several reasons

have been suggested for the growth. In addition to improved access, information via campus newsletters was provided, strong leadership in some courses was provided, there was partnership involvement in school-based ICT action research and evaluation studies and, in particular, two full-time educational designers charged with providing support to Faculty of Education staff for ICT integration into all courses across the campuses was provided. All pre-service teachers were expected to develop units of work that integrated ICT and included The Le@rning Federation digital curriculum resources.

## 6.0 Conclusion

It is quite clear that, since the 2006 snapshot, take-up and use of The Le@rning Federation digital curriculum resources by staff and students in Australia's pre-service institutions has increased significantly. It is now possible to see the digital curriculum resources embedded in a varied range of teaching and learning tasks, preparing future teachers for working in ICT-rich environments. Without doubt, the availability of the *e-content* repository, in place of other unsatisfactory means of access to the content has been the key to success. Regular updating of staff databases and the distribution of informative newsletters by The Le@rning Federation has also helped.

Nevertheless, although the numbers indicate good progress and survey respondents shed light on the many types of pedagogical purposes the digital content is used for, it is also apparent that continued progress requires a number of things to happen. These include continued on-campus advocacy for the Initiative (including advocacy by leadership), and tertiary institution involvement in school-based projects, evaluations and research partnerships relating both to digital content and ICT generally. These types of projects seem to provide an external driver for maintaining interest in The Le@rning Federation content and keeping the institutions in touch with what is happening as regards ICT in the schools.

Common and consistent access at both the institutional and school levels is emerging as an issue requiring resolution.

## 7.0 March 2009 update

The following summary updates the data about pre-service sector *e-content* repository registrants in the January to March 2009 quarter reported above and allows for comparison with the same period in the previous year. The data, which draws on the *e-content* repository reporting functions, clearly shows a significant increase in the number of students registering at the start of the year and that staff are continuing to register at a steady rate.

### Summary

- A further two universities have been licensed: Monash University, Victoria and the Canberra Institute of Technology, bringing the number to 36.
- Whereas at end of March 2008 there were 1359 students registered, at the end of March 2009 there were 3807 student registrations. Bearing in mind that students need to re-register each year, a large proportion of the 2009 students are likely to be new at their institutions, while the others will have seen the need to re-register to take advantage of the digital content for their ongoing course requirements.
- By the end of March 2009, the University of Notre Dame, Western Australia had the largest number of registered students – 726. By the end of 2008, the institution with the highest number of student registrants – 523 – was Deakin University, Victoria.
- Almost all institutions have students registered by the end of the first quarter 2009. Monash University, Victoria University, the University of Tasmania and the Australian Catholic University, all of which had no students registered in the corresponding period last year, now have students registered.
- Staff hold their registration in perpetuity while employed by the institution. The data shows that numbers of staff registrants has risen to 743 since the start of 2009 – an increase of 126.
- Charles Sturt University still has the highest number of staff – 136 – registered on the *e-content* repository.

**Table 2: Licensed tertiary institutions and staff and student registrations Jan – March 2009**

| <b>Institution</b>                                   | <b>State</b> | <b>Faculty</b> | <b>Students</b> |
|--|--------------|----------------|-----------------|
| Canberra Institute of Technology                     | ACT          | 9              | 2               |
| University of Canberra                               | ACT          | 25             | 89              |
| Charles Sturt University                             | NSW          | 136            | 309             |
| Macquarie University                                 | NSW          | 12             | 127             |
| Southern Cross University                            | NSW          | 1              | 109             |
| University of New England                            | NSW          | 16             | 4               |
| University of NSW                                    | NSW          | 2              | 0               |
| University of Sydney                                 | NSW          | 2              | 155             |
| University of Technology, Sydney                     | NSW          | 3              | 14              |
| University of Western Sydney                         | NSW          | 5              | 1               |
| University of Wollongong                             | NSW          | 6              | 0               |
| Batchelor Institute of Indigenous Tertiary Education | NT           | 4              | 13              |
| Charles Darwin University                            | NT           | 29             | 100             |
| Central Queensland University                        | Qld          | 8              | 60              |
| Griffith University                                  | Qld          | 69             | 179             |
| James Cook University                                | Qld          | 19             | 80              |
| Queensland University of Technology                  | Qld          | 45             | 307             |
| University of Queensland                             | Qld          | 28             | 3               |
| University of Southern Queensland                    | Qld          | 22             | 32              |
| University of the Sunshine Coast                     | Qld          | 5              | 0               |
| Flinders University                                  | SA           | 11             | 162             |
| University of Adelaide                               | SA           | 5              | 143             |
| University of South Australia                        | SA           | 23             | 130             |
| University of Tasmania                               | Tas          | 2              | 102             |
| Deakin University                                    | Vic          | 14             | 75              |
| La Trobe University                                  | Vic          | 29             | 180             |
| Monash University                                    | Vic          | 38             | 94              |
| RMIT University                                      | Vic          | 14             | 20              |
| Swinburne University                                 | Vic          | 0              | 0               |
| University of Melbourne                              | Vic          | 21             | 1               |
| Victoria University                                  | Vic          | 12             | 237             |
| Australian Catholic University                       | National     | 18             | 29              |
| Curtin University                                    | WA           | 7              | 161             |
| Edith Cowan University                               | WA           | 67             | 142             |
| Murdoch University                                   | WA           | 9              | 18              |
| University of Notre Dame                             | WA           | 27             | 726             |
| <b>TOTAL users</b>                                   | <b>36</b>    | <b>743</b>     | <b>3807</b>     |

**Figure 3: Student and staff registrations January, 2008 – March 2009**

