Teacher self-efficacy and junior secondary: Exploring a moment of reform in Queensland schools

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Abstract

In 2015 all Queensland schools engaged in the biggest education reform in the last 50 years with Year 7 students moving from primary into high school settings. Aligned to this change, all government schools implemented Junior Secondary for Years 7 – 9. This required the active adoption of six guiding principles which impacted directly on expectations of teacher practice. To prepare for this reform, in 2014 the Department of Education, Training, and Employment (DETE) commissioned the *Junior Secondary Leading Change Program* (hereafter the Program) for delivery to the Principal and two school leaders of each of the 259 state high school leadership teams across the state. The Program was developed to build capacity in participants to lead effective change processes in schools, including serving as pedagogic leaders for classroom teachers.

This chapter outlines the development of the Program which incorporated a number of reflection and evaluation components for the leadership team participants. One component was to consider leaders' perceptions of teacher self-efficacy with regard to implementation of the junior secondary guiding principles. This was investigated through the administration of a survey at two points during the Program – the first at the beginning of the Program. The purpose of this survey was to provide a stand-alone base point for each school which was compared to a second iteration of the survey administered at the end of the Program. The importance of understanding teacher self-efficacy was regarded to be a direct reflection of the

likely success of the reform over time, as the focus of change had a strong component of classroom practice.

Reform in the junior secondary years in Queensland

Australia's education systems are undergoing reform in policy and practice. Each of the eight states and territories are responsible for funding and regulating education within their jurisdiction, alongside some overarching national commitments. One of these is *The Melbourne Declaration on Educational Goals for Young Australians* (Ministerial Council on Education, Employment, Training and Youth Affairs [MCEETYA], 2008), which identified enhancing middle years teaching and learning practices as a priority to ensure young adolescents have the best education opportunities. It is argued that early adolescence and the transition to secondary school is "a time when students are at the greatest risk of disengagement from learning. Student motivation and engagement in these years is critical, and can be influenced by tailoring approaches to teaching" (MCEETYA, 2008, p. 10). Hence, ensuring that schools and, specifically classroom teachers, know how to plan a developmentally appropriate educational experience for young adolescents where classroom practice moves beyond the taken-for-granted notions of adolescents and adolescence is essential (Vagle, 2012).

According to the publication, *Junior Secondary - Theory and Practice* (Australian Council for Educational Research, 2012) the key challenges in the junior secondary years are closely linked to the nature of the changes that occur during early adolescence, along with the challenges associated with transition between primary and secondary school.

These following key challenges have been identified as impacting on the school experiences of students:

- the need to manage a heterogeneous student population without sacrificing inclusiveness;

- a decline in student academic performance;

- high incidence of disengagement, disruptive behaviour, boredom and disconnection from schooling;

- a 'knowledge gap' between what is taught and the kind of content that would engage early adolescents and match their cognitive skills;

- transition often entails major change, such as larger school size, more emphasis on teacher control and discipline, disrupted peer relations, more impersonal relationships between student and teachers, and different expectations of students' performance. The transition experience can be different for different students, depending on individual factors and contextual factors.

Until 2015, Queensland, Australia, where this Program was implemented, had Year 7 students located in primary schools in all state (public) and non-state (independent) schools. This positioning of Year 7 in primary schools was inconsistent with most other states and territories, and concerns were repeatedly raised about Queensland students' literacy and numeracy scores against national and international benchmarks (Daraganova, Edwards, & Sipthorp, 2013, Luke et al., 2003; Goos et al., 2008; Lingard & Sellar, 2013). In addition, the introduction of a Prep year in 2007 followed by a lift to the entry age of schooling in 2008 by six months with the cut-off moving from the end of the calendar year to the middle of the year, brought Queensland into line with other states. The overall effect of the lifting of the school commencing age was that students are on average six months older in each year level, so that, for example, more than half of those students in Year 7 will turn 13 during that year. In addition, many students have also completed a Prep year which has provided an additional

year of formal schooling making them older and better prepared for a secondary school setting.

These combined factors provided the impetus to shift all Year 7 students to secondary schools and, in addition, in public schools, to use this as an opportunity to introduce Junior Secondary for Years 7-9. Junior Secondary is a philosophical and practical shift in the way these year levels have traditionally operated in schools and to make them more suited to young adolescent learners, with a clear focus on quality teaching. The approach is guided by The Junior Secondary Guiding Principles outlined in *A Flying Start for Queensland Children* (Department of Education and Training [DET], 2010), and is one of the most significant reforms undertaken in the history of Queensland education. The six Junior Secondary Guiding Principles are:

1.   Distinct identity**:** Junior Secondary students will be encouraged and supported to develop their own group identity within the wider high school. This can involve dedicated school areas and events.

2.   Quality teaching**:** Teachers working with students in the Junior Secondary years will be given the skills they need through additional professional development, so they can support young teens through these crucial early high school years.

3.   Student wellbeing**:** We will meet the social and emotional needs of Junior Secondary students with a strong focus on pastoral care. For example, schools could provide a home room to support students as they adjust to new routines and greater academic demands.

4.   Parent and community involvement**:** We want parents to stay connected with their students' learning when they enter high school. Parent involvement in assemblies, special events, award ceremonies and leadership presentations will be welcomed.

5. Leadership: Schools will be encouraged to create leadership roles for students in Years 7, 8 and 9. Dedicated teachers experienced with teaching young adolescents will lead Junior Secondary supported by the principal and administration team.

6. Local decision-making: The needs of each school community will influence how Junior Secondary is implemented in each school.

The introduction of Junior Secondary is a pedagogical reform as it is about "an intentional approach to teaching and learning that is responsive and appropriate to the full range of needs, interests and achievements of middle years students in formal and informal schooling contexts" (Middle Years of Schooling Association, 2008, p. 1). With research evidence showing that teacher quality is the most important factor in improving outcomes for students (Dinham & Rowe, 2007; Hargreaves, 1994), Quality Teaching is critical to the effectiveness of Junior Secondary. As such, a key consideration for all Junior Secondary schools is Quality Teaching for young adolescents. According to the Grattan Institute (Jensen, Hunter, Sonnemann, & Cooper, 2014):

- improving teaching effectiveness outweighs the impact of any other school education program or policy in improving student performance;

- a student exposed to great teaching can achieve in half year what a student exposed to poor teaching can achieve in a full year; and

- because the impact of highly effective teaching is cumulative, relatively modest increases in effectiveness can make a big difference in student learning.

The guiding principle related to quality teaching specifically points to the need for reforms in the way teaching and learning would occur in Junior Secondary classrooms. Hence, teacher

self-efficacy became an important aspect of the Program design consideration, which is now outlined.

Junior Secondary Leading Change Program

The key objective of the Program was to provide state high school leadership teams with a Program that built their capability to lead effective change processes in schools, specifically in preparation for the transition of Year 7 to Junior Secondary by the start of 2015. The Program was designed (Pendergast et al, 2015) around the core features of PD (Desimone, 2009) and aimed to:

- build school leadership team capability to lead change in transitioning Year 7 to high school;

- build school leadership team capability to lead the introduction of Junior Secondary in all state high schools;

- provide support to school leadership teams with the school's development and implementation of action plans for transitioning Year 7 to high school and introducing Junior Secondary in all state high schools;

- ensure all state high schools were ready for inclusion and integration of Year 7 students into high school from January 2015. (Pendergast et al., 2014).

The Program was delivered in three stages to three school leaders (including the principal) from each of the 259 state high schools in Queensland with Years 7–9. It was designed for schools commencing the journey as well as for other purpose-designed schools, including 20 that had been pilot schools that had begun their journey of reform in 2012. In this way the Program aimed to work with all schools to further progress the development of their Junior Secondary program. The model of delivery was implemented for each of the seven regions of

the state, hence seven two-day conferences and seven one-day conferences marked the

beginning and then end of the Program, with coaching between these key events, as outlined

in Table 1. The Program was conceptually built around a distinct theoretical model known as

the Educational Change Model (ECM) (Pendergast, 2006) and aligned with the core features

of effective professional development (Desimone, 2009).

Table 1
 Leading Change Development Program project stages

Stage	Activity	Timeline (2014)
1	Two-day professional learning conference for school leaders. Delivered seven times to each of the regions in the state. The focus was for 3 school leaders from each school to determine their school's current phase of reform by being guided through a range of sessions that utilised a comprehensive suite of resources available to all schools via provision of a loaded USB device as well as access to a purpose-built interactive website. Resources provided theoretical information and evidence-based research related to adolescent learners, the six Guiding Principles, the Education Change Model and quality teaching strategies. Information, PowerPoint presentations, and activities were developed for twenty-eight topics ranging from effective practices for adolescent learners to building teams within schools.	April-June
2	Implementation with coaching support, including development and/or further refinement of an Action Plan and webinars. All 259 schools were placed into one of 22 clusters that were negotiated with advice from regional representatives. Each cluster included approximately 10 schools and was allocated two professional coaches. For 3-4 months the coaches were available for direct support to assist schools with their Junior Secondary 'Action Plans' as well as providing feedback and advice on three structured milestones. In addition to the coaching process, four webinars were presented on topics that were most frequently requested by school leaders during the two-day conferences and the coaching dialogues.	May-September
3	One-day workshop for school leaders These were co-delivered in the seven regions and constituted the final phase of the Program. It provided an opportunity for the school leadership teams to reflect on and share their Action Plan achievements and their readiness for the change in 2015. These	September-October

	workshops were structured around the concept of educational Best Practice, with a focus on three key themes: Transition; Quality Teaching; and Evidence-based Practice. Schools were given opportunities to network and to share their successes in their program implementation efforts, with schools invited to present a snapshot of Best Practice in one of the three targeted areas.	

Evaluation of the effectiveness of the Program as a professional development program and its effect on teacher and leader efficacy was argued to be vital to ensure that school leaders have the skills and resources necessary to implement and sustain the successful introduction of Junior Secondary.

Teacher efficacy

If the Program of reform had any chance of success, understanding teacher self-efficacy regarding their confidence and competence to implement the six guiding principles, and importantly the principle related to Quality Teaching is important to investigate. Tschannen-Moran & Hoy (2001) explained that a teacher's sense of efficacy is their belief or "judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (p. 783). Teacher efficacy can be categorised into two types: general teacher efficacy – "teachers' beliefs in the ability of teachers in general to influence student outcomes" and personal teacher efficacy – "teachers beliefs about their own ability to affect student outcomes" (Wheatley, 2002, p, 6).

Mourshed, Chijioke, and Barber (2010) investigated the factors that enable systems to improve, identifying teacher self-efficacy through the building of the instructional skills of teachers and management skills of principals as one of six 'must haves' for effective reform. For school-wide change, there must be a strong multi-partner professional development focus on middle years curriculum and pedagogy (quality teaching) as well as a strong and focused

leadership for effective and sustained change. The connection between professional learning and improved student learning is central to the AITSL Charter (2012) and features the concept of teacher self-efficacy or effectiveness to enact new learning. The Charter notes that "[I]mproving student outcomes is the ultimate goal of teachers and school leaders, and of the professional learning they undertake" (p.4). With teachers and school leaders noted as both the subjects and agents of change (Main, 2013), Desimone and Garet (2015) noted that where strategies and ideas delivered through PD are aligned with leadership priorities there is an increased "ability, willingness, and motivation" by teachers to modify their practices.

Teacher efficacy is a multi-faceted construct that has significant implications for teacher practices and student outcomes. Ingvarson, Meiers, & Beavis (2005) found a correlational link between teachers' sense of efficacy and teachers' improved practices and a causal link between teachers' improved practices and improved student outcomes. Where a school has the structures, programs and leadership in place, teachers are also able to access other sources that further enhance their sense of self-efficacy.

With a major focus for the Junior Secondary reform agenda around Quality Teaching, leadership teams were asked to consider the efficacy of their teacher cohort. Each leadership team was provided with the instrument and asked to discuss and then, as a team, agree on the rating for each of the questions.

Method

There are a range of instruments that have been developed to collect data about teacher self-efficacy. The Norwegian Teacher Self-Efficacy Scale (Skaalvik & Skaalvik, 2007; 2010) was selected for this purpose as it was deemed to be suitable for administration in the context of

the study and most relevant to the focus of the Program. Leadership teams were invited to complete the survey to provide a snap-shot of their perceptions of the preparedness (sense of efficacy) of their teachers to teach in Junior Secondary at that point in time.

The Norwegian Teacher Self-Efficacy Scale (Skaalvik & Skaalvik, 2007) is a 24 item Likert type scale consisting of six dimensions with 4 items in each dimension. The dimensions are:

- instruction;

- adapting education to individual students' needs;

- motivating students;

- keeping discipline;

- cooperating with colleagues and parents; and

- coping with changes and challenges.

Responses were given on a 7-point scale from *Not certain at all* (1) to *Absolutely certain* (7). These ratings were converted to a scale from zero to six for the purposes of calculation. The six sub-scales are extensively described and validated elsewhere (Skaalvik & Skaalvik, 2007). An example of an item on the Norwegian Teacher Self-Efficacy Scale is *How certain are you that you can provide realistic challenge for all students even in mixed ability classes?*

The survey also includes two further series of questions relating to:

- working in teams, and

- beliefs

with seven and five questions respectively. Responses were given on a 6-point scale from *false* (1) to *true* (6). These ratings were converted to a scale from zero to five for the purposes of calculation.

The purpose of this survey was to provide a stand-alone base point for each school so that school leaders could shape the professional learning opportunities provided to their staff.

The identical evaluation survey was administered at two Stages in the Program. The first data collection point was during the two-day learning conference; the second at the end of the one-day workshop. After the second administration, the leadership team were provided their first survey responses and they were invited to compare the two sets of responses.

Findings

A total of 245 (92% response rate) and 145 (56% response rate) completed surveys were collected at the seven two-day conference and seven one-day workshops respectively. These responses were collaboratively provided from each leadership team. Table 2 shows overall means, and by region, of the six subscales of the Norwegian Teacher Self-Efficacy Scale and the two other areas investigated. The scores range from a minimum score of 0 to a maximum score of 6. A higher score indicates the belief in the leadership team that their staff are more capable (greater sense of efficacy) in each subscale. At the beginning of the program (i.e., at the two-day conference) overall, leadership teams across the state rated their teachers lowest ($M = 3.4$, $SD = 0.9$) on their ability to motivate students, and highest ($M = 4.4$, $SD = 0.83$) in their ability to cooperate with colleagues and parents. At the end of the Program (i.e., at the one-day workshop) the lowest overall mean had risen to 3.7 and was observed in the dimensions of motivating students, adapting education to individual students' needs. No statistically significant difference was detected in any of the six scales between regions. It is important to note that the proper interpretation for the Beliefs scale should be reversed, i.e., leadership teams believed the locus of control in for example, developing students' abilities, motivating students etc., was well within their control ($M = 1.50$, $SD = 0.73$).

Table 2

Average scores for the six subscales of the Norwegian Teacher Self-Efficacy Scale (two day conference and the one day workshop).

Event	Region [a]	Dimension [b]							
		IN	AD	MD	DI	CO	CH	WT	BE
Two day conference	1	3.9	3.4	3.5	4.5	4.5	4.1	3.7	1.5
	2	3.8	3.3	3.3	3.9	4.2	3.9	3.5	1.4
	3	4.0	3.7	3.6	4.1	4.6	4.0	4.0	1.7
	4	3.8	3.3	3.3	3.8	4.3	3.8	3.6	1.4
	5	3.6	3.2	3.0	3.6	4.1	3.7	3.5	1.6
	6	4.1	3.8	3.6	3.9	4.5	3.9	3.7	1.6
	7	4.1	3.6	3.6	4.2	4.4	4.0	3.8	1.4
	TOTAL	**3.9**	**3.5**	**3.4**	**4.0**	**4.4**	**3.9**	**3.7**	**1.5**
One day workshop	1	4.4	3.8	3.9	4.4	4.6	4.2	3.8	1.2
	2	4.0	3.6	3.6	3.9	4.4	3.9	3.6	1.5
	3	4.2	3.8	3.8	4.2	4.8	4.0	3.8	1.6
	4	4.1	3.4	3.4	3.9	4.3	4.1	3.6	1.6
	5	4.0	3.5	3.4	3.7	4.4	3.7	3.6	1.7
	6	4.6	3.9	3.7	4.0	4.6	4.1	3.6	1.4
	7	4.4	3.8	3.6	5.0	4.3	3.9	3.8	1.3
	TOTAL	**4.2**	**3.7**	**3.7**	**4.2**	**4.5**	**4.0**	**3.7**	**1.4**

[a] Regions randomly allocated a number to ensure anonymity

[b] IN - Instruction. AD – Adapting instruction to individual needs. MO – Motivating students. MD – Maintaining discipline. CO – cooperate with colleagues and parents. CH – Coping with change. WT – Working in teams. BE – Beliefs.

Note. Means range from a possible minimum of 0 to a maximum of 6 for IN, AD, MO, MD, CO and CH, and a minimum of 0 to a maximum of 5 for WT and BE

Using identifiers from the survey responses, data from 130 of the schools could be matched for both survey 1 and survey 2. This data was then compiled and a pairs-wise t-test was conducted on the 130 schools that responded to the Norwegian Teacher Self-Efficacy Scale at both the two day conference and one day workshop (see Table 3). A statistically significant

difference (at the $p = 0.05$ level) was observed in three of the dimensions: instruction, adapting instruction to individual needs; and motivating students. This is in keeping with school leaders identifying the need to focus on quality teaching at the beginning of the program (i.e., at the two-day conference) once they got back to school and indicates that this had indeed been the case.

Table 3

Significance test for leaders' perceptions of teacher efficacy

Dimension	2 Day conference		1 Day workshop		significant
	M	*SD*	*M*	*SD*	
Instruction	4.0	0.8	4.3	0.8	*
Adapting instruction to individual needs	3.5	1.0	3.7	1.0	*
Motivating students	3.5	0.9	3.7	0.9	*
Maintain discipline	4.0	0.9	4.2	1.4	
Cooperate with colleagues and parents	4.4	0.8	4.5	0.8	
Cope with change	4.0	0.8	4.0	0.9	
Working in teams	3.7	0.7	3.7	0.6	
Beliefs	1.5	0.7	1.4	0.7	

Discussion and Conclusion

The shift of Year 7 and introduction of Junior Secondary has a clear agenda to focus on quality teaching. This is reflected in the six Guiding Principles. The Program designed and implemented to support the major reform included an extensive series of opportunities and support for school leaders to develop capabilities to enhance their teacher capabilities with respect to teaching in the junior secondary setting. Data produced at two points in time – at the commencement of the Program and at the end of the Program - related to teacher self-efficacy, provided important insights into the perceptions by leaders of the efficacy of their

staff to implement the Junior Secondary agenda, particularly with respect to the Quality teaching Guiding Principle.

Where direct comparisons could be made, the areas reported by leaders to be least effective at the outset of the Program were: adapting instruction to individual needs; and motivating students. Both of these dimensions were reported to have improved by the end of the Program, with statistically significant shifts to the averages reported. The dimension of instruction was also identified as having tested for statistical significance. Importantly, all of the remaining dimensions were also reported by leaders to have improved. These results support findings by Desimone and Garet (2015) around the positive influence that leadership in schools have on teachers' implementation of ideas and strategies when they are aligned with leadership priorities. This bodes well for the implementation of the reform agenda and is an affirming insight into the value and contribution of the Program.

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