Using an Expectancy-Value Model to Identify Christian School Teachers' Motivations for Postgraduate Study

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Postgraduate study for teachers resulting in an award such as a Master's degree is a form of Professional Development that involves a sustained and long term commitment. Postgraduate study can provide the skills and expertise for teachers to more effectively develop curriculum for the classroom setting and thus enhance students' outcomes. Studies have shown that students' achievements are strongly influenced by the assigned teacher who has been shown to be more influential than other factors such as class size and the socio-economic composition of the class (Darling-Hammond & Youngs, 2002; Hattie, 2009 & 2012, Zammit et al., 2007). The literature also shows that student achievement is linked to teacher qualifications. The more qualified a teacher is, the more likely students are to perform well (Darling-Hammond, 2000; Zammit et al., 2007). In particular, a study in the USA by Ferguson (1991, cited in Darling Hammond, 2000, p. 9) found that more highly qualified teachers such as those with postgraduate qualifications increase student achievement more than money spent on "less instructionally focused uses of school resources."

As outlined above postgraduate courses provide a degree, knowledge and skills, and also have the potential to improve the students' outcomes. However, in Australia teacher motivation for postgraduate study is relatively low. Most teachers teach for over 30 years with no upgrade on their initial Bachelor's degree. Anecdotal evidence suggests that postgraduate study is time consuming and expensive. So what motivates teachers to engage in postgraduate study in Australia?

Motivation

Motivation involves the energy and drive to learn, work effectively, and achieve potential. It also plays a large part in the interest and enjoyment of study (Martin, 2003). Much of the research related to motivation in education has been targeted at student motivation (Dowson &

McInerney, 2003; Eccles & Wigfield, 1995) or at the impact of teachers' motivations, particularly teacher efficacy, or their teaching performance in relation to the improvement of student outcomes (Fives & Alexander, 2004; Tschannen-Moran & Hoy, 2001). Very little research has focused on psychological variables which may influence teachers' decisions to engage in PD and postgraduate courses in particular. For example, research into PD has typically focused on external factors such as the structure and content of PD activities (Tom, 1999), how teachers learn (Wilson & Berne, 1999) and the impact of PD on teachers' beliefs and practices (Desimone, Porter, Garet, Yoon & Birman, 2002; Grisham, Berg, Jacobs & Mathison, 2002; Taylor, 2002).

Two qualitative studies undertaken in England researched the motivations of professionals and teachers for engaging in postgraduate study. Wellington and Sikes (2006) investigated the motivations of 29 professionals for pursuing a professional doctorate. Most professionals, including the teachers, were motivated by intrinsic factors such as the intellectual stimulation of such learning, enjoyment of collegiality and social interaction with peers, and the desire for further learning to provide deeper insights into practice. For most professionals, however, the extrinsic factor of career advancement was an important motivating factor, but the school teachers in the study believed that engaging in a doctorate had a negative impact on their promotion prospects because a doctorate was seen by most school leaders as academic rather than practical. Constraints to study involved family commitments including responsibility for elderly relatives, and relationships with spouses or partners could interfere with their studies (Wellington & Sikes, 2006).

The other study was conducted with 46 teachers engaged in postgraduate study and investigated the motivating and inhibiting factors which affected the completion of a postgraduate degree. Arthur, Marland, Pill & Rea (2006) reported that motivating factors included practice-based courses which included reflection on practice, discussion with other participants, supportive school environment, school–focused applications of theory into practice, and sharing ideas with colleagues. In addition, teachers were attracted to courses with no examinations and where written assignments were relevant to practice with flexible deadlines or deadlines which fitted in with the less busy times of the school year. Further, tutor support and formative feedback on assignments were also considered to be motivating factors enabling teachers to complete the course. Teachers who had recently moved schools (within the past four years) or were re-entering the profession following a career break appeared particularly motivated to engage in postgraduate study.

One of the key motivational theories, Expectancy-Value Theory, has been shown to influence motivation in a variety of settings (Eccles

& Wigfield, 1995, 2002). The expectancy-value model of achievement as discussed in Eccles and Wigfield (2002) was adapted for this study using the three main categories of Task Value, Expectation of Success and Cultural Milieu, which encompasses the personal and professional background of the educator. Task Value includes the four components of Intrinsic Value (enjoyment of the task), Utility Value (usefulness of the task), Attainment Value (importance of doing well on the task) and Cost (the sacrifice involved to engage in the task). Within Expectation of Success two components are included, Task Specific Beliefs (the individual's beliefs about competence on a specific task) drawn from the expectancy-value model of achievement and Situational Factors adapted from Heckhausen's expectancy-value model (1991). This second component is included because studies indicate that a person's family or school may influence an educator's action outcome of engaging or not engaging in postgraduate study. Thus the opportunities or constraints of the family or school situation may provide an incentive or disincentive for a person to engage in postgraduate study.

Potential motivational factors identified from the professional development and motivational literatures are grouped within the categories of Task Value and Expectation of Success. In addition, personal and professional factors, such as gender, age, career stage, and age group taught, that may influence teachers' motivations for engaging in postgraduate study are grouped under Cultural Milieu (See Figure 1).

The Purpose and Importance of the Study

The Christian schools movement in Australia has not only recognised the importance and impact of postgraduate study for teachers but have been proactive in establishing tertiary institutions that provide postgraduate opportunities from a Christian perspective. However, only a small proportion of teachers from Christian schools are enrolled in the postgraduate courses and the proportion of teachers from all schools nationally enrolling in postgraduate courses is declining (House of Representatives Standing Committee on Education and Vocational Training, 2007). Thus, it is of importance to know what motivates teachers to enrol in postgraduate study. The main research question that informed the study was: What are the most important and influential factors that motivate teachers in Christian schools to engage in postgraduate study?

Method

Instrument

A list of potentially influential factors was initially compiled from a number of quantitative and qualitative studies that had investigated motivations for Professional Development (PD) and these were also used to identify potentially influential factors for engaging in postgraduate study sometimes called Postgraduate Professional Development (PPD). In addition, potentially influential factors were identified from the Christian education literature that would provide particular salience for teachers in Christian schools. Further, relevant factors from key social cognitive motivational theories including Self-Efficacy, and Goal Theories which have been shown to influence motivation in a variety of settings were identified as potentially influential factors. These factors were then subsumed under the components within the categories of Task Value and Expectation of Success.

As both Task Values and Expectation of Success are assumed to be influenced by the Cultural Milieu which involves background information about the learner (Eccles & Wigfield, 2002) a number of personal and professional background factors identified in the PD literature that had the potential to influence educators' motivations were subsumed under the heading of Cultural Milieu. These areas include gender, career stage age, the school in which the educator currently taught, the type of position held, and the age group taught. Previous and current engagement in postgraduate study was also included as a potential background factor.

The resultant Expectancy-Value Model of Motivation for Postgraduate Study (Version 1) incorporating 18 factors grouped into Task Values and Expectation of Success and the personal and professional background factors included within Cultural Milieu is outlined in Figure 1. The researcher developed a scale which included the 18 factors and it was titled the "Educators' Motivations and Attitudes for Postgraduate Study" (EMAPS). An average of six items was written for each factor and a seven point Likert-type rating scale with anchored end points, "1" - "not at all relevant" and "7" - "extremely relevant" (Johnson & Christensen, 2000) was attached to each item. The EMAPS Questionnaire that was used to survey the teachers included questions on background information on the participants, an open-ended question as to why they would or would not engage in postgraduate study and a series of questions relating to the items describing each factor on the EMAPS scale.
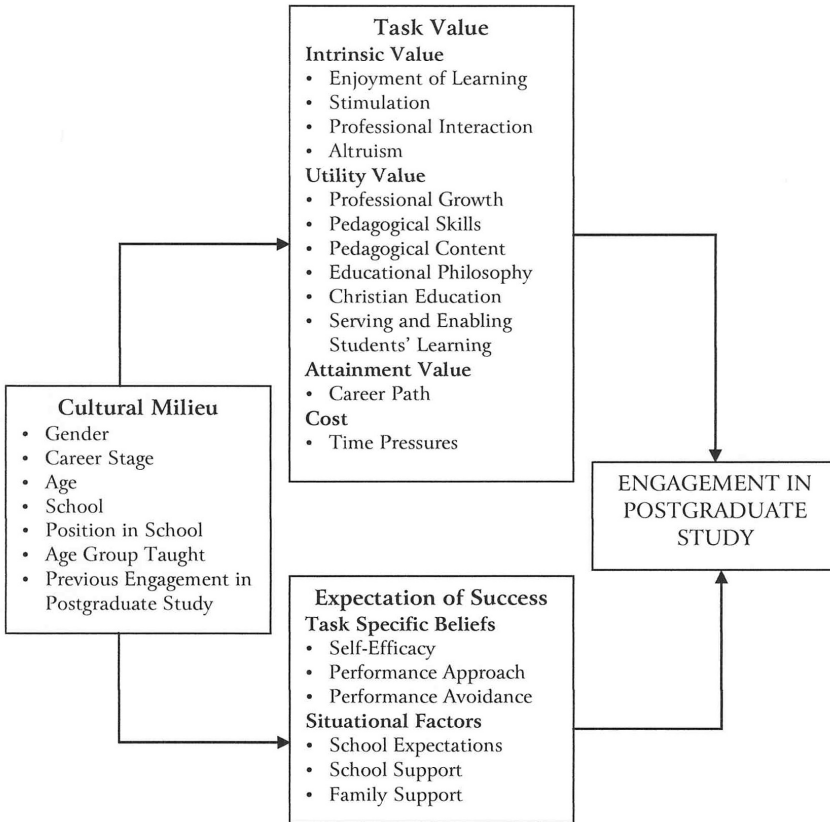
Task Value

Intrinsic Value
- Enjoyment of Learning
- Stimulation
- Professional Interaction
- Altruism

Utility Value
- Professional Growth
- Pedagogical Skills
- Pedagogical Content
- Educational Philosophy
- Christian Education
- Serving and Enabling
  Students' Learning

Attainment Value
- Career Path

Cost
- Time Pressures

Cultural Milieu
- Gender
- Career Stage
- Age
- School
- Position in School
- Age Group Taught
- Previous Engagement in
  Postgraduate Study

ENGAGEMENT IN POSTGRADUATE STUDY

Expectation of Success

Task Specific Beliefs
- Self-Efficacy
- Performance Approach
- Performance Avoidance

Situational Factors
- School Expectations
- School Support
- Family Support

Figure 1:

Expectancy Value Model of Motivation for Postgraduate Study (Version 1)

Procedure

The study was conducted with teachers from five Christian schools, affiliated with Christian Schools Australia (CSA), located in the south eastern region of Queensland within approximately a 200 km radius of Brisbane, the state capital. A pilot study at the smallest school (20 teachers) was conducted initially followed by the administration of the EMAPS questionnaire across the four schools in the main study.

Of the 230 educators who were given the questionnaire, responses were received from a total of 178 participants giving an overall response rate of 77% and an attrition rate of 23%. Of the 178 respondents, 78 (44%) were primary/elementary teachers, and 100 (56%) were secondary teachers. Seventy three teachers (41%) were male and 105 (59%) were

female. The largest number of teachers were in the Mid-Career Stage, 6-15 years of teaching experience (N=71 or 40%) closely followed by Early Career Stage teachers, 0-5 years of teaching experience (N=64 or 36%). A smaller number (N=22 or 12%) were in the Near Retirement Stage, over 25 years of teaching experience and the Late Career Stage, 16-25 years of teaching experience, had the smallest number (N=21 or 12%). Twenty seven (15%) of the educators surveyed were either currently enrolled or had engaged in postgraduate study with eight (30%) of these educators being primary/elementary teachers and 19 (70%) being secondary teachers.

Confirmatory and Exploratory Factor Analysis

In order to assess the validity of the factors in the EMAPS scale, Confirmatory Factor Analyses were carried out. In addition, the reliability of the scale was assessed using Cronbach's alpha measures of internal consistency (Harvey, Sinclair & Dowson, 2005). The degree to which variation in and between the items could be explained by the underlying factors was determined by examining the fit the CFA model generated. As the sample size was not large enough to be able to test all 109 items across the 18 factors in a single CFA and given the fit of the initial EMAPS scale, an 'all in' model would not fit the data well. Thus the EMAPS scale required revision at the item level. It was decided to reduce the number of high inter item correlations by using Exploratory Factor Analysis with the intention of developing an 'all in' model that would fit the data well.

A Maximum Likelihood (ML) analysis revealed the presence of 20 components with eigenvalues exceeding 1 which explained 77% of the variance. These 20 components were retained for analysis. The next step involved using SPSS to undertake Oblimin rotation with Kaiser normalization. Eight runs with six iterations of the data resulted in 10 stable and reliable factors being identified. Items with factor loadings under 0.4 were discarded. In addition, any cross loading items over 0.25 were discarded (Costello & Osborne, 2005). In order to maintain consistency in the design of the revised factor scale, each factor had four items. Thus additional items to be deleted were selected on the basis of instability whilst maintaining maximum diversity in content of the items within the factor. List-wise and pair-wise deletions were discarded because these methods would reduce the number of cases to an inappropriately small number for some factors. Instead, the mean of the items for each factor was used for a missing value.

These ten factors identified from run 8 of the Exploratory Factor Analysis were Pedagogical Content (the acquisition of knowledge in spe-

cific subject areas), Family Support, Performance Avoidance (the desire to avoid the demonstration of a lack of ability, Performance Approach (the desire to achieve in order to demonstrate superiority over others), Career Path (career advancement), School Support (assistance with fees and reduced workload), Christian Education (the desire to understand how to integrate a Christian worldview into teaching), School Expectations (expectations of the school or school system for educators to engage in postgraduate study), Serving and Enabling Students' Learning (a desire to relate to students more meaningfully and help them learn better) and Educational Philosophy (a desire to explore the beliefs and values underlying educational trends and issues). Each factor explained between 30.18% and 2.49% of the variance (Eigenvalue) and the cumulative variance was 80.86% which indicates good/stable factors.

Data Analysis

The data was analysed according to gender, career stage, age of the teacher, school, position in school, age group taught, and whether or not the teacher had engaged in postgraduate study. An analysis of variance (ANOVA) was carried out on each of the ten factors to discover if there were any differences in motivations related to teachers' personal and professional backgrounds including their gender, career stage, age, school, position in school, age group taught and previous or current engagement in postgraduate study. Results showed that gender and position in school were not statistically significant; the importance of Career Path was statistically significant for career stage; further, Career Path was considered to be a more significant motivator for the youngest age group who were aged between 20 and 30 years than for the older age group who were aged between 41-50 years; the influence of the school was statistically significant for Pedagogical Content, Career Path and School Expectations; in respect to age group taught, secondary teachers rated Serving and Enabling Students' Learning of more significance than primary teachers in motivating them to engage in postgraduate study; Educational Philosophy was statistically significant for those who had previously engaged in postgraduate study.

The four items that comprised each of the ten factors were used to generate a mean response score for each factor. The scores for the items ranged from 1 (least relevant for engaging in postgraduate study) to 7 (most relevant for engaging in postgraduate study). Reliability tests on these items demonstrated the strong reliability of the factors with Cronbach Alphas ranging from 0.95 to 0.84, as presented in Table 1.

Table 1:

Mean scores and reliability results for the ten factors

Factors and sample item	M	SD	Cronbach Alphas
Christian Education – *I want to think more deeply about integrating my faith with my teaching.*	4.63	1.61	.94
Pedagogical Content - *I want to acquire more knowledge about teaching in my subject areas.*	4.58	1.59	.95
Serving & Enabling Students' Learning – *Postgraduate study will equip me to help my students do better in class.*	4.30	1.53	.91
Educational Philosophy – *I want to explore beliefs and values underlying educational trends.*	3.91	1.61	.95
Career Path – *I believe postgraduate study can help me get a higher paying position.*	3.39	1.50	.93
Family Support – *My family is supportive of my undertaking postgraduate study.*	3.19	1.64	.93
School Expectations – *My school expects me to take part in postgraduate study.*	2.66	1.35	.88
School Support – *My school provides financial assistance for study.*	2.61	1.64	.91
Performance Avoidance – *I do not have the ability to do the work required.*	2.41	1.49	.95
Performance Approach – *I like to demonstrate my intelligence in front of my colleagues.*	1.93	1.11	.84

The mean scores demonstrated significant variations in the strength of the motivation for each of the factors. The five factors with the highest mean scores were grouped within the Task Value component of the Expectancy Value Model of Motivation for Postgraduate study and the highest ranking four factors were identified within the Utility Value component. These factors were Christian Education (M=4.63), Pedagogical Content (M=4.58), Serving and Enabling Students' Learning (M=4.30) and Educational Philosophy (M=3.91). Career Path (M=3.39), the fifth most influential factor was within the Attainment Value component.

The Expectation of Success component, showed to be less influential with the three Situational Factors of Family Support (M=3.19), School Expectations (M=2.66), and School Support (M=2.61) being slightly more influential than the two factors within the Task Specific Beliefs component. Performance Avoidance, (M=2.41), a factor that

could constrain educators from engaging in postgraduate study, was rated of low relevance. Performance Approach (M=1.93) was identified as the least influential factor in motivating educators to engage in postgraduate study. Table 1 shows the factors ranked from the highest mean score to the lowest.

The Cultural Milieu, the personal and professional backgrounds of the teachers were analysed using a one-way analysis of variance, followed by a Bonferroni adjustment to the alpha level. Post Hoc comparisons using the Tukey HSD test were also used.

The results indicated that gender was not a significant influence on the factors in this study. However, teachers in the Early and Mid-Career Stages identified Career Path a more significant motivator for engaging in postgraduate study than Late Career Stage educators. In addition, Career Path was considered to be a more significant motivator for the youngest age group who were aged between 20 and 30 years (Group 0) than for the older age group who were aged between 41-50 years (Group 2). The two older age groups differed in how much influence Performance Approach would affect their motivation for postgraduate study. Group 3 (51-over 60 years) rated Performance Approach as a more significant motivator than Group 2 (41 – 50 years). Thus this oldest group of teachers were more likely to be motivated by their desire to demonstrate their ability to do better and outperform their colleagues in postgraduate study than younger teachers.

There was a difference detected amongst the schools in the scores for three of the factors, namely Pedagogical Content, Career Path and School Expectations. In addition, secondary teachers found Pedagogical Content of more significance than primary/elementary teachers in motivating them to engage in postgraduate study. Further, secondary teachers rated Serving and Enabling Students' Learning of more significance than primary/elementary teachers in motivating them to engage in postgraduate study. Those participants who had engaged in postgraduate study rated the factor Educational Philosophy of more significance in motivating them to engage in postgraduate study than those who had never engaged in postgraduate study.

In summary, career stage, age, school, type of educator (elementary/secondary), engagement in postgraduate study, were shown to have a significant influence on the scores for one or more of the ten factors. However, there was no one background factor that demonstrated significance for all factors.

Analysis of Responses to Open-Ended Question

The one open-ended question included in the Questionnaire preceded the section of items. It was designed so that participants would briefly identify the most important factors they may have for engaging or not engaging in postgraduate study. The open-ended question stated "Please briefly state your main reason(s) for choosing or not choosing to undertake postgraduate study."

In order to probe the data in more depth a summary of the comments was made using a Grounded Theory Approach (Strauss & Corbin, 1990) and then the comments were grouped into like categories. These categories appeared to fall into one of two major clusters: that is, motivators or incentives for taking postgraduate study; and, demotivators or disincentives for undertaking postgraduate study.

Seven factors were identified as motivators for engaging in postgraduate study and these aligned to the factors listed on the Expectancy Value Model of Motivation for Postgraduate Study (Version 1). The factors were Stimulation (9 comments), Pedagogical Skills (8 comments), Pedagogical Content (5 comments), Educational Philosophy (8 comments), Christian Education (5 comments), Enabling Students' Learning (5 comments), and Career Path (24 comments). All seven factors related to Task Value components. Two of these factors, Stimulation and Pedagogical Skills had been eliminated in the EFA outlined above. However, because of the importance attached to them as demonstrated by the number of comments made it was decided to include them in Version 2 of the model. Four factors were identified as demotivators which included the factors of Time Pressures (85 comments), Financial Cost (20 comments), Course Expectations (16 comments), and Career Stage (24 comments). Of these factors, Time Pressures and Career Stage were included in the Expectancy Value Model of Motivation for Postgraduate Study (Version 1) with Time Pressures related to the category of Task Value and Career Stage related to the category of Cultural Milieu.

Thus seven influential motivating factors were identified through the responses to the Open Ended Question and these aligned with factors in the Expectancy Value Model of Motivation for Postgraduate Study (Version 1) and also with the factors identified from the EFA with the exception of Stimulation and Pedagogical Skills. Of the four influential demotivators identified only Time Pressure and Career Stage were included in the Version 1 Model. The additional two factors of Financial Cost and Course Expectations were not included. However, because of the importance attached to them demonstrated by the number of comments made in response to the Open Ended Question these two factors were included in Version 2 of the Expectancy Value Model of Motivation

for Postgraduate Study with Financial Cost subsumed under the Task Value category of Cost and Course Expectations subsumed under Task Specific Beliefs under the Category of Expectancy of Success. Figure 2 shows the Expectancy Value Model of Motivation for Postgraduate Study (Version 2) which incorporates the results of the EFA and the responses to the Open Ended Question.
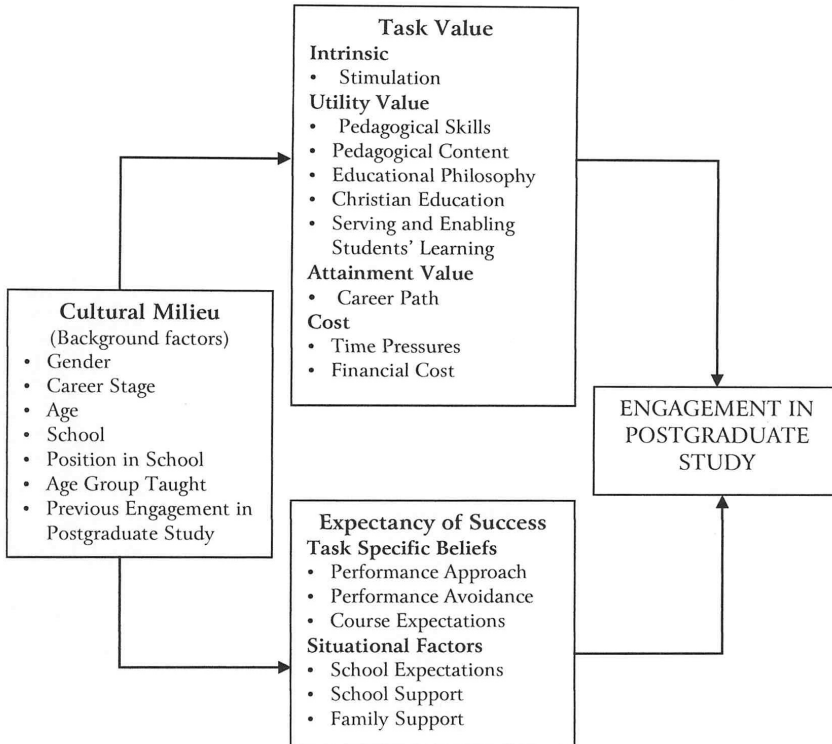

Figure 2:
Expectancy Value Model of Motivation for Postgraduate Study (Version 2)

Discussion

The results indicated that teachers' motivations are influenced more by the value of the task than their expectancy of succeeding in the task. This is consistent with the research findings of Eccles and Wigfield (2002). They reported that factors within the component of Task Value were more significant predictors of enrolment in courses than factors within the component of Expectation of Success. This assumption, that

Task Value factors are more influential and therefore more significant predictors of engagement in postgraduate study, is further reflected in the results from the open-ended question on the EMAPS Questionnaire. The discussion focuses on the top five factors identified as being the most influential motivators from the Exploratory Factor Analysis and the top four factors identified as the most influential demotivators from the Exploratory Factor Analysis and the Open Ended Question.

Christian Education emerged as the top ranking motivating factor in this study of Christian teachers and was also commented upon as a motivating factor in the response to the Open Ended Question on the survey. This factor was defined as the knowledge and understanding of how a Christian worldview can influence the theory and practice of education. Consistent with the findings of this study, a recent survey by the Association of Christian Schools International (ACSI) identified that one of the most pressing professional development needs of teachers in Christian schools was assistance in integrating a Christian worldview into their teaching (Headley, 2003).

Pedagogical Content, which was also included as a motivating factor in the responses to the open-ended question on the Survey, was the second most ranked factor highlighting the importance of professional development and by implication postgraduate study for increasing teachers' content knowledge and instructional practices. Research also demonstrates that professional development that increases teachers' understanding of the subject content, how students learn that content and how to teach that content in meaningful ways is more likely to improve student learning outcomes (Cohen & Hill, 2000; Desimone, Porter, Garet, Yoon, & Birman, 2002; Kennedy, 2005; Scribner, 2000).

Secondary educators rated this factor of Pedagogical Content more highly than primary/elementary educators. That this is a more influential motivator for secondary teachers probably relates to the greater emphasis on subject content and assessment in the secondary school, with secondary teachers wanting to enable their students to attain good grades in the final high stakes assessment that takes place at the end of secondary schooling. In addition, in order to teach subject knowledge effectively, secondary teachers require a range of appropriate teaching strategies to engage secondary students who are not generally motivated to learn (Martin, 2003).

It has been consistently shown that of all the things that schools can control, it is the quality of pedagogy that most directly and most powerfully affects the quality of learning outcomes that students demonstrate (Hayes, Mills, Christie & Lingard, 2005; Zammit et al., 2007). Thus Pedagogical Skills and Pedagogical Content are closely aligned and may be even stronger motivators for engagement in postgraduate

study in the future, particularly as the recent pedagogical focus of education ministries and departments in Australia, such as the adoption of Australian Professional Standards for Teachers are increasingly placing demands on teachers to improve their pedagogy (Australian Institute for Teaching and School Leadership (AITSL), 2012).

Serving and Enabling Students' Learning defined as a desire to serve students more meaningfully and help students achieve better outcomes in their learning, emerged as an influential motivator from the survey and also the response to the open-ended question. Studies have shown that student achievement appears to be linked to teacher qualifications with students performing better with teachers who are more qualified (Darling-Hammond, 2000). Thus, as teachers, motivated by a desire to better serve and enable their students' learning, engage in postgraduate study, they should be further equipped to help their students achieve improved outcomes.

Consistent with the findings of this research, studies have shown that enabling students to do better is an important motivator for teachers engaging in PD (Guskey, 2000, Supovitz & Zief, 2000). The ability of teachers to serve and enable students' learning is a requirement in the Australian Professional Standards for Teachers (AITSL, 2012) and thus included in the teacher registration requirements in all states and territories of Australia. With the current emphasis by the states and territories in Australia for teachers to enhance student-learning outcomes (Standing Council on School Education and Early Childhood (SCSEEC) 2012), it is possible that this factor will be more influential in motivating teachers to engage in postgraduate study in the future.

Educational Philosophy was defined in this study as an exploration of beliefs and values in education, including educational issues and trends. Analysis of the quantitative data indicated that educators who had or were engaged in postgraduate study rated Educational Philosophy more highly in motivating them to engage in postgraduate study compared with those educators who had not engaged in postgraduate study. It is probable that those who had or were engaged in postgraduate study were more aware of the value of exploring educational issues and trends as they were already engaged in courses that encouraged them to develop their thinking in these areas. Educational Philosophy and in particular the development of a Christian philosophy of education has been identified by Knight (2006) and Justins (2004) as an area of particular interest for educators in Christian schools. Further, with increasing changes and trends in education, such as the recent introduction of the Australian Curriculum (Australian Curriculum Assessment Reporting Authority [ACARA], 2013) and the Australian Professional Standards for Teachers (AITSL, 2012), it is possible that Educational

Philosophy will become a more important and influential motivator for engaging in postgraduate study.

Career Path, including career advancement and/or a change of career was another influential motivator for participants in this study. Further analysis of this data demonstrated that the current career stage of the educator influenced his/her responses to this factor of Career Path. In particular, educators in the Early and Mid-Career stages considered career advancement a more significant motivator for engaging in postgraduate study than Late Career Stage educators. In addition, career advancement was considered to be a more significant motivator for educators in the youngest age group (20-30 years) than for the older age groups of 41-50 years and 51-over 60 years. The importance of Career Path in motivating educators to engage in postgraduate study was again emphasised by analysis of the qualitative data from the open-ended question. There is increasing recognition by the various teacher registration bodies within Australia, including the Queensland College of Teachers (QCT) and the NSW Institute of Teachers, that PD and postgraduate study as a form of PD is needed to advance the career path of teachers (NSW Institute of Teachers, 2008; QCT, 2012). These registration bodies provide guidelines that now ensure that all teachers take part in PD, including postgraduate study. Thus, these professional requirements for continuing PD, including postgraduate study should provide further extrinsic motivation for teachers' engagement in postgraduate study.

Time Pressures as a factor in the Task Value component of Cost was discarded during Exploratory Factor Analysis but this is related to an item issue rather than the factor itself, it emerged as a very influential and important motivator during an analysis of the open-ended question on the survey. Over 50% of the comments made to the open-ended question in relation to why educators would not engage in postgraduate study related to time pressures. This lack of time arose from time pressures in two main areas. Firstly, the roles and responsibilities of educators exerted high demands on their time both in and outside of the classroom. The complex and demanding nature of the teachers' workload, has been identified by many studies (e.g. Churchill & Grady, 1997; Hargreaves, 2000; Scott, Cox & Dinham, 1999) and these pressures are a significant source of teacher dissatisfaction (Dinham & Scott, 2000). Secondly, family responsibilities encroached on teachers' time and although family support can be an important motivator for PD (Fujita-Starck, 1996; Kwong, Mok & Kwong, 1997; Livneh & Livneh, 1999; Supovitz & Zief, 2000) the weight of family responsibilities can take the time that some participants may have otherwise given to postgraduate study.

Although **Financial Cost** was not included in the initial Expectancy Value Model of Motivation for Postgraduate Study it did emerge as an important and influential demotivator from analyses of the data in the open ended question. The Financial Cost of postgraduate study included course fees. It has been advocated that schools pay some additional remuneration for educators involved in coursework (Ingvarson 1998). However, none of the schools in this study appeared to provide any financial benefit or contribute towards the fees incurred through postgraduate study. By contrast, some participants commented that their schools normally covered the cost of PD activities.

These findings in relation to Cost are consistent with the findings of a recent Australian report by a government committee in which Time Pressures and Financial Cost were identified as the main reasons for a decline in the number of teachers interested in engaging in postgraduate study (HRSCEVT, 2007). The report stated course fees, increases in teachers' workload, and lack of financial reward contributed to the overall reduction of educators enrolling in postgraduate study.

Career Stage was included in the Cultural Milieu of the Model and from the responses to the open ended question it appeared to be a demotivator for some, particularly teachers in their first years of teaching, found this early stage of their career a significant constraint for engagement in postgraduate study, as they were coming to terms with the pressures and demands of teaching.

Teachers in the Late Career Stage and Near Retirement Stage also appeared to find career stage an inhibitor, as they felt that postgraduate study would be of little use to them when they had so few years left in the teaching profession. Much of the literature on the career stages of teachers are consistent with these findings in that once teachers reach the final stages of their careers they enter into a "withdrawal' or retirement stage, usually after 30 years of teaching (Huberman, 1993). The Near Retirement career stage has been described as the "Disengagement Phase" (Marsh, 2004, p. 313). Teachers at the end of their careers often see little point in furthering their education as retirement beckons.

Course Expectations related to various aspects of the course, including accessibility of delivery at times that were convenient to educators, so that they could fit them into their busy schedules. Further, the flexibility of due dates for assignments was another important aspect of whether or not a teacher would enrol in a course. These findings are consistent with the findings of a UK study by Arthur et al. (2006) who reported that teachers were often hindered from completing postgraduate awards because of strict assignment deadlines that sometimes occurred at the busiest time of the school year for teachers.

Implications for Practice

There are a number of implications arising from this study for schools and tertiary institutions. In particular, more recognition by schools and school systems of the value of teachers engaging in postgraduate study, and improving educational outcomes for both teachers and students, would be beneficial in encouraging teachers' participation in postgraduate study. Further, for Christian schools, the importance of engaging in postgraduate study in a Christian tertiary institution is highlighted by the factor Christian Education which emerged as the top ranking motivating factor in this study. This factor, defined as the knowledge and understanding of how a Christian worldview can influence the theory and practice of education, was identified as very important by the Christian school teachers in this study who were trying to integrate their faith with their teaching practice.

In addition, the Christian school teachers in this study predominantly indicated that they valued the usefulness of postgraduate study and that this would motivate them to engage in postgraduate study. Thus, factors within the Task Value category of the Expectancy-Value Model of Motivation for Postgraduate Study were more influential in motivating teachers to engage in postgraduate study than were those in the Expectation of Success. The Utility Value component provided the opportunity for them to improve their thinking and practice about teaching in regards to Christian education, pedagogy, and educational philosophy, which in turn equipped them to better serve and enable their students' learning. The Attainment Value of career advancement or a career change also motivated teachers. Although factors within the Expectation of Success category did have some influence on educators' motivations for postgraduate study these were not so influential as the Task Value factors.

Although the study was conducted with Christian school teachers many of the findings of the study can be generalised to other schools and school systems both in Australia and outside of Australia. Schools need to recognise the importance of the usefulness of postgraduate study for improving teachers' thinking and practice about education, so that they may be better equipped to serve and enable their students' learning. This study extends the literature on teachers' motivations for postgraduate study by identifying the most influential motivating factors that relate to engagement in postgraduate study.

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