PRE-SERVICE TEACHER EDUCATION IN NAURU: WHERE, WHO AND WHY

Penelope Serow, Neil Taylor, Terence Sullivan, Jodana Tarrant, Greg Burnett, Dianne Smardon, Emily Angell

University of New England, Armidale, Australia

ABSTRACT

Rural education thrives on building teaching capacity and mentoring from within communities. Whilst isolated and remote areas have the potential to participate in online teacher education, strategic and effective delivery requires a targeted analysis of the characteristics of the learners, the motivations that drive them, and day-to-day environmental and community factors influencing the students' studies. This paper reports on an innovative model of teacher education recently implemented in the Republic of Nauru. In this model, the Nauruan Government has partnered with an Australian regional university to develop quality Pacific-focused teacher education programs that are delivered through a hybrid of online and classroom instruction. The Nauru Teacher Education Project (NTEP), conceptualised and administered by the University of New England, provides culturally responsive online and on-island teacher development for the community of Nauru. It is here that the lecturers come to 'know the students'.

Key words: culturally responsive education; on line teacher education; blended course delivery

INTRODUCTION

Developing Pacific Island Countries (PIC) in the South and Central Pacific, many of which are extremely isolated, struggle with a lack of well-trained local teachers. This is often attributed to poor quality teacher training institutes which lack qualified and experienced academic staff and consequently fail to develop quality teacher programs that meet international standards (Serow, Tobias, & Taylor, 2013). One such case is the Republic of Nauru, where until recently, all efforts to implement effective teacher education have returned very poor outcomes, leaving the country with an acute shortage of properly trained teachers. This problem has been alleviated to some extent by employing expatriate teachers on fixed-term contracts. Whilst this addresses the immediate need of getting teachers in the classroom, the financial cost of this process is excessive and it does little for the sustainable development of local teaching knowledge and skills. Essentially, building local capacity in developing nations in the area of education has become an international goal (Sanga, 2005a, 2005b).

LITERATURE REVIEW

Significant cultural issues come into play when providing effective teacher education in the Pacific region. According to Thaman (2014), delivery of culturally just teacher education requires the flexible provision of globalized content catering to both local contexts as well as international teaching cultures. This involves a balanced reliance on cultural values through online and face-to-

face deliveries. Throughout the Pacific, it is customary to develop a relationship with people before entering into detailed discussions involving generating ideas and furthering the learning of the whole group. Furthermore, such group learning processes occur in face-to-face, informal and often unstructured ways (Sharma, 1996).

Sanga (2005a, 2005b), also writing in the context of educational development in the Pacific, made the observation that Pacific culture is relational and that this characteristic carries with it the implication that Australia and its Pacific neighbours must develop equal relationships and decision making structures in determining the content and delivery of education projects in the Pacific region. The suggested strategy is for Pacific countries to build collaborative development policies with donor countries such as Australia, to achieve mutually desirable educational development. Such collaboration could lead to a globalized teaching culture that supports international as well as local curriculum content and delivery. This is important for future generations of Pacific Islanders to function in a globalized society. Consequently, Thaman (1999, 2014) and Burnett and Lingam (2007) argue for a more equal and democratic cultural environment in which Pacific cultures can flourish in a compatible and cooperative globalized environment. Education, and especially teacher education, is understood as a key cultural strategy in sustaining Pacific Island culture.

Given the geographical nature of the Pacific, with many small island countries dispersed over huge areas, recent advances in technology, and in particular the internet, should offer considerable logistical benefits to the region. However, Thaman (1999) cautions that the use of technological processes of delivery in online teacher education programs can over-value technological ways of learning, which in many cases are incompatible with localized social and economic infrastructures. She believes that the use of technology that is prone to interruptions in supply and communication, places significant limitations on the effectiveness of the learning that is taking place. This is exacerbated by having to learn new and different ways of communicating through the use of technology. These limitations disempower learners rather than develop autonomous professionals who can work independently, yet easily form interdependent professional learning communities.

Another obstacle according to Hogan (2009) is that in Pacific locations, where remoteness has made it difficult to develop the necessary quality of technology infrastructure, online learners are disadvantaged due to a lack of technology usage. However, Yusuf (2009) believes that flexible delivery modes have the potential to overcome barriers caused by remoteness, natural disasters, lack of quality technology, and contextual alignment with individual student's personal and academic needs.

Regardless of the context and delivery problems, quality education is generally considered to be a key determinant in building social capital and consequently improving economic and social development. There is now general consensus that success and failure in achieving quality education lies primarily in the hands of classroom teachers (see for example, Friedrichsen et al., 2007) and it is vital to recognise the centrality of the classroom teacher's role in this. In particular, it is the professional competence of the teachers that is considered the most important contributing factor in improving the quality of education, as teachers are responsible for translating curriculum, resources and educational policies into effective practice (Gamage & Walsh, 2003; Grodsky & Gamoran, 2003). However, the professional competence of teachers depends to a large extent on the quality of their preparation and, in particular, the courses in the pre-service program, which must be aligned with and relevant to the work and responsibilities they will meet inside and outside the classroom (Gendall, 2001; Lingam, 2010).

Providing effective teacher education in a remote location may have to involve a compromise between modern technology, albeit in a context where the internet is often unreliable, and a learning environment which allows students to chat and share ideas both amongst themselves and with on-island tutors who are well placed to support their learning. The project reported here attempts to undertake this compromise with what might be considered a 'blended' or 'hybrid' program that takes account of the cultural and technological needs of delivery. Thus, the design

of this particular teacher education program has involved a mix of international, Australian and Pacific pedagogical knowledge, skills and cultural understandings of curriculum. The result is a program developed for flexible learning, which reaches its remote area audience through online delivery with the added inclusion of ongoing face-to-face and online support provided by lecturers.

CONTEXT

Presently, the Republic of Nauru, formally known as Pleasant Island, is an island country located in Micronesia in the South Pacific. Nauru's population is approximately 10 000. For an island of 21 square kilometres, it is well known around the world as one of the three great phosphate rock islands of the world. The mining of phosphate deposits provided substantial wealth to the island's inhabitants in the late 1960s and into the 1980s. For some of this period, Nauru had the highest per-capita income of any sovereign state of the world. As a result of extensive mining, Nauru has very little capacity for industry. The large area that has been mined is uninhabitable and requires the implementation of a massive rehabilitation program. After exhaustion of the phosphate deposits in the 1980s, Nauru became well known in Australia when the Australian Government Detention Centre for the assessment of asylum seekers for refugee status was opened in 2001.

The Nauru School System ranges from Prep to Year 12 with a population of 3327 students (1728 girls and 1599 boys as of 2013 census (Collingwood, 2014). Compulsory education begins from pre-school onwards. The system is comprised of four infant schools, one lower primary school, one upper primary school, one lower secondary school and one upper secondary school. There is also one government managed and funded Catholic college catering for students from pre-school to year 9, after which students move to one of the two government secondary schools to complete their education.

With approximately a third of the Nauru population being of school age, only 5.7 per cent of the overall budget is allocated to education. This is almost half of other Pacific Island countries and it has steadily declined since 2012 when it was 8.1 per cent of the budget (Collingwood, 2014).

There is no Nauru government higher education facility. The University of the South Pacific services the country with higher education through its small Nauru campus. However, the Nauru Teacher Education Project in this study was made possible by the establishment of the University of New England Centre specifically to deliver its blended learning program design of teacher education emanating from its Australian campus.

All teachers in Nauru must be registered with a recognised Diploma or Bachelor qualification by 2015 – hence the necessity and significance of the University of New England Nauru Teacher Education Project.

THE NAURU TEACHER EDUCATION PROGRAM

The Nauru Teacher Education Program (NTEP) begins with an Associate Degree in Teaching (Pacific Focus) in accordance with the Australian Quality Framework, with a pathway to be developed for a further two years equivalent to achieve a Bachelor of Education (Pacific Focus). The mixed-mode delivery offers online teaching material with additional Australian Government aid-funded on-island support personnel. An essential component of the process is the mentoring aspect aimed at building a local team of educators with the capacity to provide local academic support so as to sustain the program in supporting local residents to complete international teaching qualifications. Eventually, this local mentoring and local academic support will make the project more cost-effective and sustainable by lessening in-country support from the University. Currently, the program relies on online delivery complemented by visiting Unit Coordinators from the University of New England Armidale campus, two permanent support lecturers who manage and teach at the University of New England Centre and two Australian-based support staff who are dedicated specifically to this cohort of students. Required textbooks and large electronic items are freighted to Nauru. On-island and online support from key personnel has been crucial to the successful

implementation and continuation of NTEP. This is particularly true given the geographical isolation, somewhat limited infrastructure and consequent logistical problems.

Initial support was provided by an on-island expert who, for the first six months of the project, helped to establish the physical infrastructure and oversaw the initial online enrolment of students. This individual also provided academic culture and English language workshop sessions each afternoon during the week, and an additional session on Saturday mornings, with additional online support from the University-based unit coordinators of the Maths and English enabling units in Australia.

The NTEP is now ongoing and sustainable and candidates enter the degree through an English writing and comprehension test administered by the regional Australian university. Based on the results of this test and review of each candidate's work experience and previous teacher education or secondary school leaving qualifications, 47 candidates were offered placement in the Associate Degree in its first intake. Candidates in Secondary Education with a specialisation in science are required to also complete pathway units in maths and science prior to beginning the degree, and candidates in maths are required to complete an enabling literacy unit and a pathway Maths unit. In addition, all students have undertaken an Introduction to Academic Culture program to prepare them for the level of academic rigour expected in the degree. In total, 41 students successfully completed the Academic Culture program, delivered by the regional university's English Learning Centre staff. Two additional students were offered candidature in the Masters of Educational Leadership Program at the university. Evidence of prior qualifications, in particular from the Divine Word University in Papua New Guinea and the University of the South Pacific, was reviewed and advanced standing was granted to candidates where appropriate.

Establishing effective infrastructure and a high level of academic support has been key to the successful implementation of NTEP. This has involved the delivery and installation of state-of-the-art IT equipment and internet/networking capabilities, providing students with the resources they need to successfully complete their course work. To date, a suite of 20 MacBook Pro laptop computers, a lockable charging trolley, and two printers have been delivered to Nauru and installed. Macintosh computers were chosen specifically because of their superior security capabilities, which reduce the risk of viruses entering the systems and network. Furthermore, the computers have been customised to disable the saving of files to the computer desktop. Students must use dedicated SD cards (which have been provided) to store material rather than flash or thumb drives as this further reduces the chances of infection by viruses. On-line access has been provided through the installation of five modems. Students have access to the University of New England online delivery platform (Moodle) and have been successfully enrolled on units via the online registration platform. All of the provided technology infrastructure will remain with the Nauru Ministry of Education for use beyond the specified project. As such, it is essential to the sustainability of the program that this equipment be effectively cared for and maintained by the two permanent Centre lecturers.

METHODOLOGY

The overarching study reported upon here investigates the nature of the change in teaching skills and attitudes toward professionalism in pre and in-service teachers in Nauru who are enrolled in the Associate Degree in Teaching (Pacific Focus). This particular program model uses intensive in-country support. This mixed methods study includes qualitative methods such as interviews, observations, and quantitative methods to gauge engagement and completion.

In summary, data collection in the first year includes:
- Interviews with Nauruan UNE students (twice per semester, 20 minutes duration) to collect longitudinal data (n=25).
- Interviews with Education Officers from the Department of Education, Nauru (four times per year, n=4)

- Interviews with UNE unit coordinators who have Nauruan students in their cohort (upon completion of the unit when results have been finalised, (n=20).
- Qualitative and quantitative unit participation records collected from the UNE Moodle site (after completion of the unit, n=26).
- Samples of activities (hard copy) used by teachers in the classroom collected whilst teaching (in-service and professional experience sessions). Teachers may be photographed or videotaped to demonstrate teaching strategies used.
- Extended family interviews (four times per year, 20 minutes each) exploring strategies and change that has occurred in response to family members studying within this on-island model (n=10).
- Online personal reflection survey (twice per semester, n=27).

Thematic content analysis techniques will be employed alongside quantitative analysis methods used to quantify attendance and Moodle engagement. Individual participants will be tracked longitudinally for long as the project unfolds.

This paper presents the preliminary findings arising from the initial Nauruan UNE students' interviews, initial online reflections, and excerpts from their online Moodle interaction. The 25 participating students were predominantly female with just four pre-service males. Approximately two-thirds of the students are employed as teachers by the Nauru Department of Education. This means that most are mature age students, married with children and have large family and extended family and community commitments. Their circumstance also means that they must carry out their initial teacher preparation and later in-service teacher professional development online whilst on the island.

The participating students provided informed, written and signed consent. They were subsequently assigned pseudonym names to protect anonymity. The on-island support lecturers carried out the data collection. They were not involved in any way with the assessment of the students. The relevant institutional University Ethics Committee granted ethical approval.

Two research questions guided this component of the study:

1. What is the nature of the Nauruan UNE students' shared experience of online delivery of teacher education units blended with face-to-face support?
2. What is the nature of the online Moodle interaction of Nauruan UNE students in the first trimester of the Associate Degree in Teaching (Pacific Focus)?

The following open-ended interview items were used to elicit participant sharing of their online experience:

1. How is everything going with your studies at present?
2. Can you describe any challenges along the way?
3. How do you feel you are developing as a teacher?
4. What would you like to share about your online learning?
5. Is there anything you need to support your studies at this time?

In response to these questions, three main themes emerged in relation to online learning. The themes are reported below.

FINDINGS AND DISCUSSION

Context: Infrastructure Threshold

The remote Pacific island context's level of infrastructure must be developed to a threshold where the country can supply practical and continuous access to a higher education teacher education program. It must have a reliable service utility network that can sustain electrical power and telecommunications that allows uploading and downloading of academic resources above a

reasonable speed. Student comments supported this observation as seen in the following comment by Kaye:

> The slow internet services in the classroom [is a problem]. At times, I will not attend classes nearing submission of assignments due to this problem.

Similarly Gary explained his infrastructure exasperations:

> … if only we had like [sic] really good network and stuff! It will be good to have network at home... The only time I get to be online is coming here at school.

Gary alluded to the technological issues on the island and he demonstrated an understanding of what could be possible with mobile device internet access outside the classroom.

As well, the participants need access to an accredited school organisation that has achieved a certain standard as defined by the Nauru Department of Education to gain experience from a quality teacher in quality teaching and learning situations, and to develop their skills and apply their knowledge and understandings online. When asked how they felt they could best learn, Suzy, a pre-service participant, explained that she could best learn by:

> … interacting with experienced teachers as well as being given the opportunity to participate in practical lessons … and see examples of what is a [sic] ethical teacher/leader.

Participants' Level of Familiarity with Information Technology Usage

When the country's infrastructure has developed to a threshold whereby the inhabitants regularly use information technology to connect to the globalised world, those inhabitants will have developed a familiarity with the technology through usage. Many of the participants had not yet achieved the necessary familiarity with information technology. Jane pointed out that she does not have Internet at home and has only used it at the local civic centre and in the classroom set up for this online teacher education program.

Yet another participant explained how even basic usage was new and difficult for her. Mary stated:

> It's hard because I've been in schools but not online learning … I'm still learning.

When asked what aspect of technology usage she found difficult, she replied:

> Posting and everything and submitting through online and downloading things from the Internet.

One strategy for developing that familiarity with information technology use is for the program designers to supply the technology on-island and to make available face-to-face lecturer mentors to teach not only the content but also the process of the program's online delivery. There was a sense that the students were overcoming challenges related to online learning. When asked about her current challenge, Anne stated:

> I believe its [the program's] online studies made it difficult for me due to ICT skills that I lack. But with the frequent use of technology through [the university] online study, I've managed to get my way through with the support from my colleagues.

As familiarity grew, there was less emphasis on the newness of the online context. There was also excitement surrounding online learning and a gradual development of confidence as seen in the following student comments:

> I think at first I found it a bit difficult to handle it but then after I got the hang of getting the online text and you know printing them out and everything, and you guys helping us a lot. It's now more, well it's more balanced. I now know how to do it and if you're asking if I find the online text and reading and all that difficult, not so much now. But if we started when

we did the Introduction to Academic Culture Program I think I would have said it's darn difficult (Lou Lou).

But [sic] for the online, it's really good because it's interesting and it's new and I like it … it's different from what I know (Allena).

Because things are young. I've never studied like that, I only studied with the blackboard, and that's different (Trevor).

I find all of the online activities as [sic] very constructive, especially the forum. I usually go into the forum and I just surf through and just look at the comments and all the problems. I can see that other students are actually encountering difficulties just like I do (Vincent).

Sylvia voiced an awareness and frustration in her online participation. It is interesting to note that she wanted to ask the question, but waited until someone else initiated the discussion before joining in as seen in the following comment:

I think it's good how people put their ideas and at times I really want to ask a question. I'm not confident in asking a new question unless somebody puts it on there and then I can join the group or the discussion there. That's the challenge for me … I could never ask a question myself … but the good thing is if somebody has already put something on there that grabs my attention, that's when I can go online and join in.

Participants' Sense of Communal Relationship

Equally important as skill development and application is the opportunity for these remote teacher education participants to have regular contact with lecturer mentors to sustain a professional perspective (Fairbanks, Freedman, & Kahn, 2000). This helps to progressively induct the participants into new ways of teaching and into the teaching profession by establishing an extensive professional teacher network. Upon completion of their teacher education program, not only do participants need to have the professional knowledge and skills but they also must have internalised a professional teaching culture and have developed a reasonable professional network (Ingersoll & Smith, 2004). The program is designed to encourage such collegial habits. Roslyn pointed out one of the challenges of the program and how she managed it:

I have a challenge, managing the major assignments, but luckily there's a lot of supportive colleagues.

Being a profession of practice, teaching requires on-site, face-to-face, as well as online learning experiences and mentoring. This implies a relational focus due to the dependency on face-to-face contact to create the professional learning environment, in addition to online communication with two support lectures based at the university's Australian campus. Being a small close-knit Pacific community, the participants' sense of relationship was an important cultural strength. By encouraging collegiality and teamwork, this strength was used to facilitate learning productivity and to build an interdependent professional learning community in order to sustain and strengthen the education system as a whole.

The program design utilised a mentor lecturing system using on-island and base-campus support lecturers who individualised the online delivery from the unit coordinators. This required effective team communication between online and on-site mentor lecturers who liaised and delivered between unit coordinators and individual candidates. Ross thought that the flexible delivery design of the teacher education program was effective because:

[I have] two lecturers who are helping us with the course and I find it very useful and helpful.

Student group work in the University Centre complimented their online learning and created a community of support among themselves. The liaising and mentoring of the on-site and online support lecturers enhanced this community of practice. Three of the students discussed an awareness of the cultural/language barriers between lecturers and students and their lack of comfort in addressing the lecturer directly. To alleviate this, the students often sought clarification from other students about what is said in class or on the online forums. This is evident in the excerpts from three student interviews:

> For my studies, if I really need support, I usually go to my colleagues, so they are always helpful like they always turn up for the afternoon. So that's the support that I'm getting so far from my colleagues, even the students. I usually ask around if I'm really lost. I ask around things that I cannot ask online … It's like if I find myself, like right now, at times I feel like I'm not confident speaking to somebody one on one, but in groups it's OK, I feel more secure talking … I hope after this I'll be really proud and confident (Sylvia).

> The online units? Well, the best thing is that I get to be – to come here with the other teachers and we learn as a group (Emma).

> It is our second language and we find it very hard and very embarrassing when we make a mistake in speaking in English in front of everybody (Julianne).

It was through knowing the characteristics of the candidates, the motivations that drove them and day-to-day environmental and community factors influencing their studies, that the lecturers were able to differentiate and individualise their delivery.

Of particular interest is that the students expressed their development as teachers in response to the pedagogical techniques that have been modelled in the online environment and face-to-face activities. It is enlightening to note that the student-centred strategies utilised by the lecturers are transferred into practice, thus emphasising the key role that modelling and mentoring plays in the professional development of teachers.

> Now I'm learning a few things that are making me find another way to actually engage the students to get into the learning. And I'm beginning to identify students with a problem in their learning. It's an eye opener that makes me see that I'm actually seeing things that I didn't see as a teacher before, I was just giving them the lesson and then that's it (Vincent).

> The first time we did the program, I thought the way we did the assignments and all that it really opened my mind. It gave me a few ideas on how I could manage my classroom and how I could teach the students, so it's a bit – also it motivated me in a way. It was fun to learn new things that I didn't know as a teacher because usually we didn't train to become teachers but we were just put into the classroom… it gave me a bit of support and I felt a bit more confident teaching (Sylvia).

> I've learned some better skills now, I mean, I was introduced to a lot more teaching techniques and how to handle behaviour management. I mean, before it was just a basic set up, you have to praise, you do this or that, but then being in a classroom with different individuals, it's really hard to manage. I started learning about other theories, concepts, and behaviour management plans. And that really helped (Gary).

Whilst Chaney's excerpt below describes a lack of transformation, she noted that she hasn't had time to transfer her ideas to the classroom. It will be interesting to identify if there is any change in subsequent interviews.

> I think I'm still at the early stage right now. I haven't – with the new projects and stuff that I've been exposed to … I haven't got the time to actually do it in the classroom at this stage… I guess I haven't really transformed yet, into the new me. Not necessarily

transform, I'm still the same me as before. But I've got some ideas that I've taken with me (Chaney).

CONCLUSION

This particular teacher education program used online, plus face-to-face delivery of professional development for aspiring and in-service teachers who were located in a remote area and whose personal or family circumstances and their need to earn a livelihood, did not allow them to relocate to a larger regional or capital centre to study on-campus at a major university. The level of necessity of a flexible learning delivery appeared to be dependent on three main characteristics of the target environment. These were the context's level of infrastructure development; the participants' level of familiarity with the available information technology; and the participants' general sense of communal relationship which was an innate part of their culture.

Despite the difficulties which impacted on students' online participation, including family commitments and responsibilities, work commitments of the in-service teachers, limited internet access, power and water outages, the Nauruan students are expressing many benefits of online learning meshed with face-to-face in-country support. Of particular interest is the positive impact of the mixed-mode modelling of student-centred teaching strategies and the benefits of the mentoring component.

Whilst this is a preliminary study, empirical evidence concerning the change in teachers enrolled in this program may lead to instituting similar programs in other Pacific Island Countries. There is the potential for transfer to remote areas of Australia who may benefit from a similar model aimed at building capacity amongst local teachers as educational leaders in their region. It is evident that the participants have benefitted from the opportunity to reflect upon their studies and their teaching practice. As many of the participants are pioneers in their family and community in terms of university studies, the project has provided additional support to facilitate communication of their educational journey. In the light of the research findings, positive modifications to the program can also be made for future offerings.

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