

Open Educational Resources Initiatives in Oceania

Open Educational Resources: a regional university's journey

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Abstract

In a region of geographically scattered, small island states, developing quality-enhanced learning materials across the hugely diverse, predominantly ocean-based learning and teaching environments, continues to present new challenges. This paper explores the potentially transformative nature of Open Educational Resources (OER) in a regional university. Against the backdrop of the bold, new Strategic Plan 2013–2018, University of the South Pacific (USP) educators are faced with transforming learning systems, practices and pedagogy to achieve excellent standards in learning teaching and knowledge creation. Selected case studies are provided to support the discussions for the application and development of OER at USP and the integration of Open Learning Design (OLD) principles and practices. In the drive to enhance the quality of learning and teaching through integrating OER and OLD, research provides the most compelling results for informing practice to achieve effective and sustainable responses to the achievement of the Strategic Plan objectives.

Keywords

open educational resources, open learning design, South Pacific, strategic plan

Recursos educativos abiertos: el viaje de una universidad regional

Resumen

En una región de pequeños estados insulares geográficamente diseminados, el desarrollo de materiales didácticos de calidad en entornos de aprendizaje y enseñanza de alcance oceánico y extraordinariamente diversos no deja de plantear nuevos retos. Este artículo explora la naturaleza potencialmente transformadora de los recursos educativos abiertos (REA) en una universidad regional. En el contexto del nuevo y audaz Plan Estratégico 2013-2018 (Strategic Plan 2013-2018), los educadores de la Universidad del Pacífico Sur (USP) se enfrentan a la transformación de sistemas, prácticas y pedagogías de aprendizaje para alcanzar niveles de excelencia en la enseñanza del aprendizaje y la creación de conocimiento. Una selección de estudios de casos ilustra las discusiones en torno a la aplicación y el desarrollo de REA en la USP y la integración de los principios y las prácticas del diseño de aprendizaje abierto (DAA). En la campaña de mejora de la calidad del aprendizaje y la enseñanza a través de la integración de REA y DAA, la investigación arroja resultados convincentes para orientar la práctica, con el fin de obtener respuestas efectivas y sostenibles a la consecución de los objetivos del Plan Estratégico.

Palabras clave

recursos educativos abiertos, diseño de aprendizaje abierto, Pacífico Sur, plan estratégico

Introduction

The University of the South Pacific (USP) is comprised of 12 member countries, all of which are small-island, developing economies located in 33,000,000 km² of ocean. This paper explores the potentially transformative nature of Open Educational Resources (OER) in a regional university with approximately 24,000 enrolments and where the variances in the learning and teaching environments are considerably diverse. With high speed bandwidth at some campuses, the case studies presented herein illustrate the challenges at other campuses that require effective and sustainable interim solutions¹. This paper is guided by the definition of developing economies used by the World Bank, which includes all countries that have an annual gross national product per capita not more than US\$9,075 (Monteiro, C. A., Moura, E. C., Conde, W. L., & Popkin, B. M., 2004).

With the introduction of the bold, new University of the South Pacific (USP) Strategic Plan 2013–2018 (n.d.) educators are faced with transforming all areas of learning and teaching. One of its major strategic objectives to leverage technology and harness its affordances effectively, efficiently and sustainably across the regional campuses has become a powerful motivator for change. While the issue of sustainability is central to most if not all educators and educating systems, it is arguably the foremost consideration in developing economies (Kamau, 2001; Gulati, 2008; Malik, Belawati, & Baggaley, 2005). Consequently, in identifying the most appropriate and affordable strategies at USP, using and developing OER is a forerunner in the process of transformation.

OER at USP

The following definition of OER adopted by the Commonwealth of Learning (COL) mirrors the USP perspective of “Open Educational Resources (OER) as materials offered freely and openly to use and adapt for teaching, learning, development and research” (Commonwealth of Learning, n.d.). With rising student enrolments, instructional designers and academics at USP have turned increasingly to OER in programme design and development. With a 44-year history in distance and Flexible Learning, USP continues to explore ways of leveraging technology to transform the quality of education and provide access to formerly inaccessible or remote areas of the USP region (Chandra, Hazelman, & Koroivulaono, 2011).

With USP's first formal introduction to OER in 2008 as a participant in the European Union-funded EDULINK SideCAP² project, the first officially recognised USP OER was completed in 2010 and made available. The SideCAP project consisted of five institutions working together to provide ‘hands on’ opportunities for improving learning and teaching in distance education. The specific objective focused on adapting existing open content to local contexts and using the relevant technologies. The five participating institutions were the Open University (OU), United Kingdom, University of the Highlands and Islands Millennium Institute (UHI), Scotland, University of Mauritius (UM), University of the West Indies (UWI) and the University of the South Pacific (USP). The OER developed

1. Upgrades in all of the regional campuses are part of the USP-wide project that is currently underway and directly connected to the establishment of fibre-optic cable connections across the region. In the interim, instructional designers and academics are working on effective and efficient delivery strategies.

2. <http://www.usp.ac.fj/index.php?id=8428>

by the USP team consists of one stand-alone *Essay Writing with Readings*³ module, and was selected to contribute to online, English language support resources. Multifarious issues characterise the teaching of English in a region of over 300 active, indigenous, language communities where English is the sole language of instruction.

In a continued drive to enhance English language learning and teaching at USP, a specifically dedicated Working Group was formed as part of the institution-wide Strategic Total Academic Review⁴ (STAR) project in 2010–2012. The Working Group was set up to review other universities' implementation of a robust spoken and written English proficiency programme across the curriculum. The group's report would provide effective and sustainable recommendations based on student learning outcomes that would model proficiency.

Reference to international standards such as the International English Language Testing System (IELTS) also formed one of the baseline objectives. In conjunction with institution-wide initiatives based on quality enhancement in learning and teaching, instructional designers at the university were also revising course design models with their academic colleagues. Prominent among the revisions was the integration and development of OER in the traditional curriculum. Furthermore, the sustainability of the course and programme design process would require the incorporation of sustainable practices. In this regard, conversations based on Open Learning Design would be initiated within the learning and teaching community of practice.

The integration of Open Learning Design principles and practice

Open Learning Design offers the potential for optimising resources while simultaneously accessing quality practices and processes in learning design. In this context, Conole's (2013) definition of Open Learning Design as a transparent and shared process provides the platform on which technology-enhanced course development and research-informed learning design can shape USP's Open Learning Design practice. Educators at USP share with other educators in higher education institutions the burgeoning challenge of providing exciting and relevant learning experiences that optimise opportunities for success and build sustainable platforms for life-long learning (Spector & Anderson, 2000). Moreover, a principled approach to ICT-leveraged learning translates in the context of this paper to clearly stated pathways, learning and teaching contexts, research projects as well as reference to and application of theory and practice (Mayes & de Freitas, 2013). This clarity has not always been readily apparent in revising learning and teaching strategies and directions. A case in point is the process that USP underwent to select the institutional Learning Management System (Whelan & Bhartu, 2007). With the institutional implementation of Moodle in 2007, the 10-year discussion—contentious at times—exemplified the rigorous process through which clarity of purpose and direction crystallises. Gulati (2008) aptly captures some of the fundamental challenges of competing interests and resources for developing economies by citing the Botswana case in the following statement:

The rural-urban infrastructure disparities indicate that while urban areas can boast about electricity and telecommunications, rural areas remain unconnected and hence disadvantaged. There is a high dependency on expatriate teachers and learning materials developed in the West to support teaching in subjects such as science and technology (p. 8).

3. www.usp.ac.fj/studyskills

4. <http://www.usp.ac.fj/index.php?id=11824>

The same disparities and concerns also characterise the learning and teaching situation at the USP. The 'dependency' on non-local/non-regional resources, however, can be mitigated directly by adopting learning design models that do not depend on physical location (of the expatriate teachers) or learning materials (either in hard copy or copyright-bound online resources). If Open Learning Design is centred on the process of designing learning interventions and making this process more explicit and capable of being shared, as Conole (2013) asks, is this the answer for sustainable learning design and development models? Furthermore, her overt challenge about the appropriateness of continuing to apply traditional approaches to learning design and delivery appear to be supported by the emergence of new pedagogies and the innovative potential of new technologies (Conole, 2013).

How should USP locate itself within this rapidly changing milieu? Theoretical approaches based on the centrality of pedagogy to learning design still anchor the discourse (Dewey 1938; Biggs, 2003; Vygotsky, 1978). Increasingly, however, the inevitability of the innovative potential offered by new technologies requires at least an interrogation of the 'teachers as experts' model for any measure of sustainability to be appropriately addressed (Walton, Weller & Conole, 2008). Will we as educators in the 21st century—lecturers, teachers, academics—willingly submit to the interrogation?

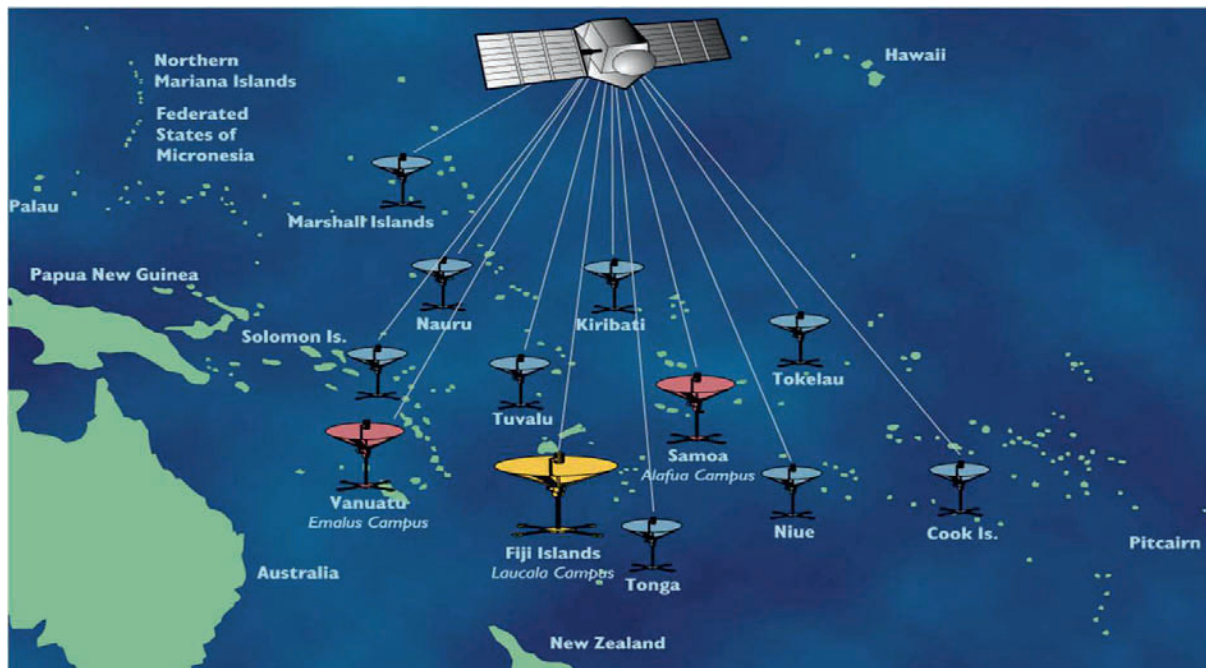
Engaging in specifically-designed research projects that address direct gaps in institutional knowledge offers the most expedient and effective way to initiate reflective and interrogative practice to build the Open Learning Design platform at USP. Research projects will also inform the OER development process that will contribute to shaping Open Learning Design.

Case study 1: OER as support for English language learning and teaching

As part of building a robust student support service comprised of English language OER, an internet access-testing project was undertaken in 2013 by the Centre for Flexible Learning (CFL). The primary objective of this development focused on providing the critical online support framework for USP students, most of whom speak English as a foreign language.

Twenty-seven existing OER from various sources such as *Saylor.org Academic* (<http://www.saylor.org/courses/engl001/>) and the *Writing Commons* (<http://writingcommons.org/open-text/writing-processes/develop-effective-writing-habits>) were selected as stand-alone, just-in-time English language modules for testing at seven (of the 13) campuses outside USP's main administrative centre and learning and teaching operations located at Laucala (in Suva, Fiji): Lautoka and Labasa (Fiji), Alafua (Samoa), the Cook Islands, the Solomon Islands, the Marshall Islands and Kiribati. The tests were designed to assess the degree of ease or difficulty that regional campus students would experience when accessing the OER through the internet. Regional campus students form the majority of students studying through Flexible Learning using print and online materials, often with multimedia components. USP's 14 campuses are connected by USPNet. The USPNet infrastructure was founded in 1972 with audio conference facilities using applications technology satellite ATS-1 (Chandra, 2012). Since then, several upgrades to the system have resulted in integrating all operational technologies at USP, which range from telephones to audiovisual conferencing to hosting Moodle as the USP Learning Management System (Chandra, 2012).

Figure 1: The University of the South Pacific region connected by the satellite-based USPNet



Methodology

A representative sample of the two sets of test results will be examined in this discussion—from the Kiribati and the Solomon Islands campuses. For all of the 27 English language OER modules, the test results at the two aforementioned campuses followed very similar patterns. A number of mobile devices and campus Personal Computers (PCs) were used for the tests. In this case, laptops, an iPad and a Solomon Islands regional campus lab PC were used to test the capacity to connect to the selected English language OERs. Different physical sites at the campus were also used as testing locations to assess both the wired and wireless connections on campus. These variables were factored into the test design to test connectivity in as many places and as many ways as possible to reflect student use.

The Kiribati and Solomon Islands tests were evaluated comparatively to determine the following features:

- **Ability to navigate within the web page/site** – examines ease of navigation in terms of the user-friendliness of the pages/site and how easy it is to find items on any particular page.
- **Ability to download audio/audiovisuals** – examines speed, size and format type.
- **Ability to download documents** – examines speed, size and format type.
- **Can you access the audio/audiovisuals?** – considers whether or not the appropriate software or plug-ins can be made available to students.

Results

A screen capture has been provided (as Table 1), showing the first page of results from the Kiribati campus. The test date, venue and time of the test divided into 'Peak' (internet used by a large number of users) and 'Non-peak' times,

the site load tables divided into hours, minutes and seconds, and the types of devices used in the test are recorded in the one table.

Table 1: Kiribati campus results for English composition 1 at <http://www.saylor.org/courses,engl001/>

OER No.	1			Date tested	4. 11. 13			Campus/Centre	Kiribati							
Time stamp	Peak period: 11.30am						Non-peak period: 10.15am									
Venue of test <i>(Check all that apply)</i>	<input type="checkbox"/> Student Lab <input type="checkbox"/> Staff Office <input checked="" type="checkbox"/> Wireless: study hut outside the library <input type="checkbox"/> Internet Cafe <input type="checkbox"/> Hotel <input type="checkbox"/> Other <i>(please specify below)</i>			<input type="checkbox"/> Student Lab <input type="checkbox"/> Staff Office <input type="checkbox"/> Wireless <input type="checkbox"/> Internet Cafe <input type="checkbox"/> Hotel <input type="checkbox"/> Other <i>(please specify below)</i>			<input type="checkbox"/> Student Lab <input type="checkbox"/> Staff Office <input checked="" type="checkbox"/> Wireless: study hut outside the library <input type="checkbox"/> Internet Cafe <input type="checkbox"/> Hotel <input type="checkbox"/> Other <i>(please specify below)</i>			<input type="checkbox"/> Student Lab <input type="checkbox"/> Staff Office <input type="checkbox"/> Wireless <input type="checkbox"/> Internet Cafe <input type="checkbox"/> Hotel <input type="checkbox"/> Other <i>(please specify below)</i>						
Site load time	[hh]	[mm]	[ss]					[hh]	[mm]	[ss]						
Desktop PC																
Laptop		<1min							2 mins							
Tablet		<1min							2 mins							
Mobile																
Other:																
Ability to navigate within the web page/site																
Desktop PC	Easy	Moderate	Difficult					Easy	Moderate	Difficult						
Laptop	Easy	Moderate	Difficult					Easy	Moderate	Difficult						
Tablet	Easy	Moderate	Difficult					Easy	Moderate	Difficult						
Mobile	Easy	Moderate	Difficult					Easy	Moderate	Difficult						
Other:	Easy	Moderate	Difficult					Easy	Moderate	Difficult						
Ability to download audio/audio visuals																
Desktop PC	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Easy	Moderate	Difficult	
Laptop	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Not applicable	Easy	Moderate	Difficult	Easy	Moderate	Difficult
Tablet	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Not applicable	Easy	Moderate	Difficult	Easy	Moderate	Difficult
Mobile	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Difficult
Other:	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Easy	Moderate	Difficult	Difficult

The Solomon Islands results are presented in the second screen capture (Table 2), also showing the first page of test results at that campus.

The results from the two tests carried out in Kiribati and the Solomon Islands were compelling. Assumptions that had been made with regard to access and connectivity were replaced with specifically detailed information. Primarily, those OER that were predominantly text-based with very few or no images, audio files or videos could easily be accessed within a minute. Audio and video files could not be accessed as they continued to time out with each attempt (recorded as 'not applicable'). An added complication that only came to light after the tests were completed was the discovery that some of the 27 OER, including OER 1, (in Tables 1 & 2), had been removed and replaced by other resources.

Table 2: Solomon Islands campus test results for English composition 1 at <http://www.saylor.org/courses/engl001/>

OER No.	1	Date tested	4.10.13	Campus/Centre	Solomon Island			
Time stamp	Peak period: 10am-6pm			Non-peak period: 7pm-12midnight				
Venue of test (Check all that apply)	<input checked="" type="checkbox"/> Student Lab <input type="checkbox"/> Staff Office <input type="checkbox"/> Wireless: study hut outside the library <input type="checkbox"/> Internet Cafe <input type="checkbox"/> Hotel <input type="checkbox"/> Other (please specify below)			<input type="checkbox"/> Student Lab <input type="checkbox"/> Staff Office <input checked="" type="checkbox"/> Wireless outside in a bure hotspot area <input type="checkbox"/> Internet Cafe <input type="checkbox"/> Hotel <input type="checkbox"/> Other (please specify below)			<input checked="" type="checkbox"/> Student Lab <input type="checkbox"/> Staff Office <input type="checkbox"/> Wireless: study hut outside the library <input type="checkbox"/> Internet Cafe <input type="checkbox"/> Hotel <input type="checkbox"/> Other (please specify below)	
Site load time	[hh]	[mm]	[ss]					
Desktop PC	Did not load			<1min				
Laptop		1 - 5 min		<1min				
Tablet								
Mobile								
Other:								
Ability to navigate within the web page/site								
Desktop PC	Easy	Moderate	Difficult	Easy Moderate Difficult				
Laptop	Easy	Moderate	Difficult	Easy Moderate Difficult				
Tablet	Easy	Moderate	Difficult	Easy Moderate Difficult				
Mobile	Easy	Moderate	Difficult	Easy Moderate Difficult				
Other:	Easy	Moderate	Difficult	Easy Moderate Difficult				

Discussion of the results

While this development had been mooted in the preparation phase of the tests, the actual removal of OER 1 provided yet another layer of information to inform the system of providing OER as just-in-time, additional learning materials. Awareness workshops planned for both staff and students (both face-to-face and online) will now provide detailed and unambiguous information about different types of open licensing, the benefits of using OERs, where they can be found, how they may be used and so on.

The OER tests also provided vital information that is currently informing the revision of course design and development practice and process at USP. The USP *Strategic Plan 2013–2018* (n.d.), includes clearly stated Key Performance Indicators (KPIs) for the substantial increase in the number of Flexible and Online programmes. Both academics and instructional designers at USP are primarily responsible for the development and design of existing traditional materials into open and online learning resources, contributing directly to achieving the KPIs. A critical component of the conversions has been the identification of OER to facilitate the process. The test results show that careful consideration must be given to the type of OER selected for integration in course design and development, as large digital files such as images, audio and video files might prevent students from accessing resources in some regional campuses, as demonstrated by the results.

One may well ask, of what value is this OER testing project to instructional designers and academics? A pilot study by Belawati (2005) on the use and impact of ICTs at the Universitas Terbuka is instructive in affirming the

OER testing programme at USP. It is critically important to the success of any intervention using ICTs in access and connectivity-challenged areas that the relevant scoping project be carried out to inform the implementation of the best initiative in the given context. Melinda dela Pena-Bandalaria (2007) provides a timely reminder about the competing priorities in the Philippines as a developing economy, between basic living needs such as food, clothing and shelter and ICTs. Cognisant of basic and competing student needs and the relatively low priority attributed to access to technology, the focus on specific ICTs and their applications in Open and Distance Learning in the Philippines mirrors Belawati's (2005) pilot study.

Consequently, the OER testing project results at USP have been hugely informative and useful. Instructional designers at the Centre for Flexible Learning have started using the data to create contingencies in learning design to mitigate access and connectivity issues in campuses such as Kiribati and the Solomon Islands. Preloaded learning materials and supplementary resources on tablets is one effective and cost-effective contingency. Integrating resources within USPNet until fibre-optic connections are available is another strategy. The impact on the provision of student services will be transformative as data and research-informed learning designs dovetail to identify and meet specific student needs.

The revised online learning design should see a much more streamlined and overt approach to the hours that a student will be required to spend online, for example, creating the appropriate blend between face-to-face and online learning hours. Exploring the potential of Open Learning Design is a third strategy for enhancing quality in course and programme design that is both cost-effective and sustainable.

Case study 2 provides one of the methods in which Open Learning Design at USP will be informed by the context in which it operates. It is part of a much more comprehensive research project but, for this paper, the focus is directly centred on student feedback with regard to lecturer presence in online tutorials and the critical necessity of providing a service free from technical interruptions.

Case study 2: Interactive Distance eLearning at USP

In 2012, a research project undertaken by the Centre for Flexible Learning provided essential data for the first time that substantiated anecdotal information based on internet access, connectivity and the capacity of audio-conferencing services at the regional campuses.

The objective of the research project focused on evaluating the appropriateness and the effectiveness of using Interactive Distance eLearning (IDeL) to enhance the learning experiences of a USP student studying at a distance. In this context, IDeL refers to the interactive audiovisual conference tool called the Remote Education and Conferencing Tool (REACT)⁵ that USP uses for audiovisual conference tutorials. The following discussion will focus on the appropriateness of IDeL. The 'effectiveness' aspect of the case study remains a work in progress, as a tracking system similar to an analytics model is under development.

Methodology

A questionnaire was compiled and used to interview students who were enrolled as Flexible Learners and participated in audiovisual conference tutorials in semester 2, 2012 from the following campuses: Emalus (in

5. <http://www.darwinnt.biz/>

Vanuatu), Tonga, the Solomon Islands and Lautoka (in Fiji). Ten to twelve percent of the total student enrolments in each campus provided the 543 responses.

Instructional designers, education technologists and learning system team members from the Centre for Flexible Learning were sent to the aforementioned campuses and conducted face-to-face interviews with both students and academic and professional staff. A sample of the questions relevant to this paper are provided in the results charts (Figures 2, 2A, 2B & 2C). The data collected was analysed using the Statistical Product and Service Solutions (SPSS) software. The decision to use SPSS was made after consultation with the university's Research Data Analyst, who emphasised ease of use for a professional section making its first inroads into institutional research.

Results

In the section on "enhancing learning experience" student responses showed very strong support for audio-conference tutorials due particularly to the opportunity for contact with their lecturers

The information in Figures 2 and 2A confirm that students overwhelmingly preferred lecturer/tutor presence in their online tutorials. The opportunity for checking to see if they are 'getting things right' and being able to watch demonstrations and ask questions confirms feedback as a vital element in activity-based learning.

Figure 2: Enhancing learning experience

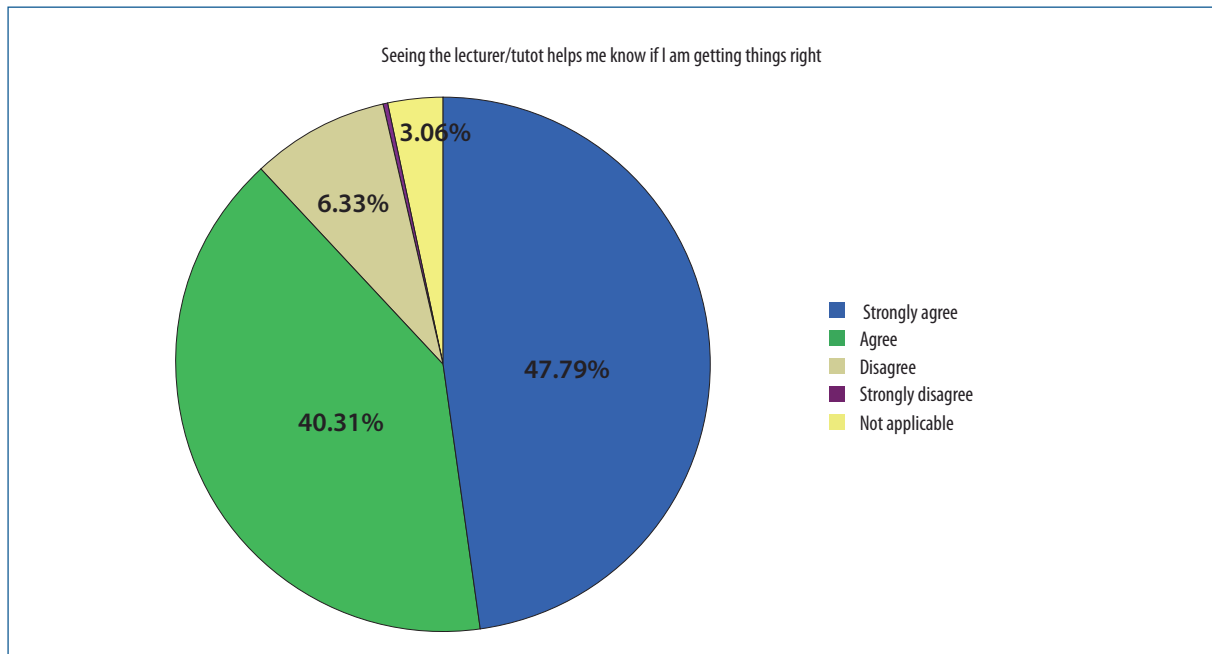


Figure 2A: Enhancing learning experience

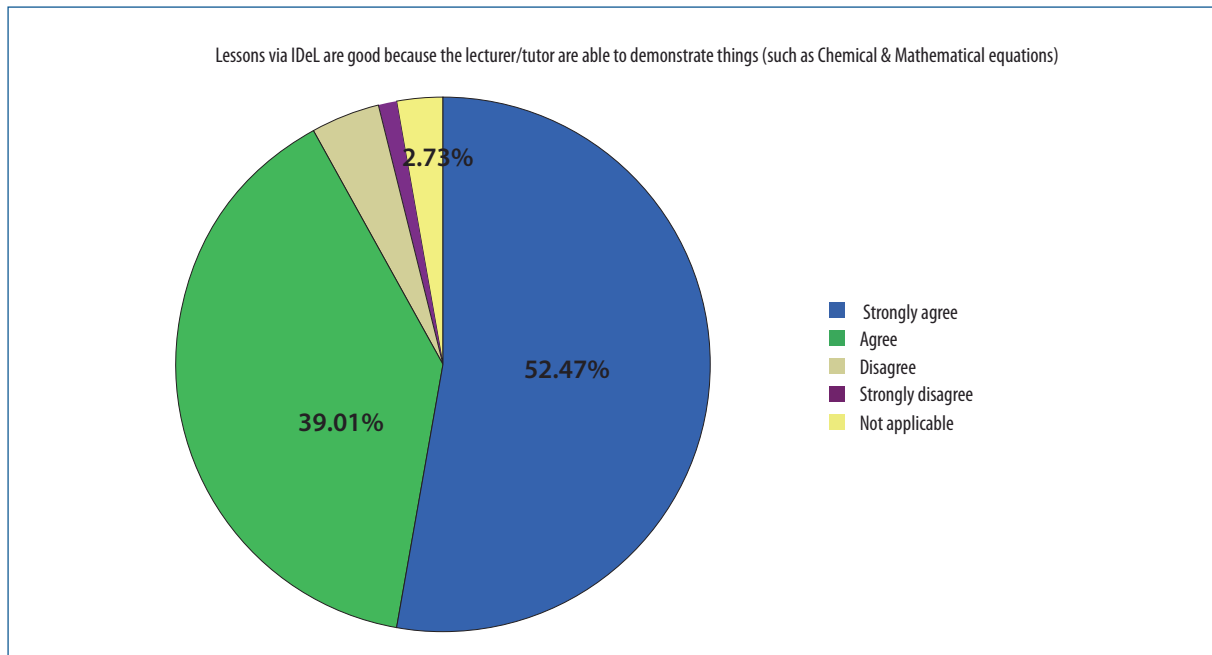
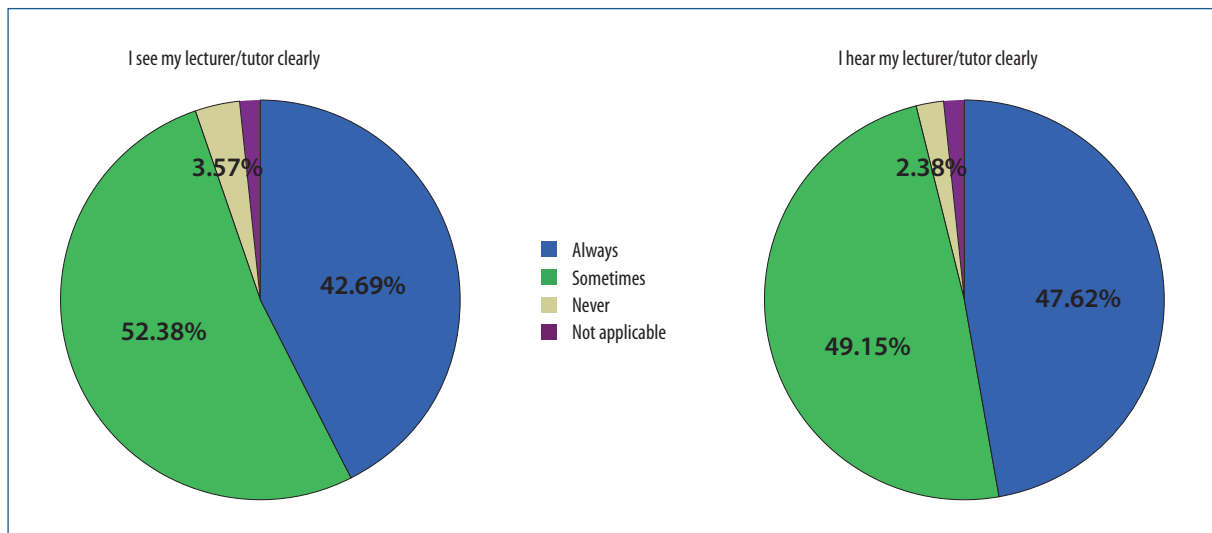


Figure 2B: Enhancing learning experience



The data provided in the next area of the study, however, identify some challenges for both academics and the instructional design team. In evaluating ICT services, a significant majority of students—almost 85%—indicated that their IDeL lessons have at some stage been interrupted by technical problems, as shown in Figure 2C below. While quick assistance is offered most of the time (approximately 85%), considerable work is required to minimise technical interruptions.

Figure 2C: ICT issues

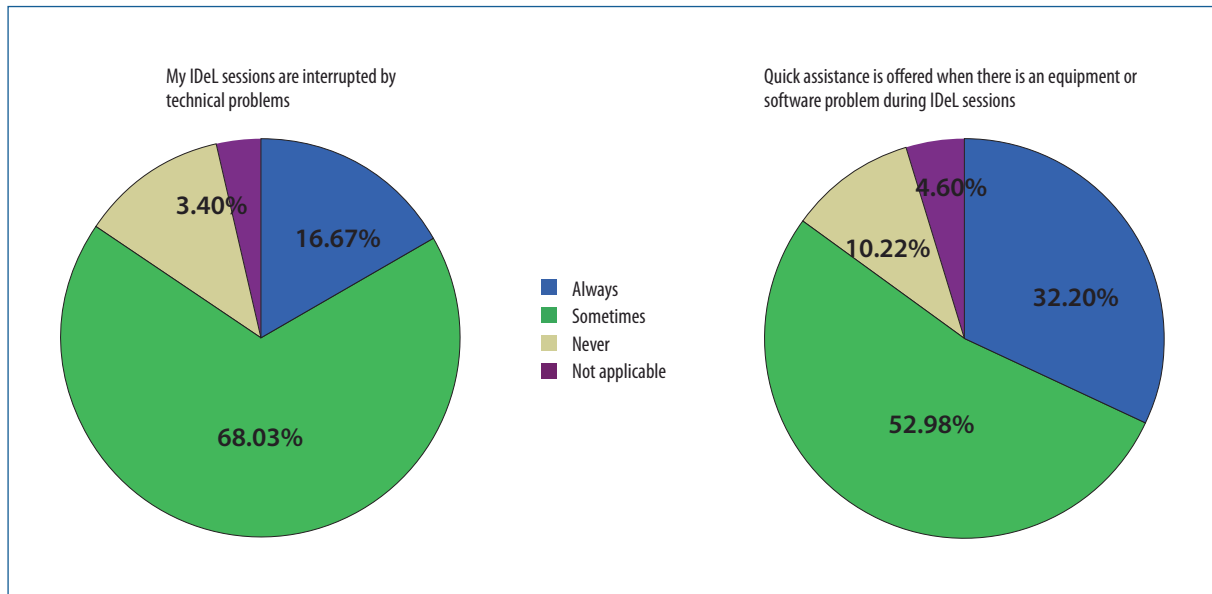


Table 3 provides the demographics of the respondents in the IDeL research project in .

Table 3: Gender and age distribution

Gender Distribution							
		Campus					Total
		Vanuatu	Tonga	Solomon Islands	Lautoka	Labasa	
Gender	Male	55%	40%	70%	26%	39%	50%
	Female	45%	60%	30%	74%	61%	50%
Age Distribution							
		Campus					Total
		Vanuatu	Tonga	Solomon Islands	Lautoka	Labasa	
	<18 years	10%	18%	7%	9%	9%	10%
	19-25 years	83%	70%	76%	72%	70%	76%
	26-30 years	2%	6%	11%	11%	13%	7%
	31-40 years	4%	6%	5%	7%	7%	5%
	41-50 years	1 %	-	1%	1%	1%	2%

There was no significant difference in the number of female and male respondents. Notably, however, more than 70% of the respondents were within the 19–25 years age group, re-affirming that high school leavers continue to be the university’s main customers.

Discussion of the results

With the USP IDeL project, the confirmation of student preferences and observations about the quality of service provided contribute directly to supporting the establishment of Open Learning Design models. Ensuring that this cycle of improvement is continuous and timely will exert enormous pressures on existing resources. Consequently, opening out the learning design process will initially take some courage; however, the benefits, potential improvements and enhancement of quality should outweigh any initial reservations.

The discussions in support of lecturer presence in online activities have been long-established and have moved increasingly into examining the scope for economies of scale (Palloff & Pratt, 1999; Richardson & Swan, 2003; Kehrwald, 2008; Nagel & Kotzé, 2010; Bates, 2013). Notably, positive student learning experiences are more likely to occur when a lecturer is evidently present in an online course to secure student “buy-in” as stated in Palloff & Pratt (1999, p. 4). Applying a different approach to achieve the same outcome, Nagel and Kotze (2010) provide evidence of innovatively working with the Learning Management System to increase lecturer presence and feedback. Bates’ (2013) examination of selected variables suggests that the challenge of maintaining lecturer presence with critical interaction for effective student support may be insurmountable in a scaled model.

Feedback has long been acknowledged as singularly motivational, particularly for students studying at a distance or online (Curtis & Lawson, 2001; Macdonald, 2001; Johnson & Aragon, 2003; Moore & Kearsley, 2011). The depth of the discourse provides a plethora of informative levels from strategies to harness the potential of education technologies and creating collaborative learning experiences (Curtis & Lawson, 2001) to interrogating basic definitions of distance education for a more systematic approach to online learning (Moore & Kearsley, 2011).

In this current study, the potential for peer feedback should not be underestimated. Already, the framework for a new research project to investigate further areas like peer feedback are beginning to form. The results provided in Figure 2B confirm that the visual and audio capacities of the REACT platform are operating as expected.

With regard to technical interruptions, both academics and instructional designers need to have access to as many communities of practice as possible to offer timely, effective and sustainable responses. The first response has been to alert USP’s Information Technology Services. However, both teaching and professional staff need to work together for the most effective solutions, particularly while more long-term solutions are being worked on. Informing Open Learning Design practice at USP can be readily promoted through applying the results of research projects (like those in this paper) and those that other USP colleagues have obtained. A collaborative approach to building learning design models must drive this process.

With regard to gender and age distribution, one untapped niche would be the 31–40 years age group. As mature students seeking opportunities for further education, this niche is potentially lucrative for USP. The *Strategic Plan 2013-2018* vision of offering significantly more programmes online could see a sharp increase in this niche market. Similar research projects will continue to provide data for both immediate application and forward planning.

Conclusions and final considerations

With a Strategic Plan that is grounded in leveraging technology for excellence in learning and knowledge creation, the case studies examined in this discussion have produced compelling insights for educators in a regional institution working to achieve strategic objectives

Essentially, the OER case study yielded results that exceeded the parameters of the study. At the course design level, the data collected identified the OER formats that would be more useful in a given context or campus, for example, text-based with little or no inclusion of audio or video components were most strongly recommended at the Kiribati and Solomon Islands campuses. Furthermore, the issue that arose after an OER was removed subsequent to the project signalled the need to provide acute awareness and training when using OER as supplementary learning materials. At the institutional level, the need for enabling rather than restrictive OER policy will guide the different environments in which OER at USP will be integrated and developed. Peak and off-peak periods with regard to connectivity will prove useful to the Information Technology Services section at USP as they continue to reconfigure and upgrade the USNet system that forms the backbone of USP's ICT infrastructure (Chandra et al., 2011).

The case for Open Learning Design strengthens as stakeholders across the university collaborate to work together on timely, effective and sustainable responses to problematic support services. As a regional university in a developing region, the university's responsibilities reach far beyond developing work-ready graduates with some, if not a considerable capacity for life-long learning. The university is directly engaged in the business of developing leaders with a vision of excellence in knowledge creation, who often go on to become Presidents, Prime Ministers, cabinet ministers and prominent leaders in all spheres of their countries' political, economic and community administration. In this region of small island states and developing economies, USP's transformative agenda promotes innovation and sustainability. The expansion and promotion of reflective practice in Open Learning Design communities brings with it the prospect of advancing professional maturity. This should be mirrored in approaches to learning and teaching, innovative and sustainable learning designs and the confidence to self-review and be reviewed.

In the IDeL research project, the data collected also exceeded the parameters of the study. Notably, the demographics with regard to forecasting areas of attention for the institution are extremely valuable for expanding student enrolments. The opportunity for providing feedback during 'live' demonstrations and discussions through the REACT platform underpin the centrality of activity-oriented learning in the online environment. Again, ensuring the right levels of ICT capacity becomes a central concern that requires collaborative problem-solving with regard to professional support services and learning design. Prominent among these will be the provision of online tutorial services that are free from technical interruptions. Ongoing research to gauge the effectiveness of REACT should provide the correlation of lecturer presence in online tutorials to the pass rates of students studying at a distance.

Collaborative research within USP and between USP and selected international partners is paramount to relationship-building in communities of practice where knowledge and experience is exchanged in the discussion on Open Learning Design. In the rapidly changing milieu, burgeoning pressure on our developing economies can be substantially relieved by accessing OER to cultivate open education practices and facilitate Open Learning Design. The projects in which USP continues to engage (for example, EDULINK SideCAP, the OER English language testing project and the IDeL project), provide critical data and information that is widely applicable throughout the university and informs the systems and processes for achieving the objectives of the *USP Strategic Plan 2013–2018*.

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Theresa Koroivulaono joined the University of the South Pacific (USP) in 2002 as an Instructional Designer at the Centre for Flexible Learning (then known as the Distance and Flexible Learning Support Centre). In 2011, Theresa was nominated as the Acting Director of the Centre for Flexible Learning (CFL). She is responsible for a team of instructional designers, educational technologists and multimedia specialists that design and develop learning materials for students primarily from 12 small island states, distributed over 33,000,000 km of ocean. In 2012, Theresa led the first section-wide, research teams at CFL to investigate the relevance of multimodal learning design for specific USP learning environments. Furthermore, Theresa has also led OER-based testing at selected USP campuses to support English language learning and teaching in a region with over 200 active, indigenous language communities and English as the sole language of instruction. As a collaborative research partner with the University of Newcastle (Australia), Theresa has represented USP in evaluating the impact of interactive distance eLearning using video-conferencing tools. Theresa's conference presentations and publications focus increasingly on the quality-driven and sustainable integration of new technologies across a wide range of learning and teaching environments.

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