

PRE-SERVICE TEACHERS' LITERACY SELF-EFFICACY AND LITERACY COMPETENCE

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ABSTRACT

The impetus for the study reported in this paper was Queensland's poor performance on 2008's NAPLAN testing, the Queensland Education Performance Review (Department of Education and Training, [DET]2009b) that followed and the subsequent adoption of pre-registration tests for aspiring Primary and Early Childhood teachers (Queensland College of Teachers, [QCT] 2010). In response to this policy focus on pre-service teachers' levels of competence, this study was designed to provide a measure of their levels of literacy competence and confidence. The study was conducted at one of Australia's largest regional universities, where many pre-service teachers train each year in preparation to take up positions in rural education throughout Queensland and Australia.

The study examined teacher confidence for English literacy by assessing their self-efficacy for items in three areas: personal literacy, literacy content knowledge and pedagogical knowledge in literacy. These three areas were flagged by the QCT as areas of importance and those which will be tested in 2011's pre-registration tests (QCT, 2010). We also assessed pre-service teacher competence in a small subset of English literacy skills to confirm that their levels of self-efficacy for literacy were reflected by their skills and competence.

The sample comprised 180 pre-service teachers from First to Final Year students. We hypothesized and expected that their confidence (self-efficacy) for various aspects of literacy would increase as they gained experience and training, increasing in line with their improved skill acquisition through their study of English language subjects over the four years of training for a Bachelor of Education (BEd).

Quantitative methods were employed and a survey instrument was constructed to be used across all years of the BEd (Primary and ECE) degree. Participants, who were volunteers, answered questions pertaining to their confidence in personal literacy as well as the teaching and assessment of literacy. They also completed a competence exercise which allowed comparison of confidence to competence on an individual, year and cohort level. In order to gain the pre-service teachers' perspectives about their preparation for English literacy, we also sought their views in an extended response question about their actual literacy training over the BEd degree, in particular any areas they believed they needed further help with.

Preliminary findings obtained by comparing year levels indicate that although students are confident from the outset, this confidence is not always matched by their actual competence. There were some significant differences between the year levels, but increased experience in the BEd degree did not always translate to increased competence.

Respondents' comments to the final, open-response, question of the survey flagged several literacy areas for which participants noted they required more instruction, such as grammar. In addition a high level of anxiety amongst students about the competence based pre-registration literacy tests was highlighted.

We conclude that there may be scope for the BEd degree to include more English language units than it currently offers at this university to support pre-service teachers' literacy needs.

INTRODUCTION

This project sought to investigate the literacy self-efficacy and literacy competence of pre-service teachers at a large regional Australian university, training teachers to take up service in rural, regional and remote areas. The impetus for the investigation was Queensland's poor performance on 2008's National Assessment Program Literacy and Numeracy (NAPLAN) tests and 2007 Trends in International Mathematics and Science study (TIMSS) (DET, 2009a). Queensland's overall ranking as second lowest in the country on the NAPLAN tests (Australian Assessment and Reporting Authority [ACARA], 2008) has been attributed in part to the poor standard of results from the states large rural and remote sector (Poyhonen & Arthur, 2010). Schools in these zones make up more than half of Queensland's state schools (DET, 2010), with students in these locations consistently achieving lower results than their metropolitan counterparts (Ferrari, 2010). Isolated Children's Parents Association [ICPA] spokesman Lorraine McGinnis tells us, "it is a challenge for schools to raise the results in rural and remote areas because that affects the average results for Queensland in comparison to other states around Australia" (Poyhonen & Arthur, 2010).

Therefore, ensuring the quality of graduate teachers taking up positions in these under-performing areas of Queensland is of the utmost importance, for both the state's results and ultimately the quality of education experienced by our rural and remote students and the outcomes they realise.

The Queensland Education Performance Review (DET, 2009b) was commissioned in 2009 in response to Queensland's poor results and aimed at improving the states' educational performance. Recommendation One of the report addressed concerns about pre-service teacher education and resulted in competence based pre-registration tests for all aspiring Primary and Early Childhood teachers, in the areas of literacy, numeracy and science, to be implemented by the QCT in Semester 2, 2011 (QCT, 2010).

This study was designed to ascertain how well pre-service teachers in this context were being prepared in the area of literacy by the BEd Degree (Primary and Early Childhood Education [ECE]) and how confident they felt about their own literacy levels, across all four years of the degree. The project chose to investigate all years of the degree to ascertain how the levels of literacy self-efficacy and literacy competence changed, increased or decreased and what factors may be at play in these levels.

BACKGROUND

A high level of literacy competence and knowledge for the teaching of literacy have been included as a cornerstone of expected outcomes and professional practice for teacher education in numerous reports and inquiries (Australian Council of Deans of Education, 1998; Australian Institute for Teaching and School Leadership, 2011; Board of Teacher Registration, 1991; 1999; Christie, 1991; Ministerial Council for Education, Early Childhood Development and Youth Affairs, 2010; National Board of Employment, Education and Training, 1995; QCT, 2009). However, policy makers, university scholars and the media have variously raised concerns about flagging levels of literacy proficiency amongst graduates of teacher education programs (Bantick, 2010; Chilcott, 2009; Department of Education Science and Training [DEST], 2005; DET, 2009; McInerney, 2008; Milburn, 2010).

A report entitled, 'Prepared to teach' was commissioned in 2005 by the Department of Education, Science and Training (Louden, Rohl, Gore, Greaves, McIntosh, Wright, Siemon, & House, 2005).

The report surveyed beginning teachers and senior staff on their perceptions of the quality of teacher preparation in Australia. Focus group interview responses outlined in this report registered concern about pre-service teachers' levels of personal literacy (Louden et al., 2005). This concern however was not shown in the beginning teachers' self-evaluation. When asked "How adequate do you feel your own literacy skills are for your work as a teacher?" 97% of primary teachers surveyed responded positively; 60% of senior staff also responded positively when asked "How prepared are teachers in their own literacy competence?" (Louden et al., 2005, p.42).

Data from the report noted that "most primary beginning teachers were confident about their personal literacy and numeracy skills, their conceptual understandings of literacy and numeracy, their understanding of curriculum documents and assessment strategies and their broad preparation to teach" (Louden et al., 2005, p.vi). However, this confidence was not shared by senior staff, with less than one third of those surveyed stating that beginning teachers "were well prepared to teach literacy" (Louden et al., 2005, p.vi). This report clearly shows a discrepancy between the beginning teachers' self beliefs and senior staff's confidence levels about the graduates' literacy skills.

The theoretical framework of Self-Efficacy introduced originally by Albert Bandura in 1977, can offer many insights into the preparedness of pre-service teachers to both use personal literacy correctly and to teach literacy effectively. Bandura tells us the construct of perceived self-efficacy is; “belief in one’s capabilities to organise and execute the courses of action required to produce given attainments” (Bandura, 1997, p.3). More distinctly to the study, teacher self-efficacy refers to “teachers’ situation-specific expectations that they can help students learn” (Ashton, 1986, p.3).

An individual’s self-efficacy can be derived from one or more of four identified sources; mastery experiences, whereby an individual’s efficacy for a domain is affected by the accomplishment of a worthy goal, social persuasion, including ‘pep’ talks, physiological and emotional arousal, which increase efficacy for a task provided the arousal is akin to excitement rather than anxiety and vicarious experiences. These kinds of experiences see an individual’s self-efficacy increase through the observation of a modelled accomplishment; the more alike the individual perceives themselves to be to the model, the more influential the affect on self-efficacy (Woolfolk, 2007).

Previous research has found high self-efficacy in teachers often indicates a high level of functioning in a range of areas including; content instruction, classroom management and dealing with difficult students (Bandura, 1997). In addition, highly efficacious teachers use newly acquired teaching strategies more effectively (Gorell and Capron, 1991) and are more likely to provide students experiencing difficulties with the support they require to be successful (Gibson & Dembo, 1984 cited in Bandura, 1997). Bandura (1997) states, “The task of creating learning environments conducive to development of cognitive competencies rests heavily on the talents and self-efficacy of teachers” (p.240).

Conversely, research tells us that teachers with a low sense of self-efficacy may “spend less time on subject matter in their areas of perceived inefficacy” (Enochs & Riggs, 1990 cited in Bandura, 1997, p.242) and “devote less total time to academic matters” (Gibson & Dembo, 1984 cited in Bandura, 1997, p.242). This is clearly undesirable as teachers are required to tackle a range of teaching tasks and be sufficiently proficient in them to teach them effectively. Furthermore, Bandura (1993) states,

Cognitive development and functioning depends heavily on writing literacy. Enhancement of perceived writing efficacy by instruction raises, through different paths of influence, perceived self-efficacy for academic activities, personal standards for the quality of writing considered self-satisfying, and academic goals and attainments (p.137).

This statement postulates that increasing students’ writing efficacy may increase their performance in a range of academic activities as well as increase personal standards.

The area of literacy self-efficacy in pre-service teachers is scant in precedents. A study by Shaw, Massengill, Dvorak, and Bates (2007) investigated pre-service teachers' literacy knowledge, beliefs, and self-efficacy in the context of a semester long reading methods course. Three instruments were used both pre-course and post-course, to ascertain the impact the course had on participants. The beliefs that pre-service teachers held in regards to reading instruction were documented using the *Theoretical Orientation to Reading Scale* (De Ford, 1985 cited in Shaw et al., 2007). The *Teacher Self-efficacy Literacy Scale* (Johnson & Tchannen-Moran, 2003 cited in Shaw et al., 2007) was used to measure candidates' self-efficacy and an instructor-made questionnaire was administered to collect qualitative data on the participants' literacy knowledge.

Shaw and associates (2007) purported the transformative abilities of teacher education in this study, citing a significant shift in all three areas of investigation. In relation to the self-efficacy beliefs of participants, it was reported that the cohort's level of self-efficacy increased considerably from the pre-test figures, which were already at a high level. Shaw et al (2007) postulated this increase may have been due to exposure to vicarious and verbal persuasion and access to mastery experiences throughout the course, as pre-service teachers participated in both skills based lessons on campus and had the opportunity to implement new strategies directly on practicum. This study was designed to measure the impact that a single subject had on the beliefs, knowledge and self-efficacy of these students. The current project seeks to measure similar factors, relating however to an entire degree and its impact upon literacy competence.

PURPOSE AND AIMS

The investigation of pre-service teachers' literacy self-efficacy is combined with a measure of literacy competence within the current project. This was designed to collect data with which to discuss the validity of claims of 'literacy issues' in teacher education. It was hoped to shed light on how the BEd(Primary/ECE) prepares pre-service teachers in both self-efficacy in literacy and competence in literacy and how self-efficacy relates to competence in this case. An investigation of the relationship between competence and self-efficacy in these students and if/how they increase incrementally across the four years of the degree in this context was examined.

METHODS

The project gained Ethics Approval for Research Involving Human Subjects in March 2011. Students in all four years were surveyed shortly after, within Study Period 1, 2011. A short, informative speech was given to the students at the end of lectures, after which they were invited to participate on a voluntary basis. The response rate varied across years of the degree with the highest response rate being the third year cohort, at 58%. 54% of the fourth year cohort responded, 50% of the first year cohort, with the lowest rate of response being 33% of second year students.

The study employed a survey instrument (Appendix A) utilising an adaptation of Bandura's *Self-efficacy Scale for Teachers* (2006). This approach enabled us to collect data on a large percentage of the cohort, in a short time frame. The scale consisted of questions in three areas; personal literacy skills, pedagogical content knowledge about the teaching of literacy and knowledge and understanding of the content area of literacy (QCT, 2010). These areas were chosen to mirror the QCT's literacy priorities and were those used to construct the pre-registration test (QCT, 2010).

Demographic information was also included on the survey to ascertain:

1. whether or not they were recent school leavers,
2. the year of study they were currently enrolled in,
3. which professional experience placements they had successfully completed and
4. Which literacy subjects they had successfully completed.

These details were collected with a view to identifying factors that may be causing variations in self-efficacy and/or competence between individuals and year-level cohorts.

The questions in the first section asked participants to rate their confidence/ self-efficacy on a number of statements, using a scale of 0-100, 0 being cannot do at all and 100 being highly certain can do. The 100 point scale was chosen as Bandura (2006) cited that using scales with less points of reference greatly diminished the ability to differentiate scores between individuals and items. Items began by asking participants about their personal literacy, for example item 1: I am confident I can correctly construct a sentence.

The second section consisted of a paragraph for correction, containing errors in areas of grammar, punctuation and spelling. Participants were asked to identify errors in the passage by circling them, and to identify nouns and verbs. Section two was designed to collect data on participants' personal literacy competence, to compare against their professed self-efficacy in these areas, in other words to enable a comparison of personal literacy competence and personal literacy self-efficacy.

The third section of the survey was an extended response item which asked the pre-service teachers to list any areas of literacy they felt they would like more instruction in. This section was useful to ascertain any area/s of training respondents felt they needed more instruction and experience in their degree and gave them a chance to have their voices heard.

In addition, the survey instrument contained an item asking students to evaluate the success of the teacher education program in providing them with the necessary skills to be an effective teacher of literacy and an item questioning their level of concern over the impending introduction of the pre-registration tests in literacy.

Taking a quantitative approach to the topic offered more scope to comment on the cohort as a whole and yielded a more complete picture of the literacy self-efficacy and literacy competence of the pre-service teacher cohort.

RESULTS

Table 1 displays the participants' characteristics, organised by whether they enrolled in their degree course immediately after completing high school (recent school leavers) or after a period of time. The cohort was made up of 76 school leavers and 104 students who did not enter the degree straight from school and would traditionally be called mature age students. Participants had completed a varying number of literacy subjects ranging from none, to 3, which is the total number of core literacy subjects currently in the BEd(Primary and ECE). Similarly students had completed between 3 and 6 professional experience placements.

Table 1 – Cohort Characteristics (N= 180)

		Recent School Leaver			
		Yes		No	
		N %	N	N %	N
Year Of Degree	1st	36.8%	28	38.5%	40
	2nd	18.4%	14	21.2%	22
	3rd	18.4%	14	21.2%	22
	4th	26.3%	20	19.2%	20
Literacy Subjects Completed	Ed1421	26.1%	12	39.4%	28
	Ed2194	71.7%	33	57.7%	41
	Ed4496	2.2%	1	2.8%	2

Table 2 – Personal Literacy Competence Items (mean, *X*) by Year of Degree

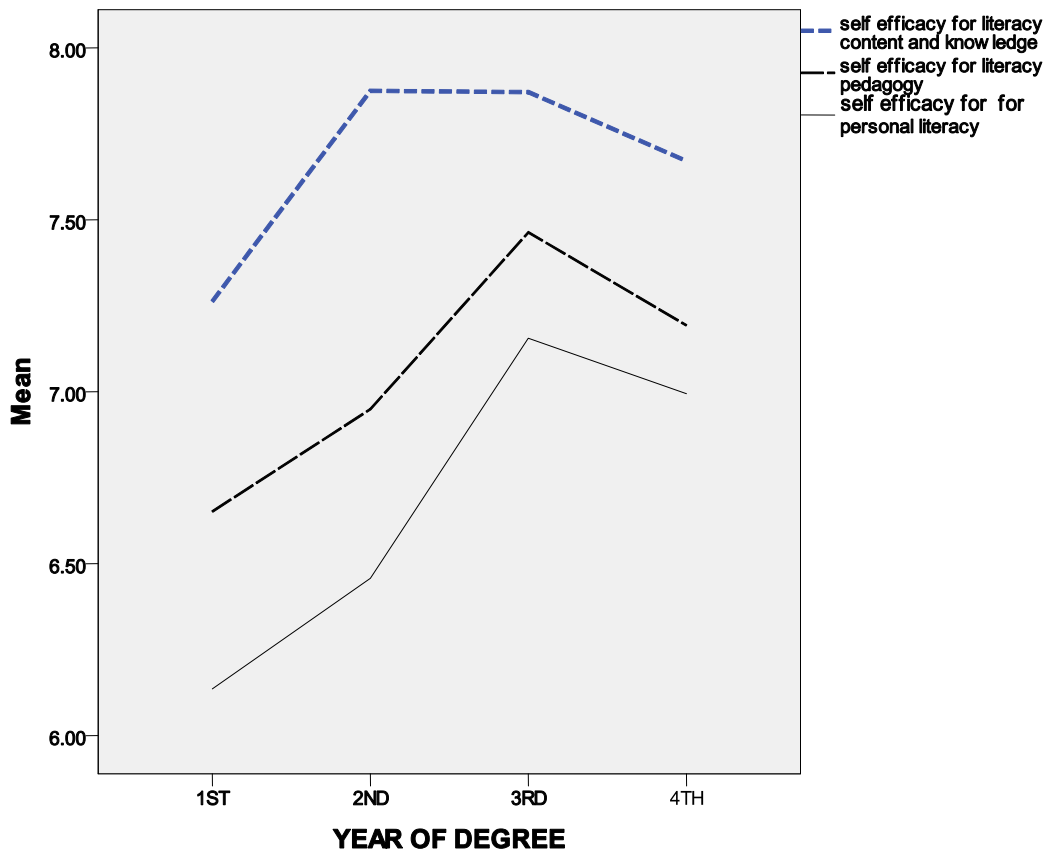
	Year Of Degree			
	1st	2nd	3rd	4th
	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>
Spelling	8	10	10	10
Total Possible 14				
Punctuation	8	11	11	10
Total Possible 15				
Apostrophes	2	3	3	3
Total Possible 4				
Identify Nouns	8	14	10	12
Total Possible 31				
Identifying Verbs	5	7	7	6
Total Possible 13				

Given the results in Table 2, a series of ANOVAs were performed to examine whether there were any significant differences between the year groups in the different areas of personal literacy. They all showed significant differences except for identifying verbs. The strength of the differences are Spelling, $F(3,176) = 4.4, p < .005$, Punctuation, $F(3, 176) = 5.4, p < .001$, Apostrophes, $F(3, 176) = 7.7, p < .001$, and Identifying nouns, $F(3, 176) = 4.4, p < .005$.

Overall, significant differences between groups in literacy competence items were identified on all items except identifying verbs. When comparisons are made using the results of the literacy competence items across all four years of the degree a significant variation exists between the first and second year pre-service teacher cohorts in the areas of apostrophes and identifying nouns. Significant variation also exists between the first year cohort and the third year cohort in the areas of apostrophes. There is not however any significant incremental increases in any areas as may have been expected.

Figure 1 shows the three self-efficacy measures included in the survey, by year level. They appear to increase incrementally, then drop off in the 4th year. It is of note that they are at a level that is already quite high in 1st year. The 1st year cohorts' mean personal self-efficacy was 7.25 (equating to almost "highly certain can do") the 2nd year mean was 7.9, 3rd year cohort had a mean of 7.8, before it dropped to 7.7 in the 4th year cohort. In general, all measures of self-efficacy began above 5.0, increased sharply from 1st to 2nd year, remained steady across 2nd and 3rd before declining in the final year cohort. It is of interest that the perceived application of literacy content, the personal literacy self-efficacy, is consistently lower across year groups than the other two self-efficacy constructs.

Figure 1 Self-efficacy perceptions across the degree.



The concerns highlighted by the general comment section (Table 3) included: lack of explicit literacy knowledge being taught, such as *the basics* of grammar and parts of speech, pedagogy for literacy, including strategies for teaching and assessing, and content knowledge for the teaching of literacy, including genre and text types, although these were limited.

Table 3—General Feedback about the Literacy Content of the BEd Degree (N=69)

Personal Literacy Skills and knowledge

- *Basic literacy skills –before learning to teach literacy i.e. grammar.*
- *Being in my first year I am not sure of future studies. I do hope however that punctuation and spelling strategies will be covered to help both student and my own individual learning.*
- *Constructing a sequenced story, Intro, body, conclusion, Brainstorming.*
- *Constructing essay.*
- *Explicit teaching for specific grammar, punctuation, etc. is necessary or even yearly workbooks to reaffirm knowledge and any gaps.*
- *General literacy skills.*
- *Grammar and punctuation.*
- *Grammar.*
- *High school teachers need to learn how to construct sentences and paragraphs better.*
- *How to mark work according to criteria. [This also fits into the next category] Constructing*

sentences and paragraphs, grammar (as in CU1010 subject) content. Punctuation, E.g. where to put the apostrophe.

- *I have only completed ED1401 and it was helpful, but I think it should clear up common misconceptions such as the difference between nouns, pronouns, verbs etc. This will ensure more literacy practice and competence when writing assignments, on prac and for when we sit the literacy test at the end of our degree.*
- *I need to re-cap everything. They don't seem to teach us enough at uni, I have to find the time to teach myself. I find it difficult to do as well as full time uni. We get taught lots of strategies but that's no good to me if I don't understand the concept. i.e. grammar, phonics etc.*
- *I think the literacy testing is important because I feel I don't have the skills I need to be able to teach well. I need to go back and learn the basics. I didn't know it in school, how will I pass? How can I teach without knowing? It does worry me, because I can't be the only person like this.*
- *I think they should teach more basic grammar in first year, instead of teaching why actually show us how!*
- *I think we need a bit of a literacy refresher a couple of times before we graduate. I know how to use literacy but it's hard to 'see' literacy enough to teach it.*
- *I wish we had looked at parts of language (nouns, verbs etc) in more depth and that we had looked at spelling and why words are formed in different ways. Geoff is doing some of this with us but it could have been done a lot sooner.*
- *It is assumed that we remember what a nouns or verb is but most of us don't. Just because we can write well it does not mean that we remember the technical terms.*
- *It is something which I haven't used on a daily basis so many things have to re-cap.*
- *Just a focus on general literacy skills and foundations of literacy to allow us to teach the basics. [This also fits another category]*
- *Just basic things like nouns, verbs, adjectives to refresh my memory and also basic punctuation to help as well.*
- *Learning more about simple things we learnt in school such as verbs, nouns and adjectives, would be appropriate and set us up to pass tests such as these.*
- *Many students need to participate in an effective writing program as they cannot construct literate sentences.*
- *More emphasis on verbs, nouns, adjectives and how to describe/identify them.*
- *Need more focus on the general/basic areas of literacy. Language and literacies should have more focus on developing/reinforcing/teaching grammar, spelling and punctuation.*
- *Nouns, verbs, grammar related things, spelling, literacy in general.*
- *Punctuation, noun/verb/adjectives etc. Only get looked at in Primary school and early secondary years, they are forgotten most of the time.*
- *Spelling grammar and punctuation.*
- *Spelling is my major concern but I am always aware of it!*
- *The new sound waves in schools and just general knowledge in writing academically. [Included in two categories]*
- *The basics - grammar, word groups, punctuation etc.*

- *We are yet to do any grammar etc. In our subjects - it is assumed knowledge.*

Pedagogy, the teaching and assessing of literacy

- *Being in my first year I am not sure of future studies. I do hope however that punctuation and spelling strategies will be covered to help both student and my own individual learning.*
- *How to actually teach literacy, a lot of what we learn is what we used to do, not how to do it now.*
- *How to actually teach the different components in literacy.*
- *How to mark work according to criteria. Constructing sentences and paragraphs, grammar (as in CU1010 subject) content. Punctuation, E.g. where to put the apostrophe.*
- *I feel uni gives us enough on reading and terminology in English, but I am not confident at all in teaching it. I am scared actually.*
- *I would like strategies on areas of teaching literacy, E.g. spelling strategies, reading strategies, writing strategies.*
- *I am not from here, it could be different. At home, I think it is covered well. But keeping on track with their reading levels I'd say.*
- *Identification of literacy problems - literacy teaching strategies - different assessment gathering techniques for literacy.*
- *Just a focus on general literacy skills and foundations of literacy to allow us to teach the basics.[Included in more than one section]*
- *Models of issues in literacy (student samples) Models of how to assess literacy Models of how to improve low levels of students.*
- *More explicit teaching on how we are meant to implement and teach literacy within the classroom.*
- *Prior to completing the literacy test in my final year, I would like to learn more about pedagogical knowledge of literacy. I feel this would assist me to feel confident to teach literacy successfully.*
- *Skills on how to teach, not just what to teach - esp. ESL. Skills on how to assess and evaluate students, and how to assist those that need extra help.*
- *Teaching of adjectives, verbs and nouns. Grammar and spelling. Need to know how to actually teach and assess it.*

Content knowledge of literacy

- *Basically a little more instruction on all areas would help.*
- *Genre structures, marking schemes and speaking.*
- *More info on texts students need to write in school. E.g. persuasive text and how to explicitly teach these.*
- *The new sound waves in schools and just general knowledge in writing academically.[Included in two categories]*

Miscellaneous Responses

- *All but mainly comprehension.*
- *Any confidence I have is from school (I took 1 gap year). My literacy has not been improved, only revised, during the course of my degree.*
- *I feel there isn't a unified approach to literacy requirements throughout the education lecturers at*

JCU, each one has a different perspective as to what is appropriate literacy.

- *I have heard many pre-service teachers voice concern over the numeracy test, especially the ECE teachers who may never need the high school maths knowledge.*
 - *It is not stressed enough in schools - in younger grades, it's not developed. The national curriculum should help - I moved states and it was very hard.*
 - *Its early days so it's difficult to know that at this point.*
 - *More depth in the literacy programs I believe is needed as there is always room for all educators to improve.*
 - *Not sure as I am only 2nd year.*
 - *Our literacy teacher is not very approachable and does not offer appropriate help with assessment in order to do our best!*
 - *Professional documents should be better proof read as it does not set a good example to students @ uni especially in the literacy area. Students should be encouraged to read more books outside of text books.*
 - *There are about 4 ESL and indigenous subjects and not enough literacy and numeracy subjects.*
 - *There is a great difference between teaching literacy and writing, reading and grammar or punctuation, I personally am able to create extraordinary lessons, however I still suffer from writer's block, from when I was in high school.*
 - *We haven't really covered any at this stage.*
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DISCUSSION

The aim of the study was to provide a measure of pre-service teachers' literacy competence and literacy self-efficacy. We sought to measure the existing levels in each year of the degree to ascertain if/how they increased over the course of the degree, as students progressed through their academic training. In addition we were interested in how competence related to self-efficacy in this case, specifically if a higher level of personal literacy competence equated to a higher level of self-efficacy and vice versa. Finally we were interested to gather feedback from the pre-service teachers in relation to area/s of literacy training they felt required more attention within the degree.

The results show the cohort had, in general, a high level of self-efficacy for all constructs measured, however these high levels were not mirrored by high levels of personal literacy competence. This mismatch between self-efficacy and competence may indicate that pre-service teachers have inflated self beliefs in the area of literacy, or that they have had limited exposure to complicated written texts against which to gauge their own literacy self-efficacy, or that they reflect a generalised cultural generation specific trend which encourages more positive self-appraisals. In addition, the general feedback flagged a number of areas in which pre-service teachers wished for more instruction, with grammar and the basics of literacy featuring prominently, thus supporting a call for more literacy instruction within the degree.

Competence

The first item of Section 2 asked participants to “Please circle any errors you can find in the following passage”. For analysis this item was split into sections of: spelling errors identified, punctuation errors identified (capitalisation and commas) and errors in the use of apostrophes identified. Results on these three sections show the mean levels of accuracy varied significantly, although all showed means of above 50% correct answers, being spelling (57%-71%), punctuation (53%-73%) and apostrophes (50%- 75%).

The second item of this section, which required participants to underline any verbs, proved more problematic, with average scores ranging from 38% to 53% correct. The last item, requiring participants to put brackets around any nouns, further proved a stumbling block for the majority of participants, many with mean scores ranging from 25%-45%.

The means of all sections increased as expected from first year to second year, however, spelling, punctuation and identifying verbs all peaked in the 2nd and 3rd year cohort before dipping in fourth year. The identification of nouns peaked in 2nd year with a mean of 14, equating to 45 % correct and was 2 points higher than the next best which was the 4th year cohort’s result (38 %).

Analysis of this data shows that, overall, the first section was well completed. However, this section relied on participants to ‘spot’ errors and circle them. The passive nature of this task required less explicit literacy knowledge than the last two items, as participants could simply choose the items that did not look correct without having to actually know the correct alternative or be able to define the error. Harper and Rennie (2005) stress that “an ability to teach language and literacy effectively involves more than the traditional approach of being able to correct ‘bad’ grammar” (p.2).

The second section showed most scores below 50% correct, indicating poor levels across the entire cohort. This is of considerable concern as these skills, the identification of nouns and verbs, are of a lower primary school focus and should be a perfunctory skill for university level participants such as pre-service teachers.

When examined across the years of the degree, results indicate a perplexing situation as literacy levels seem to improve incrementally in all categories for years other than the final year. This may be the result of factors specific to the final year cohort, or evidence of a decreased retention of pedagogy/content of literacy subjects since they experienced them. One such factor is the introduction of a focus on literacy in BEd degree assignments, with ‘Academic literacies’ introduced as a discriminatory criterion for assignments within the degree in the year prior to the current 4th year cohort, in response to the impending introduction of the pre-registration test for professional accreditation.

Self-efficacy

Table 4 – Self-efficacy Correlations

	Personal literacy self-efficacy	Self-efficacy for literacy pedagogy	Self-efficacy for literacy content knowledge	Spelling	Punctuation	Apostrophes	Identify Nouns	Identifying Verbs
Personal literacy self-efficacy	1	.651**	.522**	.258**	.269**	.349**	.234**	.270**
Self-efficacy for literacy pedagogy	.651**	1	.820**	.220**	.194*	.253**	.166*	.132
Self-efficacy for literacy content knowledge	.522**	.820**	1	.052	.098	.187*	.139	.113
Spelling	.258**	.220**	.052	1	.385**	.458**	.387**	.371**
Punctuation	.269**	.194*	.098	.385**	1	.456**	.228**	.286**
Apostrophes	.349**	.253**	.187*	.458**	.456**	1	.337**	.312**
Identify nouns	.234**	.166*	.139	.387**	.228**	.337**	1	.628**
Identifying verbs	.270**	.132	.113	.371**	.286**	.312**	.628**	1

*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed)

All areas of literacy competence were correlated to the construct of personal self-efficacy, with understandings of apostrophe use the most highly correlated ($r = 0.35$). All measures of self-efficacy were significantly correlated to each other.

The three types of self-efficacy examined were: personal literacy self-efficacy, self-efficacy for literacy pedagogy and self-efficacy for literacy content knowledge. As predicted by self-efficacy theory since these constructs are related, results show that they are all correlated to each other, indicating that if a participant has high self-efficacy in personal literacy, they are also likely to have high self-efficacy in the two other areas. However, there appears to be little correlation between the competency items and the related self-efficacy. The most highly related competence item to self-efficacy was participants understanding of apostrophe use, which correlated to the construct of personal literacy self-efficacy ($r = .35$).

These results suggest that the pre-service teachers' levels of self-efficacy, whether low or high, are not necessarily indicative of their actual competence, which is

unusual in self-efficacy research. This is a troubling finding as it may indicate that these participants are not using accurate information on which to base their self-efficacy beliefs. Moreover, one type of self-efficacy belief appears to be positively correlated to the others, which may suggest that there is a somewhat artificial divide in the three perceptions of self-efficacy. This may be a function of the survey items; however, as the items were highly specific, we believe this is unlikely. A more plausible explanation might be that the respondents were perhaps rating the three types of self-efficacy on the basis of more generalised beliefs about literacy, possibly their knowledge of literacy concepts. Results need to be further scrutinised to examine exactly how respondents' constructs of self-efficacy were linked to their comments about the BEd degree literacy subjects in the open response section.

General Comments

In the General Feedback section participants were asked to list any area/s they felt required further instruction within their teacher education program. A number of areas of common concern for pre-service teachers were flagged across all years of the degree. For ease of analysis these were grouped into three headings; Personal Literacy, Pedagogical Knowledge in Literacy and Literacy Content Knowledge, areas which also correspond to the groups of questions asked in section 1. A small number of responses did not fit any of these groups and some responses covered more than one.

Of sixty-nine responses recorded, the largest group pertained to how personal literacy was addressed within the degree. Thirty-one responses mentioned these skills. Additionally within this group 'grammar' was mentioned fourteen times, nouns nine times and verbs seven times. The next most frequent type of comment pertained to pedagogical knowledge for the teaching of literacy, with thirteen responses. The least mentioned category was literacy content knowledge with four responses flagging these understandings as requiring further instruction.

These results suggest that the participants perceived that the degree prepared pre-service teachers adequately in content knowledge for the teaching of literacy but it does not offer adequate instruction in personal literacy skills. In conjunction with the results from the competence sections of the survey it seems that this is an arbitrary distinction as it appears that all three sections of literacy are linked and that each would potentially inform the other, a perspective also indicated by the correlated nature of the three types of self - efficacy examined by the survey instrument.

LIMITATIONS

The results of this study may be of limited application as they were collected from one regional Australian university. The sample size also limited the generalisability of the results and a larger number of participants may yield further insights. In addition, the research design, which did not follow a single cohort through the degree in a longitudinal study, also poses limitation on the interpretation of the

results. Nonetheless, there appear to be sufficient grounds for further study to be conducted in this area to tease out the finer details of literacy needs and competence in pre-service teachers, both in this and in other Australian universities.

RECOMMENDATIONS

The results of the research suggest a number of issues. First the literacy self-efficacy of participants does not appear to rely on a high level of competence, as the two are not highly correlated. This would suggest that pre-service teachers in this study gained their level of self-efficacy from other sources. As described above, the four sources of self-efficacy are: mastery experiences, social persuasion, physiological/emotional arousal and vicarious experience (Woolfolk, 2007). An investigation of how these sources are at play in the degree and their effects on both self-efficacy and competence may be an avenue of further study. Additionally, as the research indicates pre-service teachers' levels of self-efficacy are inflated in comparison to their actual competence, measures may need to be implemented within the degree to facilitate self-awareness and self-assessment among the cohort and, additionally, to address any short comings in identified areas of literacy competence early on during the course of the degree.

The personal literacy competence scores coupled with the themes emerging from the general comments suggest that the pre-service teachers as a group do not feel confident identifying parts of speech such as nouns and verbs. Many students called for a 'literacy refresher' to be present in the degree to enable them to brush up on terminology. The introduction of diagnostic testing at the outset of the degrees' literacy subjects, with subsequent tailoring of the content to the cohorts' literacy needs could go a long way to filling the gaps in knowledge which appear to be present. This kind of assessment would also act to provide the kind of self-awareness of skills that could lead to pre-service teachers being able to accurately assess their competence, and ultimately seek to attain a level suitable to their future vocation as a teacher. A number of studies have trialled this approach with success (Kervin & McKenzie, 2007, Thwaite, 2008).

This kind of diagnostic testing was formally recommended at a macro level in the *Top of the Class: Report* (Commonwealth of Australia, 2007) on the inquiry into teacher education of 2005, which stated:

Students entering teacher education courses should undergo diagnostic testing of their literacy and numeracy skills. On the basis of the results, teacher education programs should provide assistance to students to ensure they develop literacy and numeracy skills to the required level (p.xxiv).

In addition a degree wide approach to literacy needs to be adopted in order to produce effective, highly literate teachers empowered with exemplary literacy skills and a self belief to match. This is particularly important for those who will be

teaching in remote and rural schools where the staff are often isolated from professional development experiences and are likely to be managing, possibly without any other staff support, a range of different subject areas.

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