

# Rethinking an Initial Postgraduate Course in Primary Teacher Education in Australia

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**Abstract—** A proposal for the restructure of a one-year post graduate initial course in teacher education into a two-year Master of Teaching (Primary) program prompted this research. The context is a Western Australian university with an established tradition of pre-service teacher education. The research used a mixed methods approach including a literature review, university statistics, student and staff interviews, two student surveys, and specific course retention data. The researchers collated a rich history of the course with a focus on collecting data over a four year period on the changing cohort demographics, the integration of information and communications technology, students retention rates, and student learning support needs. The findings include suggestions for course design, e-learning and strategies to promote the use of mobile tablet devices.

**Index Terms—**initial teacher education, postgraduate teacher education, M-teach, graduate diploma in education, curriculum renewal, flexible online delivery,

## I. INTRODUCTION

This research was undertaken by two experienced teacher educators to review and reflect upon their School of Education's (SoE's) one-year Graduate Diploma of Education Primary course, to inform curriculum renewal. The research was motivated by the Australian Institute for Teaching and School Leadership (AITSL) request for the restructuring of all Australian one-year graduate diploma courses into a preferred two-year Master of Teaching. This research used qualitative and quantitative methods of data collection and analysis. The researchers collated historical data about the development of the culture within their SoE's GDE-P course. The researchers wanted to unpack the notion of the course culture by trying to understand why staff and students behaved in specific ways. The course culture can be described as "*the acquired knowledge people use to interpret experience and generate behaviour*" (Bodgen & Biklen, p.30). An ethnographic approach was taken to gather rich data about how this specific course operated to inform curriculum renewal, retention rates and student learning outcomes.

The research was set in the context of disappointing data emerging from two reviews of Australian education in schools. The Bradley Review (2008) and the Gonski Report (2011) reported that in terms of student performance on

international tests, Australian students were slipping behind their counterparts internationally. International reviews of school achievement in the core areas of Mathematics and Literacy reported a significant drop in performance of Australian school students. Student performance was measured in terms of learning outcomes on international standardised tests, such as the Program for International Student Assessment (PISA) conducted on behalf of the Organisation for Economic Co-operation and Development (OECD). The PISA tests are conducted every three years in seventy countries and focus on testing the skills of fifteen year old students in core subjects of reading, mathematics and science. The Trends in International Mathematics (TIMSS) conduct testing of nine and ten year old and thirteen and fourteen year old students every four years in fifty-nine countries. Both of these tests are conducted by the International Association for the Evaluation of Student Achievement (IEA).

Problems in the schooling system focus attention on the adequacy of university teacher preparation courses to prepare pre-service teachers to become future leaders and change agents in schools (Bradley,2008). There is debate on changing the funding model for Australian schools as a way to improve educational outcomes as recommended in a national review of Australian Education undertaken by Gonski in 2011. Australia has recently introduced National Teacher Standards (AITSL, 2011) to improve teacher preparation and to promote professional learning for teachers to improve educational outcomes in schools in line with the recommendation in the Gonski Review (Gonski, 2011, p. 217).

Research undertaken by Darling-Hammond (2006) indicates that teacher preparation has a significant impact on students' achievement, in some instances overcoming socio-economic and language background factors. The Organisation for Economic Co-operation and Development (OECD) in the 2011 report 'Building a High Quality Teaching Profession', includes international research to support changes in teacher education to help teachers become "*innovators and researchers in education, not just deliverers of the curriculum*" (OECD, 2011a, p. 7). In addition, the OECD continues to discuss the need to raise the entry criteria into teacher education courses to recruit high calibre individuals to the teaching profession. This supports AITSL's (2011) concerns over the limited amount of pedagogical content

knowledge being offered by traditional Australian GDE-P courses.

The Bradley (2008) and Gonski (2011) reviews foregrounded the importance of high quality teacher education to produce the calibre of teachers needed to lift the standards in Australian Schools. In Finland, where teaching is a high-status profession the Finn's aim to attract students from the top 15 percent of graduates to enter the teaching profession. It is highly competitive to enter a postgraduate teacher education course in Finland: for example, "*in 2010, over 6 600 applicants competed for 660 available slots in primary school preparation programs in the eight universities that educate teachers, making teaching one of the most sought-after professions*" (OECD, 2011a, p.13). Finland also raised the social status of its teaching profession and a Masters' level qualification is now the basic entry qualification for teachers (OECD 2011a). This move to raise the standards of entry and the academic levels of teacher education programs is supported by previous research undertaken on the American Education teacher education system by Mezirow (2003). This research indicates an important relationship between teacher preparation, in terms of the quality of professional learning undertaken by pre-service teachers, and the graduating teachers' ability to create effective learning experiences for students in their classes.

The Gonki Review was commissioned by the Labor government in 2010 and released in 2011. It was a comprehensive review of the Australian schooling system, which included 7000 submissions and 39 school visits. A significant finding of the review was the need for high quality teachers in Australian schools and there were suggestions of a need for a review into teacher preparation in Australia (Gonski 2011, p.98).

*Australia's schools, government and non-government, should be staffed with the very best principals and teachers, those who feel empowered to lead and drive change, and create opportunities for students to learn in new ways to meet their individual needs.* (Gonski 2011, p. XV)

### **Initial Teacher Education in Australia**

To work in Australian schools, all teachers need to hold a recognised teaching qualification and need to have current active membership of the appropriate teacher registration board. There are Teachers' Unions in each state in Australia, such as the State School Teachers' Union of Western Australia (2010) who reinforce the importance of professional credentials for their members. Membership of teachers unions is optional. Currently 39 tertiary institutions offer certified teacher education courses. Each state has a teaching council, a professional body that regulates the courses offered by institutions and maintains a register of teachers who have successfully completed approved courses of study. In Western Australia the two main study pathways that teachers follow are a four-year university degree course, namely the Bachelor in Education (B-Ed) or the combination

of a three -year undergraduate degree plus a one-year postgraduate diploma course in education (GDE). This research is situated in the context of changes to the structure of the one- year GDE course into a two- year masters' degree course.

### **The current course structure**

The course that is the focus of the research is a postgraduate initial course in teacher education. It is offered over three campuses, two of which are in the metropolitan area and one is a regional campus. It is offered in a face-to-face mode with a wide range of online resources on a learning management system. Blackboard is the learning management system used at the university. The university calendar operates on a two six month long semesters system in the academic year. The academic year in Australia begins in February and ending in December. Students are able to enrol in the course in in February or in semester two beginning in July. The course is designed to be completed in one year fulltime study. Students are offered the option of studying part time over two years.

In 2011 a new course pathway called the "residency" mode was introduced. This is a one year face-to face delivery option. In this pattern of delivery the students start one month earlier than the regular cohort and spend two weeks of intensive academic study in a face-to-face delivery mode on campus each semester. The practical teaching component in this course comprises two full days working in classes in schools each week supplemented by one full day of academic tuition on campus. These students do the same number of extended block practice days in schools as those in the standard course delivery mode. They follow the same units of study and do the same assessments.

There have been large changes in the use of ICT in course delivery in this course over the past ten years. With no online resources or any online course delivery ten years ago to all units having an online presence in the Blackboard (BB) learning management system by 2008. The course instituted a paperless policy in 2009, which resulted in no hard copies of notes or resources being printed for students with all resources available in digital formats in the online learning management system (LMS).

One of the aims of the research was to gather data from the students on their preferred model of course delivery and to see if there was support for more E-learning leading to a fully online delivery mode. There is no fully online delivery mode at this stage although some units use a mixed mode with selected weeks of content delivered online. From 2013 all assignments are to be submitted online through the learning management system and staff are being encouraged to move to an online marking.

### **The Australian Qualifications Council**

The Australian Qualifications Council (AQC) is a national organisation regulating qualifications in Australia. The ACQ was established in 2005 and developed the Australian Qualifications Framework (AQF). The AQF has ten levels from level one to level ten. Graduate Diploma

courses are categorised at level eight. The proposed teacher education courses are at level nine and will be designated a Master of Teaching Degree (M. Teach). A number of universities in Australia and internationally, offer initial postgraduate teacher education at a masters' degree level. The M-Teach courses are different from the Master of Education (M. Ed) by research in that they are not research degrees and they include a practical teaching component and can lead to registration as a qualified teacher. Within the professional community in Australia there are divided opinions about introduction of a two-year M. Teach course. A prominent teacher educator Professor Ure explains:

*One-year programs are more likely to meet the needs of potential candidates for teaching ... many teacher education students are mature-aged candidates who are undertaking preparation for a career change while they are balancing family and personal responsibilities. Entry into teacher education therefore, often represents a time of hardship for candidates and their families. ... The longer program creates a lengthier period of stress...* (Ure, 2012.)

### **National Standards for Initial Teacher Education**

Australia has adopted a standards based approach to both initial teacher (graduate level) and ongoing teacher accreditation. The National Professional Standards for Teachers contain seven standards that describe the professional knowledge, professional practice and professional engagement at four career stages. The four career stages for Australian teachers are entitled Graduate, Proficient, Highly Accomplished and Lead (AITSL, 2012). Australian graduate and postgraduate teacher education courses follow a stringent accreditation process before they are offered to students (AITSL, 2011). The following professional standards have been prioritised for initial teacher education courses, Aboriginal and Torres Strait Islander education, classroom management, ICT, literacy and numeracy and students with special educational needs. To achieve accreditation all teacher education curriculum must contain content knowledge of the all core content areas and include opportunities for pre-service teachers to develop the skills to teach the seven general capabilities in the Australian Curriculum. The general capabilities have been included across all curriculum areas. They are literacy, numeracy, information and communication technology capability (ICT), critical and creative thinking, personal and social capability, ethical understanding and intercultural understanding. The introduction of these general capabilities, have implications for teacher education courses because they indicate the core skills all teachers need to master.

### **Changes to Curriculum in Australian Schools**

There are a number of changes in Australian

education on a national level, justifying the need to review current course offerings in teacher education. The new Australian curriculum is the first curriculum offered across all states in Australia, previously each state set their own curriculum. This curriculum, was developed by the Australian Curriculum Assessment and Reporting Authority (ACARA), in consultation with the state education authorities. ACARA is an independent authority whose tasks include publishing nationally comparable data on all Australian schools. This aligns with the National Assessment Program Literacy and Numeracy (NAPLAN) and the national data collection and reporting program. The NAPLAN program consists of standardized tests in core curriculum areas for all school students in years three, five, seven and nine. The results of the NAPLAN tests are publically available on the "My Schools Website" available at <http://www.myschool.edu.au>. This website has the standardized test results of 9500 schools and contains five years of comparative data. This has taken the teachers' work into the public domain increasing levels of teacher stress and levels of accountability.

### **Aims of the Research**

The focus areas of the research addressed three strategic priority areas of the university, namely engaging and serving our communities; providing a supportive learning community and building organisational sustainability, these priorities are relevant to many learning institutions. The overarching aims of this project were to provide guidelines for the future course changes by examining present and past practices in the current one-year graduate diploma in education in primary school education (GDE-P). Specific aims of the research was to investigate practices within the current GDE-P course that were working well or had worked well in the past and to identify areas that needed to improve in future course offerings. This research was informed by current practices in initial postgraduate teacher education internationally (Darling-Hammond, 2006; Danielson, 2009; Thomson, De Bortoli, Nicholas, Hillman & Buckley, 2011.) According to a comprehensive review of teacher education in Western Australia by Dillon and Silva (2011, p. 58) none of the five primary pre-service courses reviewed in Western Australia had attempted to redesign their courses in response to student learning outcomes and learning needs as reported by the students.

A number of priority areas were identified for initial teacher education in Australia, namely the integration of information and communications technology (ICT) for teaching and learning, strategies to increase the student retention rate and ways to improve the learning outcomes of students (AITSL, 2011). The research was funded by a faculty small grant. Ethics permission to undertake this research was granted by the Human Research Ethics Committee of the University. The research was undertaken by experienced academics and researchers in teacher education in collaboration with current and past course and unit coordinators.

### ***The overarching research question***

What do the students need and expect in terms of course design, course structure and course delivery in future versions of the GDE-P course?

### ***Subsidiary research questions***

1. What aspects of the GDE-P course have worked well over time?
2. What aspects of the GDE-P have not worked well and need to be changed?
3. What do the students need and expect in terms of course design, course structure and course delivery in the GDE-P course?
4. How does the current course compare to other GDE courses offered by the university in terms of attracting and retaining students?
5. What strategies can be used to increase student retention in the GDE-P?
6. What causes some students to exit the course prior to completion?
7. What can we learn from students and staff to improve future course offerings in initial postgraduate teacher education courses?

### ***Proposed Research Outcomes***

1. To develop guidelines for future course design, which will attract and retain students while promoting positive learning outcomes for students at educational risk.
2. To make recommendations for teaching and learning strategies to be incorporated in future GDE-P courses, which will support initial teacher education students to develop the skills in the graduate level teacher standards.
3. To develop guidelines to align current and future course offerings with the AITSL Teacher Standards (Graduate Level) and the Australian Curriculum to meet course accreditation criteria.

### ***The Methodology***

The researchers engaged a mixed methods approach to their investigation. These mixed methods were selected to allow the triangulation of data to develop a rich picture of the course. In order to elicit feedback from the GDE-P students a survey containing 33 questions were asked of one cohort in 2009 and repeated in 2013. These surveys provided an opportunity for self-rated interpretations covering several interdependent factors (Kemmis & Taggart, 2005). A numeric weighing was applied to the responses, so that factor rankings could be established and reviewed (Kemmis & Taggart, 2005). The survey responses were used to provide longitudinal data of the health and future needs of the GDE course. Responses

were compared over the two cohorts 2009 and 2013 giving a picture of how the needs of the course are changing over time in response to new technological developments. This mechanism allowed the researchers to gather two 'snapshots' over a four year period of student perceptions of the GDE-P experience. It also, was the mechanism, which allowed the researchers to gauge an informed perception of student self-efficacy and future learning needs.

As advocated by Freebody (2003) steps were built into the research process to minimise the personal subjectivities of the researchers, which could influence the data analysis. The researchers were aware that some of the researchers had close personal links to the course and working relationships with student respondents, which could influence the research. In those instances external assistance was sought for example, the survey was administered online and in hard copy formats, by an independent researcher. The survey data was analysed by a post-doctoral colleague without a direct interest in the GDE-P course. In summary, the survey was designed to elicit several factors associated with study, ICT and wellbeing. The scope covered:

- demographic information
- self-assessment of academic readiness
- self-assessment of ICT readiness
- computer use
- computer access
- self-assessment of particular threats to wellbeing
- self-assessment of retention comfort levels.

To gather ethnographic data on the course culture there were interviews with students enrolled in the course and interviews students who had withdrawn from the course. Current staff and past staff members were interviewed. These interviewed included five previous course co-ordinators who had provided leadership for course since its inception to provide insights into the development of the course culture and provide a context for current practices.

A review of the literature was undertaken to inform the research on current practices in post-graduate courses in initial teacher education. Course documentation from current and former course coordinators were analysed for common themes (Patton, 2002). Faculty records were examined to benchmark retention rates for the different Graduate Diploma of Education courses offered at the university from 2004-2012. This information was used to help assess the retention trends at a macro level within the SoE. This data was used to indicate the size and effectiveness of the current GDE-P course relative to other GDE courses (Early Childhood, Middle Years and Secondary Studies) offered by the university before engaging in further micro examination of practices within the existing GDE-P course.

A combination of ethnographic and statistical course data was used to build a rich picture of the course from its conception to current practices. Data from this range of data collection methods was triangulated to build a comprehensive insight into the complex and messy process of teaching and learning in a tertiary institution (Patton, 2002). As stated by Tony, Bell, & Anderson (1999) ethnography when used as a research procedure can provide

*a way of understanding the particulars of daily life in such a way as to increase the success probability of a new product or service or, more appropriately, to reduce the probability of failure specifically due to a lack of understanding of the basic behaviors and frameworks of consumers* (Tony, Bell, & Anderson, 1999, p. 37).

The ethnographic data gathered in this research provided evidence of past practices, which were evaluated in light of current day course requirements. The evaluation process facilitated a perspective of which features of the course added value and needed to be retained and which features needed to change and evolve (Tony et al, 1999). This approach was taken as a precursor to curriculum renewal and formed part of the planning phase for a new model of course delivery.

The research design emphasised the value of student voice and student input in curriculum change processes (de Jong, Lane & Sharp, 2012). There were high levels of student consultation as part of the data collection for this research. The value of student voice in curriculum research is advocated in a number of studies for example, Taylor (2000), Mezirow (2000), Mezirow, (2003) and Andrews (2005).

## Findings

In order to address the overarching research question What do the students need and expect in terms of course design, course structure and course delivery in future versions of the GDE-P course? A series of four subsidiary research questions were used.

1. How does the current course compare to other GDE courses offered by the university in terms of attracting and retaining students?
2. What strategies can be used to increase student retention in the GDE-P?
3. What causes some students to exit the course prior to completion?
4. What can we learn from students and staff to improve future course offerings in initial postgraduate teacher education courses?

## Analysis of faculty records

In order to address research question one “How does the current course compare to other GDE courses offered by the university in terms of attracting and retaining students?” the official university retention statistics for three GDE courses over the periods 2004 -2012 were analysed and compared to consider the retention profile of the GDE-P students during 2004-2012 compared to other GDE courses offered by the university within Pre-service Teacher Education at that time. These GDE courses are common across Australia and include:

- Early Childhood Studies (ECS);
- Primary;
- Middle Years; and

- Secondary

From 2004-2007 the SoE supported four one-year full-time GDE courses across Early Childhood Studies, Primary, Middle Years, and Secondary. In 2006 it was decided to phase out the Middle Years course. Therefore, the retention rates for the Middle School GDE drops unusually in 2007 and ceases in 2008.

Overall, the researchers consider the retention rate of approximately 85 percent achieved for the combined GDE courses during for 2004-2012 as very high, approximately 20 percent higher than the SoE’s Bachelor of Education Primary degree. The following retention rates lead up to the Global Financial Crisis (GFC) over a successive a five-year period. However disclosure from the GDE-P survey conducted in June 2009 indicates that 34 percent of the students in the GDE-P were feeling vulnerable about the sustainability of their studies, linked to economic hardship. At the point of writing the fall out from the GFC is still continuing and the high Australian dollar is a major factor that inhibits overseas students from enrolling in local courses, as well as a loss of a flow on in the subsidising of Australian students, associated with GDE-P academic teaching staff levels.

## The Relative Size of the GDE-P Courses

The Secondary and Primary GDE courses provided the biggest enrolments and best retention percentages from 2004-2012. ECS and Middle Years courses operated smaller cohorts.

## Calculation of retention

The percentage is calculated by the sum of the number of course completions and the number of student still enrolled at the end of year one, divided by the number students enrolled in beginning of year one. From 2004-2007 the faculty supported four one-year full-time GDE courses in: Early Childhood Studies, Primary, Middle Years and Secondary.

Mean retention (Percentages) 2004-2007/2012

- ECS Mean Retention 2004 – 12 (76%)
- Primary Mean Retention 2004 – 12 (85%)
- Middle Years Mean Retention 2004 – 07 (80%)
- Secondary Mean Retention 2004 – 12 (87%)

Faculty statistics show all GDE courses have provided positive retention in a period underscored by staffing pressures. Both the primary and secondary modes offer the largest numbers of student load with 85 percent plus retention.

Mean enrolments 2004 – 2012

- ECS 2004 – 12(55)
- Primary 2004 – 12(199)
- Middle Years 2004 – 07(43)
- Secondary 2004 – 12(224)

According to the mean enrolments in GDE-P above period, nearly 200 pre-service primary teachers were being developed for Western Australia. This is 10 times the number provided by the 1970s Claremont Teachers College model and triple the number from Churchlands Campus at its highest (Haynes, 1994). The peak intake prior to 2004 was 120 students with 90 students at week-six being considered optimal. The GDE-P was the only course at the University (1991-2003) that had a selective intake.

### **Range of enrolments**

In 2004, the GDE-P grew to the point that it had to be accommodated on two campuses, and during that year two coordinators were appointed. During the subsequent periods there have been five different course coordinators and today the GDE-P is stable at circa 180 students. Therefore, despite the limited resources, the outcomes have been extremely successful, considering the coordination continued to centre around one person. However, the culture of the GDE-P shifted, due to the pressure to increase student load.

Range enrolments 2004 – 2012

- ECS 2004 – 12 (Range (81-39 = 42))
- Primary 2004 – 12 (Range (252-162 = 90))
- Middle Years 2004 – 07 (Range (62-17 = 45))
- Secondary 2004 – 12 (Range (279-154 = 125))

Median enrolments 2004 – 2012

- ECS 2004 – 12 (43)
- Primary 2004 – 12 (177)
- Middle Years 2004 – 07 (47)
- Secondary 2004 – 12 (242)

The statistics provided by the university indicates that during the 2004-2012 period a degree of volatility in the enrolments across all GDE courses. In particular, the primary mode with a mean of 199 students and median of 177, with a range of 92 suggests that outside factors within the economy played an important role in determining student load over the experience provided by the faculty or the course coordinator.

In order to address research question four, “What can we learn from students and staff to improve future course offerings in initial postgraduate teacher education courses?” A number of related research activities were undertaken. The finding of the student surveys will now be discussed.

### **Student Surveys**

In order to elicit feedback from the GDE-P students a survey containing 33 questions were asked of one cohort in 2009 and repeated in 2013. There were 64 respondents in 2009 and 95 respondents in 2013. The surveys were delivered online and in hard copy in 2009 and only in online mode in 2013. The online survey was developed in Qualtrix. The survey link was distributed by email to the students. The survey responses were anonymous. The data was collated in excel and then exported to SPSS for analysis. The survey

elicited personal experiences associated with issues of wellbeing, and valuable reflections on students’ future learning and support needs in terms of ICT and the students’ perception of workloads (Andrews 2005; Mezirow, 2003), as well as other pressures associated with student retention. Much of the interpretive analysis of the surveys involved mapping and interpreting information within the context of the specific GDE- Primary (GDE-P) course.

In addition to demographic information about a particular cohort, the survey responses revealed how pre-service teachers used contemporary technology platforms indicating their levels of computer literacy and/or access to appropriate computer hardware. This topic, information communications technology (ICT) yielded information on pre-service teachers use of:

- desktops;
- laptops;
- mobile devices
- software
- wifi access
- location of hardware and usage either at home and/or university.

As mentioned above, pre-service teachers were required to provide demographic information to help profile the GDE-P group. Students also came to the course with diverse degrees and a variety of rich professional experiences (Lane, 2009). In the following analysis, the percentages have been round to approximations to facilitate a cleaner appreciation of the profiling.

### **Gender**

In analysing the data from the two surveys it was noted that the gender imbalance in the cohorts was widening. In 2009 with respect to gender, 75 percent of all students were female by 2013 this had grown to 82% of the cohort. This result is marginally better than the primary and kindergarten through to year seven bachelor degree gender ratios, however this continues the gender imbalance that exists in Australian schools (Bradley, 2008).

### **Study Preferences**

Significant shifts were noted between the 2009 and 2013 cohorts regarding their selected study fractions. In the 2009 cohort approximately 90 percent of the respondents indicated they were studying on a full-time basis (two full semesters in one year). By 2013 this had dropped to 73% of the students studying fulltime, with the remaining 23 percent extending their study period to two years or more. This disclosure underscores a reduction in the one year completion rate for the primary teaching profession in Western Australia. The mean retention rate for the GDE-P course from 2004-2012 was approximately 85 percent, which the researchers consider positive. There was only a five percent difference in the intended full-time declaration and the five-year reflection of the retention mean based upon the respondent feedback,

with the majority of students completing the course within a year.

The “residency” students follow a different course delivery mode with blocks of intensive academic study time on campus at the beginning of each semester and two days a week in schools and one day a week on campus. These students reported a number of tensions between the pressures and expectations of the school practice and the academic pressures of the university course.

*The strength of the model is in the practical experience. That practical experience must be recognised, credited and supported, not undermined by an unsustainable additional workload of traditional academic exercises* (anonymous student comment from survey).

One of the themes emerging from the survey data was assessment. In the student interviews were discussion on the alignment of the assessment items. There were appear to be tensions between the theoretical nature of some assessments and the need for authentic practical assignments that relate to the classroom experiences

*Several assignments over the course of study doubled as both assignments and lesson experience plans or other forward planning documents, or lessons delivered at school to some extent doubled as assignments. Those assignments not only gave 'double value' in terms of workload, but also educational value. That degree of synergy is critical to the success of the 'residency mode'* (student comment from survey)

### ***Life Experiences Outside University***

The findings of both the 2009 and the 2013 survey indicated that the majority of respondents brought significant life experiences with them to the course. The initial comparison of the survey data reveals a shift to a more mature aged cohort enrolling in the GDE- P. In 2009 approximately 50 percent of respondents indicated that they had (3-20) years of other professional and life experience, this increased to 69% of the cohort in the 2013 cohort. For example in 2009, 40 percent of respondents had a (1-2) year gap from successfully completing university study this dropped to 31 percent of students in 2013. Students enrolling in the GDE-P course with a gap of (3-5) years post completion of previous studies also dropped from 25 percent in 2009 to 20 percent in 2013. However, in the 2013 cohort, the mature aged group, with a gap of (6-30) years post completion of their previous studies, had grown significantly from 25 percent of respondents in 2009 to 49 percent of the cohort in 2013. The cohort of students with a significant life experience also reported higher levels of stress with many coping with financial issues and the time commitment of having to work as well as study. In addition many of these students had children and family commitments making their lives multilayered and complex.

*I work and have young children. Doing the course part time has been good for me. I like the flexibility* (student comment)

This change in demographics over time, if sustained can impact on the needs of the students and should be considered in term of planning and future course development. The reasons for these shifts are complex some could be

attributed to the change in financial situation with increasing unemployment rates in Western Australia causing some students to engage in studies as part of a midlife career change to gain employment.

The age demographic of the students showed shifts over the four year period reflecting a trend towards more mature aged students enrolled in the 2013 cohort. In 2009 approximately 70 percent of the students were in the (20-30) year age group, in 2013 this had dropped to 52% of the cohort. The distribution of students in the (30-40) year old range remained fairly consistent comprising 20 percent of the cohort in 2009 rising to 23% of the cohort in 2013. The percentage of students in the 40 + aged group increased to 24 percent of the cohort in 2013. These more mature aged cohorts offer a diversity of experience many with well-established professional backgrounds and life skills unavailable in the participants in the undergraduate cohorts four year pre-service training model. However co-ordinators reported that the students in this group who were transitioning from the workplace or for a number of reasons had not been in an academic environment in the past three years tended to place high levels of demands for support on unit and course co-ordinators. This resulted in high levels of staff fatigue and higher levels of course related student stress.

*I feel I am not being productive enough, I keep feeling incompetent and that I am not going to achieve* (Student comment from survey)

### ***Language Proficiency***

In respect to English literacy proficiency and other languages, the GDE-P cohort had already entered a formal selection process from diverse universities contexts, which had already established an English competency pre-requisite. All respondents stated that they had completed their undergraduate studies using English this remained stable over the period 2009-2013. Approximately 90 percent of respondents claimed English as their home language. There other languages identified in the survey were Mandarin and Italian. Italian is the second language spoken in Australia and Mandarin is the second Chinese language spoken in Australia after Cantonese (Australian Bureau of Statistics, 2007). The researchers were aware of other language groups in GDE-P students, but these students did not participate in the survey.

### ***Student Capacity to Meet Course Challenges***

The researchers also wanted to find out about how GDE-P students perceived their capacity to meet the challenges of the course. The inclusion of student voice and feedback was considered very significant in this research.

### ***Academic study skill self-efficacy***

In the 2009 cohort student confidence was high with approximately 75 percent of all respondents claiming to be proficient or highly proficient in academic study skills. Several claimed to be highly proficient and only a few

respondents claimed a negative self-efficacy. The self reported student confidence levels increased in the 2013 cohort with all students reporting they were highly proficient 36 percent or proficient 64 percent and no students claiming negative proficiency.

### **Academic support**

When it came to student initiated support for study and skills intervention, the majority of respondents demonstrated confidence and independence, with 67 percent noting that they were happy to approach academic staff or tutors as a first request for information to clarify expectations. Approximately, 34 percent of the respondents claimed they would like more study skill support, and 25 percent declaring that they requested various forms of university support this remained constant over the 2009 and 2013 cohorts. Interestingly, in the 2009 cohort only a few respondents 12 percent indicated that they had made use of the university counsellors and learning support advisors in the 2013 cohort this figure had rise to 25 percent of the cohort. There is a need for further research to determine the underlying reasons for this reported growing need for university support services.

### **Workload Pressures and Retention**

Even though large cohorts of students generally reflect the experiences of the broader community, diligent coordination demands strategies for anticipation of student wellbeing issues. In 2009 approximately 66 percent of the respondents claimed to be coping with the demands of the course. However, although only a couple of the respondents 5 percent had withdrawn from a unit during the semester, in the 2013 cohort the number of withdrawals during the semester had grown to 10 percent.

*However, everyone keeps talking about how nasty this course is and how much extreme stress we are going to be under. I know that saying this is just intended to acknowledge the large workload we are undertaking, but hearing it constantly scared me quite a bit and added to my stress levels. I think that I probably would have benefited from some gentle reassurance rather than constant warnings that 'there will be no time to eat or sleep on prac' etc (student comment)*

Yet in the 2013 cohort there was a 10 percent drop in the number of students who had considered withdrawing from a unit in the course, with 23 percent indicating that they had considered withdrawing from a unit. In the 2013 cohort workload was reported as the major reason for student withdrawing from a unit, 43 percent of withdrawals with personal issues being the next most significant factor. More research into this area is still considered necessary by the researchers.

*The Grad Dip course is an extremely heavy workload, for mature students who have other commitments*

*through work and family, sometimes the pressure and stress is high enough to contemplate withdrawing from units and the course (student comment survey)*

What emerged from these research surveys was a potential vulnerability associated with the issue of retention for over 34 percent of the respondents, and therefore, any shifts in the pressures associated with the course could reach a tipping point with significant loss of student load to the faculty and university. Retention is an essential factor accommodating organisational sustainability within all of Australia's 39 universities.

This issues of retention and tipping point anticipation needs to be appreciated in context with the Australian Institute of Teaching and School Leadership's (AITSL's) recommendation to move away from a GDE one-year pre-service post graduate model into a Master of teaching with a two-year post graduate pre-service preparation (AITSL, 2011). In particular, a loss of retention will have an impact upon teacher supply across in the associated state jurisdiction, as well as revenue to the researchers' university.

Anecdotes from one of the researcher's diary (a course coordinator), described how a small number of students outside the survey, identified factors which prompted students to consider withdrawing from the course. These were:

- financial (2);
- personal (2);
- family (1), and
- childcare availability (1).

Another former course coordinator researcher explained how one student who listed family as a factor for considering withdrawing from the course, was expected to work in the family business every night, including whilst he was on teaching practice.

Economic and family pressures (although considered as unrealistic pressure from colleagues involved in stable work) eventually overwhelm some students.

*To not have to earn money at the same time... This has been a major issue with me being able to get work completed (Student comment)*

During informal discussions, all researchers could recall a range of similar pressures. Collectively the researchers recalled a range of serious health issues, and in some rare incidences where students had passed away.

*It is a very busy time I have some ongoing health issues that are made worse by stress. This course has been very intensive and I made the decision to switch over to part time in order to make sure my health issues didn't flare up (student comment)*

From an institutional point of view, the disclosures of the survey should be enough to consider risk management strategies of support, when the state or national economic climate is less positive. The unemployment figures in Australia are very low circa 4.5 percent (ABS, 2012), so many students are able to find part time work while studying but a global down turn could result in students leaving the course due to economic hardship.

### ***Self-efficacy: Information Communication Technology Skills***

Both the 2009 and the 2013 survey data indicated that ICT literacy of the GDE-P students was well established. The comparisons of the 2009 and the 2013 survey date indicate rising levels of ICT literacy skills of the students from approximately 70 percent of the respondents claiming proficient to highly proficient ICT skills, in 2009 to 96 percent of the students in 2013, with only 4 percent claiming to have poor skills. Therefore, the majority had strong self-efficacy with respect to general ICT skills. However in 2009, 40 percent of the respondents claimed they required extra ICT skilling, particularly using software packages in the classroom. This number dropped to 15 percent requesting additional ICT skilling in the 2013 cohort. Therefore, from a pedagogical and professional learning strategy, there has been a significant improvement in integration of software applications for educational contexts needs and embedded in the GDE-P by both the course and unit coordinators but according to the students there are still areas of need.

### ***Access to Computers***

The data concerning home access to computers remained constant for the 2009 and the 2013 respondents, with more than 90 percent having a computer at home that was connected to the broadband. What was worrying was the 10 percent of the cohort who in 2013 still indicated that they had no computer access at home. As there is a growing move to online course materials and assessments this inequity of resources for 10 percent of the cohort may need to be addressed in some way.

In the 2013 survey 100 percent of the respondents reported they had internet access at home. Interestingly there has been a significant growth in the number of student who have access to laptop computers from 50 percent in 2009 to 90 percent in 2013. Currently 59 percent of the student reported to be using PC and 39 percent using Apple Macintosh operating systems.

There have been significant changes in the use of mobile technologies since the initial survey in 2009. In the 2013 survey 92 percent of the respondents indicated they owned a mobile phone with data access and 62 percent of respondents owned a mobile tablet device. Those students who indicated they owned a tablet device 83 percent owned Apple iPads with 10 percent owning Samsung devices. There has been an increased demand for flexible delivery with this greater access to tablet-computers and smartphones. These flexible and cost-effective technologies need to be considered as part of the course delivery strategies (Lane, 2012; Lane & Fetherston 2009).

In 2009, the survey data indicated that less than 20 percent of students brought their computers to classes, by 2013 this had risen to 60 percent of the students, with 75 percent indicating they would like to use their own devices on campus. This has implication for the university wireless infrastructure and system access to accommodate this growing need for a bring your own device policy (BYOD). The

technology expansion would suggest, that it would be most appropriate that the course exploits the opportunity to enhance the use of mobile devices, tablet-computers, as well as smartphones within the GDE-P, or the proposed Master of Teaching award (Lane, 2012). This would support changes in curriculum introduced with the new Australian National curriculum which has information and communications technologies integrated as a general capability across all curriculum areas (ACARA, 2012). There were a number of requests from students for all units to be available online with all lecture recorded and posted online. However were questioned if they would have enrolled in the course if it was offered fully online 95 percent of the respondents said no. However this response was obtained from a cohort who had selected to do a face-to-face on campus course and thus cannot be generalizable to a wider demographic.

### ***Course Document Analysis***

The researchers examined their professional documents and notes associated with unit and course evaluations. Several course co-ordinators were interviewed including the first co-ordinator and originator of the course. This material, rich in anecdotes provides a working narrative (Freebody, 2003) and context for the study. The survey information was triangulated with a variety of professional notes to synthesise a narrative for reflection, thus linking issues relating wellbeing and retention considerations.

### ***Telephone Interviews***

A series of telephone interviews conducted, by an independent researcher, with students who were identified as being at risk and those who had withdrawn from the course before completion revealed interesting insights. In the GDE postgraduate students, many of whom were mature aged students re-entering the university environment after years in other fields, provided insights into their readiness and personal transformational learning experiences as critical learners aware of their context and their learning needs. Included in this research were a group of students who had exited the course early. These students who have exited from a course are often not included in research because they are no longer registered students. In this study they were contacted by telephone to participate in a telephone interview. They provided valuable insights into the risk factors which impact on course retention and transition to post graduate study at university particularly for mature aged students re-entering tertiary study. In the analysis of this data there were a range of factors impacting on course withdrawals the majority of these factors were external to the course. A number were related to feeling of self efficacy and their own academic and professional skills. A number of students commented that there were not prepared for the volume and level of the course work.

*I think that although students are told they are at the bottom of the food chain in a school, no one really expects to be treated badly, and no one really expects the hierarchy to be so defined. The*

*attributes I have, friendliness, flexibility, and a sense of humour, I haven't found to be very useful in a school (Student comment)*

### Course coordinator interviews

A key factor to the ongoing success of the GDE-P course was attributed to the highly skilled course coordinators and supportive academic team. According to the earlier course coordinators several success factors were built into the GDE-P course design to facilitate quality student outcomes associated with school-based professional practice. Prior to 2004 the GDE-P was designed to assist students to determine if they were suited to teaching before they incurred a tertiary fee debt. During the first six weeks of the course students were provided with a rich and demanding practicum to test their suitability. During this period 'at risk' students were interviewed and encouraged to reconsider their participation in the course. Experienced academic colleagues thus helped some students avoid unnecessary stress and debt. Importantly, this process reduced the number of failures within the GDE-P course. By selecting only the strongest students to take their place in the final teaching practicum, this accommodated a continuing participation of a key network of experienced GDE-P teachers, principals and schools.

*"The strength of the model is in the practical experience. That practical experience must be recognised, credited and supported, not undermined by an unsustainable additional workload of traditional academic exercises"* (student comment)

The researchers met with past and present course coordinators on several occasions to discuss the GDE-P coordination and related experiences. During the meetings, colleagues informally crosschecked their perceptions (Kemmis & McTaggart, 2005) regarding particular problems confronted and solutions initiated during their coordination period of the GDE-P. The course co-ordinators were very mindful of the impact of societal changes in the students' world. During the course co-ordinator reflections a number of examples were cited of "students at risk", where students emotional and financial stresses that had impacted negatively on their retention in the course and on their success in reaching their learning outcomes. Wellbeing issues had been anecdotally recorded using informal diaries (Kemmis & McTaggart, 2005) and other faculty work place documents.

Course co-ordinator feedback cited examples of co-ordinator stress from the demanding role of leading this course, particularly as the course grew rapidly and was offered over two campuses with one co-ordinator. The course coordinators reported examples of the demanding nature of the students in this postgraduate course, which in a number of cases, impacted on the health and wellbeing of the staff teaching in the course.

The research revealed concerns by academic staff members for student social and emotional sustainability (Taylor, 2000) and concerns over the students' skills to balance demanding study schedules with economic responsibilities and family relationships obligations. The co-ordinators were concerned about a number of students who

reported they had experienced significant relationship breakdowns during the course, prompted by what the students described as workload pressures. The academic staff reported that they felt the issues of wellbeing and workload had a significant impact on student retention and should be carefully considered in future course design.

Co-ordinators gave feedback on the course structure noting the inclusion of weekly distributed practicum days in schools contributed positively to the over all success of the course. These days were in addition to the block teaching practices included in the course. Students were assigned to a school for a semester and spent a minimum of one full day and in some years two full days in schools. In the original course the academic staff also spent a large amount of time in these schools, known as "Grad Dip Schools" building up partnerships with schools, which were beneficial to the university (Haynes, ND). Unfortunately this model where academic staff were closely linked to schools was discontinued as the course increased in size.

### Feedback from Weekly Course Forums

One of the past course coordinators held weekly course forums called "coffee clubs" where refreshments were offered and the students were invited to reflect on their school based learning experiences and other course related issues. These social sessions produced valuable information from the students, which was used by the academic team to improve the student experience and forewarn staff of potential areas of difficulty or stress as reported by the students.

*Poor feedback from a principal at a school has made me feel very under-confident. However I decided I have gone this far, I will not let one person put me off, and I made sure she knew I had taken on-board her criticisms. I spoke to the coordinator at the forum and felt better about what had happened* (student comment)

These additional sessions were voluntary for the students, yet were very well supported. The staff did not receive any workload recognition, yet the coordinator involved reported that they did much to build course spirit and provide the additional contact with their peers and with the course co-ordinator requested by the students.

These were inspired by the actions of the course founder who took the whole cohort on team building camps and had BBQ's at his home for students (Haynes, 2009). The course founder emphasised the social and collaborative dimensions of the teaching profession that contribute to success as a student and as a future teacher. Unfortunately these initiatives were discontinued as the course numbers increased because of the costs and logistics. However, it was recommended that these forums should be included in future course design because they received very positive support from the students.

### Guidelines for New Course and Unit Designs

The findings of the research produced a number of guidelines and recommendation, which have been used in the development of a proposed new course. This course is

awaiting decisions by government whether they will fund a one or two year graduate initial teacher education program in Australia. The roll out of the new two year masters' level courses have significant cost implications for government and the university.

### **Perceived areas for improvement** *Integration of ICT in course design*

Although ICT literacy appeared to be well established, approximately 70 percent of the respondents said they would like more online materials and tutorials. From discussion with the pre-service teachers, the researchers concluded that students wanted more flexible modes of learning including mobile learning (M-Learning) which allows students to access learning materials on their mobile devices in their own time on or off campus. (Lane, 2012). This matches initiatives being introduced by the university in the XXX Curriculum Framework (deJong,2011).

Currently, there is no formal assessment covering pre-requisite computer literacy for students entering the course, the researchers considered it important to consider what skills students brought into the GDE-P from previous studies, or their former workplace (Lane, 2009). A suggestion was made to include a survey of ICT skills and competencies as students enter the course based on the National Professional Standards for Teachers Graduate Level (AITSL,2011). The results of the survey could be used to plan a personalised development plan to be completed by students in the course. This could have links to support resources and online tutorials to ensure support is provided for students to acquire the required skills.

There were a significant number of requests for the course to include more online resources and online learning. This is a complex issue and needs to be balanced with the requests from students for more social interaction. For example, 50 percent of the respondents would like more one-to-one contact with academic and technical staff and 40 percent would like to engage in more peer-based support. A solution to this could be the integration of social networking, where online tools are used for students and staff to interact online in networks and forums, thus giving more peer to peer and staff support yet respecting the students needs for flexible delivery (Lane, 2012). The researchers maintain the existing traditional structure of what constitutes the delivery of a unit needs to change. The traditional university course structure of a set amount of contact time at university for a given number of hours over a fixed number of semester weeks needs to be reconceived into flexible options to cater for diverse learning and teaching needs.

### **Balancing Workloads**

One of the important issues acknowledged by the respondents was the problem of balancing workloads, with 30 percent of students expressing the need for assignments to be spread out through the semester. However, given that semesters are between (10-12) weeks with mid-semester breaks and teaching practice experiences, this has practical

limitations where half the assignments (four) will occur in the middle of the units and half at the end (also four). Therefore, the previous discussion regarding conceiving the structure of a unit over a historical quotient of time requires flexible interpretation.

From both a coordination and time management situation the GDE-P, as well as most university courses and units, there is usually a fixed structure. Perhaps progressive assessment with an online component could be considered, but this needs to be balanced again the cost of staffing such an initiative. Flexible delivery (Lane, 2012) is therefore an essential consideration that not only incorporates new technology and software accommodated by flexible online learning management systems. In addition there is need for the incorporation of secure online social networking tools that are easy to use like "facebook" as part of course delivery and assessment with opportunities to enhance social contact and create online learning communities.

The research highlighted the very varied learning needs of the cohorts engaging in postgraduate study, thus indicating that in the future students may need to enter a personal study contract and participate in designing their version of the GDE-P or Master of Teaching award to fit their personal constraints. In future course design student economic and family restraints will need to inform sustainable learning and teaching options. The researchers view this notion of a customised course, without trading quality assurance as an essential course design consideration. It may be necessary to offer flexibility or agreed student contracts for delivery and assessment points based on an individual workload rationale, economic constraints and family wellbeing factors.

### **Course Quality Issues**

The GDE-P course includes a large amount of content in different learning areas, it assumes student have high levels of competence in core learning areas. This is not always the case since entry criteria have fallen over the years. There were recommendation from course academics to reinstate high entry criteria for any future courses.

The researchers were also concerned with the quality of the teaching and learning experiences provided in postgraduate diploma courses. There has been criticism of the GDE-P with some saying that you cannot prepare teachers in only one year. Yet others maintain that these courses are designed from the perspective of providing a transformational learning experience to skilled graduates. "A key proposition of transformative learning theory recognizes the validity of Habermas's (1984) fundamental distinction between instructional and communicative learning." (Mezirow, 2003) In addition:

*Instrumental learning is the acquisition of skills and knowledge mastering tasks, problem solving, manipulating the environment... [And] In contrast, transformative learning is perspective transformation, a paradigm shift, whereby we critically examine our prior interpretations and assumptions to form new meaning - - - the*

*“why.” This perspective transformation is achieved through (1) disorienting dilemmas, (2) critical reflection, (3) rational dialogue, and (4) action. (Mezirow, 2003 para. 5)*

With the introduction of the new Australian Curriculum and the need to prepare teachers to work in 21<sup>st</sup> century schools there are concerns that teacher education courses are not preparing students adequately for the rapidly changing expectations in classrooms hence inclusion in the GDE-P of transformational learning experiences that go beyond the provision of content to deep learning using challenge based learning, problem based learning and dilemmas, integrated into authentic school based experiences.

In addition a number of recommendation for teaching and learning strategies to be incorporated in future GDE-P courses, which support initial teacher education students to develop the skills in the graduate level teacher standards (AITSL, 2011).

Namely:

- use of an on entry survey of students ICT skills and skills in core areas of literacy, mathematics and science linked to the AITSL professional standards.
- use of a course wide e-portfolio, to track student progress and contain evidence of how students have addressed the standards with an emphasis on the priority areas.
- the use of peer support and team learning to develop a sense of community and support at risk students
- the use of inquiry-based and challenged based approaches in course work
- the development of a supportive learning community with regular face-to-face meetings or course forums. This needs to be balanced against the need for more online delivery and suggestions were made for the use of a social networking platform and video conferencing to engage online students
- the development of a more flexible course structure with allows students to create a personalised pathway aligned to their time commitment, prior experience and learning needs
- the development of a course wide tool to ensure all National Professional Teacher Standards are being developed throughout the course, thus ensuring the course complies with the standards.

## II. CONCLUSION

This research has provided evidence to assist in the development of guidelines for future course developments to assist in attracting and retaining students while promoting positive learning outcomes. The research identified a number of factors that have impacted negatively on student learning and retention in this course, namely the heavy assessment schedule, the lack of detail in the assessment designs, the lack of online learning resources and few flexible course delivery modes. The researchers recommend a thorough review of the assessment practices in this course. The student survey data

revealed significant tension between on-campus academic demands and the expectations and requirements of the workplace while engaging in the practical components of the course. There needs to be an alignment of these diverse and often conflicting expectations as students appear to be under stress trying to meet these sometimes conflicting demands.

The researchers would like recommend a revision of course entrance criteria to ensure that the students who enroll have the high levels of academic skills needed to complete this intensive compacted course. In addition a number of recommendations have been made for changes in the teaching and learning strategies used in the course, for example the need for the introduction of personalised study plans, e-portfolios and flexible course delivery schedules. The data indicated the need to review the design and formats of course resources to ensure they can be accessed on a range of mobile devices.

The research team found value in the data gathering process in which they examined the successes and shortcoming of the course to support research informed curriculum change. The researchers would like to conclude by stating that there is value in reviewing the strengths and weaknesses of courses over time. The gathering and documentation of institutional knowledge from past and present staff and students should be an important part of any change process.

## ACKNOWLEDGMENT

This research was funded by a grant from Edith Cowan University.

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