Paper code: 2445b

Examining the impact of Quality Teaching Rounds on teacher professional learning

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Abstract:
Despite rhetorical and financial investments in professional development, much professional learning activity fails to generate the intended improvements in teaching quality and student learning. In this paper, we examine the impact of Quality Teaching Rounds as a specific form of ongoing professional learning designed to address such weaknesses in professional learning experiences, as inadequate time, the absence of an agreed knowledge base, and cultural norms of privatism. Drawing primarily on questionnaire data, we compare the views of teachers who participated in Quality Teaching Rounds with the views of teachers who were not part of the Rounds process. Statistically significant differences were found for seven of eleven scales including Quality Teaching Support, Quality Teaching Reception, Professional Learning Satisfaction, Quality Teaching Coherency, Teacher Responsibility, Quality Teaching Importance, and Professional Learning Coherency. These findings indicate the potential of QT Rounds to substantially impact on teacher professional learning.

While much has been invested in the capacity of professional development to support teacher growth and improve schooling outcomes (Vandenberghe, 2002), Supovitz and Turner (2000) found that dramatic changes in teaching practice emerged only when professional development experiences were deeper and more sustained than is typical. In their work, less than 80 hours of professional development was unlikely to produce "big change in teaching practice" (p. 976). This finding, together with numerous other studies and teacher anecdotes that report the inadequacy or ineffectiveness of PD, potentially renders much professional learning activity doomed before it begins when it comes to generating the intended improvements in teaching quality and student learning.

In this paper, the second in a series of papers reporting findings from the Effective Implementation of Pedagogical Reform (EIPR) project, we examine the impact of a specific form of ongoing professional learning, the Quality Teaching Rounds (QT Rounds). The Quality Teaching Rounds intervention of the EIPR study was designed to align with the emerging consensus on principles of effective professional development.

Specifically, Quality Teaching Rounds were created to engage teachers in sustained and meaningful professional learning activities that would develop collective diagnostic capacity about teaching practice, through a process of collegial enquiry using the shared pedagogical framework of the Quality Teaching model. As outlined in Bowe and Gore (this symposium), Quality Teaching Rounds were specifically designed to address many of the weaknesses associated with typical professional learning experiences, including the inadequate time given to professional development, the absence of an agreed knowledge base, and the cultural norms of privatism (Warren-Little, 1982) characteristic of many schools.

Research design
The analyses presented in this paper are drawn from the first year's data of the EIPR longitudinal study, an ARC Linkage Grant (2009- 2012) in order to judge the effectiveness of the Quality Teaching Rounds model of implementation. During its first year, the EIPR study generated data from the following sources:
  • Quality Teaching Rounds – 7 rounds in each of 4 schools (3 primary, 1 secondary, most low SES) (28 rounds in total), with each round producing an agreed QT score for the lesson observation and a recording of around 3 to 4 hours of the professional conversation following the lesson, plus a verbatim transcript of that discussion, and copies of student work produced during the lesson;
  • EIPR Questionnaire – completed questionnaires from the teaching staff in the 4 QT Rounds schools, plus 12 other schools (16 in total), with a total of 324 questionnaires completed;
  • Interviews – All QT Rounds participants (7 teachers in each of the 4 schools, 28 in total) and a QT representative from each of the other schools (12 schools), with 42 interviews in total;
  • Reflective journals – All QT Rounds participants (28 teachers) and the QT representative from each of the other schools (12 teachers, completed a reflective journal addressing specific questions.
In this paper, we draw primarily on the questionnaire data with some reference to the lesson observation data. Interview and journal data are the focus of the third paper in this symposium. The transcripts of lesson analyses are being addressed in Bowe's PhD thesis.

The observation instrument used for data collection, the Quality Teaching Classroom Practice Guide (NSW DET, 2003) was known to and often used by the teachers whose classes were observed and analysed. Scores from one to five are generated in response to a focus question for each of the 18 elements of the Quality Teaching model (see Appendix 1). Specific descriptors of what is happening in a lesson enable those producing the scores to make fine-grained judgements and articulate their decisions which provides a clear and shared mechanism by which teachers were able to analyse what they saw in the Quality Teaching Rounds lessons and the impact the instruction was having on students.

The annual questionnaire for teachers provides comprehensive demographic data and asks teachers to report on how their work is structured in their schools. Other survey questions form scales that provide estimates of: the coherency of professional learning in the school; the degree to which teachers are satisfied with their professional learning experiences; the degree to which they feel supported; how favourably Quality Teaching

has been received in their school; the degree to which they take responsibility for student learning; the level of trust among teachers in the school; and, the degree to which they believe they are teaching in ways that are consistent with Quality Teaching. Many of these scales have been used and validated in other studies (Louis, Kruse & Marks, 1996; Lee & Smith, 1996; Gore & Ladwig, 2006) and are provided with alpha scores of their internal reliability in Appendix 2.

Three distinct groups of teachers completed the survey: (Group A) teachers who are participants in the Quality Teaching Rounds process of professional reading and discussion, and classroom observation and analysis, within professional learning communities; (Group B) teachers in schools where Quality Teaching Rounds are being conducted but who are not participating in the QT Rounds themselves; (Group C) teachers in other schools, all of whom have had some Quality Teaching professional development but are not involved in the Quality Teaching Rounds. We also considered a Group D, comprised of all teachers not participating in QT Rounds (Group B + Group C). The sample sizes used in this analysis are as follows: Group A, n=21; Group B, n=47; Group C, n=256; Group D, n=303. Statistical comparisons have been carried out between and among these four groups of teachers to begin the process of teasing out the relationship between participation in the Quality Teaching Rounds and teacher professional learning.

For comparisons between constructs taken from the questionnaire, analysis of variance was used to determine levels of significance among Groups A, B, and C and t-tests were used to examine significant differences between Groups A and D and Groups A and B. While statistically significant differences were found in each of these tests, the greatest number of statistically significant differences ($p < 0.01$) was found in the comparison between teachers in QT Rounds and all other teachers (Groups A and D) which was consistent with our hypothesis that the QT Rounds would make a difference. Hence we focus on reporting only these results in the remainder of the paper. Effect sizes for these two groups were also estimated using Cohen's d (adjusted). Cohen's d reports the magnitude of the difference between groups (from large to trivial), while p values report the probability of a significant finding (e.g. $p < 0.01$, 1 chance in 100 that a difference has not occurred by chance). In order to make claims about the difference between groups, we considered it necessary to find both statistical significance and moderate to large effects.

Results
In comparing teachers who participated in Quality Teaching Rounds (Group A) with those who did not (Group D) on each of the 11 scales which were included in the questionnaire, statistically significant differences ($p < 0.05$) were found for seven scales and of these there is a large effect for three, Quality Teaching Support, Quality Teaching Reception, and Professional Learning Satisfaction, and a moderate effect for a further four, Quality Teaching Coherency, Teacher Responsibility, Quality Teaching Importance, and Professional Learning Coherency. There is also a small effect for Teaching for Intellectual Quality, but trivial/no effect for Teaching for Quality Learning Environment, Teaching for Significance, or for Teacher to Teacher Trust (among the teachers in a school).

These results provide strong support for the idea that the QT Rounds intervention is associated with substantial effects (or large differences) between the two groups of teachers – those who participated in QT Rounds and those who did not. An important

caveat to be noted in interpreting these results is the possibility of selection bias – that is, that the teachers who agreed to participate in the QT Rounds were different from their peers to begin with. Analysis of any change over time (with a further three administrations of the questionnaire and ongoing observations of lessons) will be undertaken to address this issue in part. At this stage, we can report that principals described the teachers participating in the QT Rounds as mixed, with a range of experience, with some more reluctant participants than others, and some described as needing extra support with their teaching. That is, they were not all seen as the stronger or more confident teachers in the school. Moreover, in the three primary schools, the proportion of teachers participating in the QT Rounds varied from around 30% in one school to 80% in the other two schools.

Table 1 reports descriptive statistics and effect sizes (Cohen's d) for the two groups of participants – the teachers who are participating in the QT rounds (Group A) and those teachers who are not (Group D), whether in the same school or in other schools. Statistically significant differences are indicated with asterisks.

	QT rounds participant	N	Mean	Std. Deviation	Std. Error Mean	Cohen's d
Teacher to Teacher Trust	QTR	20	23.55	5.424	1.213	
	Non-QTR	282	23.55	4.292	.256	0.00
Teacher Responsibility**	QTR	17	35.88	5.407	1.311	
	Non-QTR	267	32.41	5.189	.318	0.65
Professional Learning Coherency*	QTR	16	34.56	5.416	1.354	
	Non-QTR	223	31.52	5.690	.381	0.55
Professional Learning Satisfaction**	QTR	19	15.89	1.853	.425	
	Non-QTR	267	13.84	2.892	.177	0.85

	QT rounds participant	N	Mean	Std. Deviation	Std. Error Mean	Cohen's d
Quality Teaching Coherency**	QTR	21	30.24	4.312	.941	
	Non-QTR	163	27.28	4.327	.339	0.68
Quality Teaching Importance**	QTR	20	22.20	1.508	.337	
	Non-QTR	277	21.12	2.073	.125	0.59
Quality Teaching Support**	QTR	18	16.28	1.965	.463	
	Non-QTR	228	13.38	2.532	.168	1.28
Quality Teaching Reception**	QTR	21	15.81	1.721	.376	
	Non-QTR	207	13.51	2.838	.197	0.98
Teaching for Intellectual Quality	QTR	19	24.58	2.090	.479	
	Non-QTR	280	24.10	2.642	.158	0.20
Teaching for Quality Learning Environment	QTR	18	23.22	2.901	.684	
	Non-QTR	275	22.78	2.338	.141	0.17
Teaching for Significance	QTR	18	22.94	2.645	.623	
	Non-QTR	254	23.14	2.826	.177	0.07

Table 1. Comparison between teachers in QT Rounds and those not in QT Rounds for all Scales, 2009.
*$p < 0.05$ **$p < 0.01$, for Cohen's d, 0.2 is considered small, 0.5 is considered moderate, 0.8 is considered large.

Discussion
Why were QT Rounds teachers' responses to the questionnaire so different from their non QT Rounds peers? A number of factors are considered in this discussion of the effects of QT Rounds, including support, 'buy-in', perceived impact on practice, coherence and fidelity, and teacher dispositions.

One factor evident in the questionnaire results was the degree of support felt by the teachers in the QT Rounds. One of the downfalls of much professional learning is that teachers do not feel adequately supported to engage in the practices that are asked of them. In this case, the teachers in the QT Rounds reported feeling significantly more supported to engage with QT than did other teachers, by the system, by the school and

by their colleagues. The kinds of support made possible by the QT Rounds were symbolic, practical and social. That is, important symbolic and practical support was evident in the system's commitment to funding this project over a period of four years and in the principals' commitment to creating the conditions for the whole day QT Rounds to be carried out, often requiring the recruitment of up to seven casual teachers per day to replace participating teachers. These investments provided participants with a sense of serious support from those in power within the system. Moreover, as discussed in our third paper (Bowe, Gore and Elsworth, this symposium), the teachers certainly reported feeling strong social and professional support within their PLC. The fact that each member of the PLC was to take their turn in having a lesson observed and being the focus of the professional inquiry for a day might have contributed to the construction of a mutually supportive professional learning environment.

Another aspect of support was the role of the principal in QT Rounds. In three of the four schools where Rounds are being conducted, the principal is an active participant in the QT Rounds, which includes teaching a lesson in front of all other members of the PLC and the lesson being coded using the Quality Teaching instrument. This kind of instructional leadership (Robinson, 2006) meant the principal not only experienced the same professional learning activities in which teachers were engaged but also was expected to develop an equivalent level of understanding and capacity to apply the learning to classroom practice.

As indicated in their capacity to find teachers interested in participating in the study, QT had already been received reasonably favourably in those schools where commitment was made to the four year ARC Linkage project. To some extent, the specific reform initiative was welcomed by the school rather than simply being imposed externally. Teacher buy-in has been a consistent concern in school reform literature. The QT Rounds teachers reported having greater commitment than non QT Rounds teachers to the principles that underpin QT and a stronger belief in its importance (QT Importance scale). In our previous studies, where all teachers agreed in general terms that QT was important, this scale did not differentiate between major teacher groups (see SIPA results). That QT Rounds teachers have a stronger result signals the degree to which they have "bought in" to the reform. Previous studies have reported great difficulty in, and a substantial period of time for, achieving shared commitment to a reform (Grossman, Wineburg & Woolworth, 2001). The data from our study indicate that within less than a year (at the time the first questionnaire was administered – beginning of Term 4), QT Rounds teachers had a shared belief in the value of what they were learning.

A factor in achieving teacher commitment to the QT pedagogical reform was undoubtedly the degree to which the QT Rounds teachers believed the QT Rounds approach was contributing to their professional learning. QT Rounds teachers reported more strongly than others that they felt they had gained a practical understanding of QT and that the professional learning in which they had been engaging during the year was impacting on and improving their teaching practice. QT Rounds teachers' stronger positive response to the QT Reception and Professional Learning Satisfaction scales would have been affected by their hours of immersion in QT, around 66 hours of direct engagement with the PLC plus the additional hours spent on professional reading, lesson preparation including discussion with others, and discussion following a QT Round. We would argue that it was not just the number of hours but how those hours were arranged and what was done within them. We were careful to structure the hours

for the first year of the study over a compressed period of two terms, rather than spread across the whole year in order to avoid gaps between sessions that might have been so large as to affect the extent to which teacher learning was able to build from one session to another. Also, the work done during QT Rounds required high levels of teacher engagement: they were to come to Rounds ready to discuss a short professional reading; teachers then either had to have prepared a lesson to teach in front of their peers or they had to be ready to observe and code a lesson using the Quality Teaching manual; next teachers needed to be prepared to defend their codes with reference to what they had observed in the lesson and their developing understanding of the Quality Teaching model, which was all done publicly with their peers, often their principal, and the academic partner. Given the range of professional experience activities in which other teachers might have been involved and the fact that some of these activities might have had little to do with pedagogical reform, it is not surprising that those teachers participating in the sustained and intensive QT Rounds process reported the impact on their practice which is further evidence of its potential efficacy in teacher professional learning.

Implementation fidelity is a key challenge of any reform initiative. With many approaches to professional development, key concepts or principles of the reform are seriously diluted as they cascade through an organisation, sometimes recontextualising (Bernstein, 1990) and reconceptualising the intent of the reform designers. With the QT Rounds intervention, having an academic facilitator guiding the Rounds process and discussion was likely to be a critical factor in increasing QT Rounds teachers' understanding and buy-in, through ensuring a level of program coherence that enabled the teachers to both develop confidence in their level of understanding and recognise the applicability of the reform to their own practice. The QT coherence and PL coherence scales were rated more highly by QT Rounds teachers, who were stronger in their view that Quality Teaching was being treated in an internally consistent way and that their total professional learning was more focussed than fragmented or dissipated. Part of the explanation for this finding lies in the likelihood that the QT Rounds teachers, with their deeper understanding of the model, were able to see more readily the applicability of the QT lens to other professional learning activities rather than viewing QT as a separate or discrete "program," something to be done and then ticked off and once done not needing to be repeated. This result might also be explained by the fact that these teachers were spending the vast majority of their professional learning time on the QT Rounds process and/or because their intensive engagement with QT provided them with a consistent way of understanding the professional learning that was happening in the school, thus highlighting the potential of QT to link other aspects of teachers' work. QT's principles in effect provide a set of standards around intellectual quality, quality learning environment, and significance against which teachers can judge other curriculum or pedagogical professional learning and develop strategies to integrate new initiatives with current practice.

Teacher dispositions have also been found to be important in the success of professional learning and reform initiatives (King & Newmann, 2000). The questionnaires provided insights on teacher dispositions in terms of the level of responsibility individual teachers felt for their students' learning as well as the degree to which teachers within a school trusted and respected each other. Earlier studies report that teachers who take greater responsibility for their students' learning are more likely to deliver higher quality teaching and hence more likely to contribute to better student outcomes. Of crucial importance to our research is this result that QT Rounds teachers report a greater sense

of responsibility for their students' learning, believing that they can make and are making a positive difference by providing the kind of education they would like to provide. If QT Rounds contribute to the development of this heightened sense of responsibility for student learning, then they also have the potential to produce significant gains in student outcomes. In the current National context of increased accountability for student outcomes (as measured in a limited way through NAPLAN results and as mandated in National Partnerships funding arrangements), such a result would support QT Rounds as a practical and productive investment by schools seeking to meet learning targets.

While there was no difference between the two groups of teachers for the Teacher to Teacher Trust scale, it would be interesting to see how teachers report the level of trust within the PLC rather than just within the school, something we will be checking in subsequent administrations of the questionnaire. The 'no difference' result may indicate teachers' widespread trust of each other, or some kind of cultural reluctance to suggest that they don't trust each other, or indeed a lack of real knowledge about what their colleagues do (broken down to some extent through the close collaboration and deprivatisation that come with QT Rounds). It may also relate to perceived or emerging tensions in some schools between those in the PLC and others in the same school.

What is of particular interest in this study is the degree to which the QT Rounds impact positively on teachers' professional learning in a way that translates into improvements in practice. Two forms of data enable us to directly explore this question. First, the scales on Teaching for Intellectual Quality (IQ), Quality Learning Environment (QLE) and Significance (SIG) ask teachers to rate themselves for the extent to which they are consistently engaging in practices consistent with the Quality Teaching model. While only a small effect was found for QT Rounds teachers for the Teaching for IQ scale and no effect was found for QLE or Significance, these results might indicate that teachers in the QT Rounds have greater awareness of whether or not they are teaching in ways that deliver high levels of IQ, QLE and Significance. With a deeper understanding of the standards set by QT and how each element might be manifest in the classroom, it is possible that they are more critical of their own practice than teachers with lesser understanding.

While we do not have observational data about the classroom practice of non QTR teachers, the second form of data we can draw on to consider the effect of QT Rounds on the quality of practice is the agreed Quality Teaching scores for each of the Rounds lessons and we have been able to compare these scores with the average classroom practice scores for teachers in the SIPA study. Our first analysis of this data shows that the average quality of teaching produced in the QT Rounds lessons was statistically significantly higher than the average quality of teaching produced by teachers in the SIPA study. Effect sizes were also calculated using Cohen's d which yielded a large effect for each dimension of the QT model – intellectual quality, quality learning environment, and significance – as well as large effects for the majority of elements of the QT model, and moderate effects for all others, except problematic knowledge (Appendix 3). Taking account of the potential impact of selection bias for this sample of teachers, it is nonetheless encouraging to find this quality of teaching among QT Rounds teachers, despite their own responses to the Teaching for QT scales. It is interesting that there is a small difference for the Intellectual Quality dimension of QT and not the other two. In previous studies (Gore, Griffiths & Ladwig, 2004; Gore & Ladwig, 2006) teachers have suggested that they believe they already attend to QLE and Significance and that it

is the IQ dimension that challenges them the most. Perhaps the difference here indicates the QTR teachers' authentic learning about how to achieve higher IQ.

One other indicator of the effect of QT Rounds that will become available to us is school, class, and student level NAPLAN data. Anecdotally, those schools that have committed to participation in this study are reporting encouraging improvements in NAPLAN results, but we are not yet in a position to analyse effects for cohorts until the 2009 results are made available to us.

Conclusion

In conclusion, early data from teachers participating in Quality Teaching Rounds suggest that the Rounds are associated with some significant differences for those teachers when compared with others in their school or teachers at other schools within the same system. To the extent that QT Rounds enact such principles of effective professional development as sustained and simultaneous engagement in individual and collegial inquiry within a coherent program, we are not surprised at the findings. These data augur well for the potential of Quality Teaching Rounds within professional learning communities to substantially impact on teacher professional learning. At the very least, the null hypothesis, that QT Rounds make no difference to teachers, can be rejected.

Acknowledgements

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Paper code: 2445b

Quality Teaching model -- Focus Questions. Appendix 1

		Elements	Coding scale question
Dimensions	**Intellectual Quality**	Deep knowledge	To what extent is the knowledge being addressed focused on a small number of key concepts and the relationships between and among concepts?
		Deep understanding	To what extent do students demonstrate a profound and meaningful understanding of central ideas and the relationships between and among those central ideas?
		Problematic knowledge	To what extent are students encouraged to address multiple perspectives and/or solutions? To what extent are students able to recognise knowledge as constructed and therefore open to question?
		Higher-order thinking	To what extent are students regularly engaged in thinking that requires them to organise, reorganise, apply, analyse, synthesise and evaluate knowledge and information?
		Metalanguage	To what extent do lessons explicitly name and analyse knowledge as a specialist language? To what extent do lessons provide frequent commentary on language use and the various contexts of differing language uses?
		Substantive communication	To what extent are students regularly engaged in sustained conversations (in oral, written or artistic forms) about the ideas and concepts they are encountering?
	Quality learning Environment	Explicit quality criteria	To what extent are students provided with explicit criteria for the quality of work they are to produce? To what extent are those criteria a regular reference point for the development and assessment of student work?
		*Engagement	To what extent are most students, most of the time, seriously engaged in the lesson? To what extent do students display sustained interest and attention?
		High expectations	To what extent are high expectations of all students communicated? To what extent is conceptual risk taking encouraged and rewarded?
		*Social support	To what extent is there strong positive support for learning and mutual respect among teachers and students and others assisting students' learning? To what extent is the classroom free of negative personal comment or put-downs?
		*Students' self-regulation	To what extent do students demonstrate autonomy and initiative so that minimal attention to the disciplining and regulation of student behaviour is required?
		Student direction	To what extent do students exercise some direction over the selection of activities related to their learning and the means and manner by which these activities will be done?
	Significance	Background knowledge	To what extent do lessons regularly and explicitly build from students' background knowledge, in terms of prior school knowledge, as well as other aspects of their personal lives?
		Cultural knowledge	To what extent do lessons regularly incorporate the cultural knowledge of diverse social groupings?
		Knowledge integration	To what extent do lessons regularly demonstrate links between and within subjects and key learning areas?
		*Inclusivity	To what extent do lessons include and publicly value the participation of all students across the social and cultural backgrounds represented in the classroom?
		Connectedness	To what extent do lesson activities rely on the application of school knowledge in real-life contexts or problems? To what extent do lesson activities provide opportunities for students to share their work with audiences beyond the classroom and school?
		Narrative	To what extent do lessons employ narrative to enrich student understanding?

* The elements of Engagement, Student's self regulation, Social support, and Inclusivity are not measurable in the coding of written assessment tasks.

Questionnaire scales. Appendix 2

Quality Teaching Support Alpha =.67	• I have been supported by my colleagues to engage with Quality Teaching. • I have been supported by my school executive to engage with Quality Teaching. • I have been supported by the Parramatta CEO to engage with Quality Teaching.
Quality Teaching Reception Alpha = .70	• I have gained a practical understanding of Quality Teaching through my professional learning experiences. • Quality Teaching professional learning has been received favourably by teachers at my school. • I have not gained a deep understanding of the Quality Teaching model through professional learning **(reversed).**
Professional Learning Satisfaction Alpha = .91	• The professional learning in which I have participated this year has improved my teaching practice. • The professional learning in which I have participated this year has influenced the way I plan learning activities for my students. • The professional learning in which I have participated this year has influenced the way I plan assessment tasks for my students.
Quality Teaching Coherence Alpha = .87	• The professional learning activities focused on Quality Teaching in which I have participated this year have been consistent with my understanding of the Quality Teaching model. • The professional learning activities focused on Quality Teaching in which I have participated this year have been consistent with the Quality Teaching support materials. • The professional learning activities focused on Quality Teaching in which I have participated this year have been consistent with each other (in terms of my understanding of the Quality Teaching model). • The professional learning activities focused on Quality Teaching in which I have participated this year have modelled Quality Teaching in their practice (or delivery). • The other (non-Quality Teaching) professional learning activities in which I have participated this year have been consistent with the principles of Quality Teaching. • The culture of the school (or the way that work is organised in the school) in which I work is consistent with the Quality Teaching model.
Teacher Responsibility Alpha = .75	• I feel that I have been successful in providing the kind of education that I would like to provide for students. • Many of the students I teach are not capable of learning the material I am supposed to teach them. **(reverse coded)** • The attitudes and habits my students bring to my class greatly reduce their chances for academic success. **(reverse coded)** • My success or failure in teaching students is due primarily to factors beyond my control rather than to my own efforts and ability. **(reverse coded)** • Sometimes it is a waste of time to try to do my best as a teacher. **(reverse coded)**

	• I am certain that I am making a difference in the lives of my students. • The level of student behaviour and/or drug or alcohol use in this school interferes with my teaching. **(reverse coded)**

Quality Teaching Importance Alpha = .68	• The Quality Teaching model is an important focus for the Parramatta CEO. • It is important for teaching to promote high levels of intellectual quality for all students. • A strong, positive and supportive learning environment affects the quality of students' work. • If students are to value what they learn, they need to be able to link their school work to their lives beyond the classroom.
Professional Learning Coherence Alpha = .81	• Professional learning is supported by other initiatives to improve the school. • Professional learning programs at my school do not complement my teaching. **(reverse coded)** • Curriculum, instruction, and learning materials are co-ordinated across Year levels. • Professional learning is sustained and consistently focused at my school. • Most school-based teacher professional learning helps to advance a co-ordinated focus on school targets and purpose. • There is very little co-ordination of curriculum, instruction, and learning materials across KLAs at my school. **(reverse coded**) • I make a conscious effort to co-ordinate curriculum content with other teachers.
Teaching for Intellectual Quality Alpha = .75	• In lessons I explain how to use subject specific language. • Discussions are used regularly as an important learning strategy in my lessons. • The majority of my students regularly demonstrate relationships between central concepts / ideas. • I provide opportunities for students to analyse and synthesise information. • My students are encouraged to question and analyse knowledge/ information presented to them. • I use a range of higher order questioning techniques in lessons.
Teaching for Quality Learning Environment Alpha = .62	• My students treat each other with mutual respect and support. • In my teaching I make students aware of what makes their work good. • My students negotiate the form and direction of classroom activities. • I encourage students to take risks in their learning. • Most of my students make a significant cognitive investment in their lessons. • Students disrupt the learning of others in my class (reversed).
Teaching for Significance Alpha = .71	• My students treat each other with mutual respect and support. • In my teaching I make students aware of what makes their work good. • My students negotiate the form and direction of classroom activities. • I encourage students to take risks in their learning.

	• Most of my students make a significant cognitive investment in their lessons. • Students disrupt the learning of others in my class (reversed).
Teacher to Teacher Trust Alpha = .86	• Teachers at this school respect those colleagues who are expert at their craft. • Teachers respect other teachers who take the lead in school improvement efforts. • It's OK in this school to discuss feelings, worries, and frustrations with other teachers. • I feel respected by other teachers in this school. • Teachers in this school trust each other.

Lesson observation scores by QT element– Comparison of QT Rounds teachers
and "typical" NSW teacher (SIPA study) Appendix 3

	EIPR or SIPA	N	Mean	Std. Deviation	Std. Error Mean	Cohen's d
Deep knowledge	EIPR	26	4.38	.852	.167	
	SIPA	664	3.48	1.094	.042	0.92
Deep understanding	EIPR	26	3.35	.629	.123	
	SIPA	664	2.81	.774	.030	0.76
Problematic knowledge	EIPR	26	2.00	.894	.175	
	SIPA	664	1.61	.777	.030	0.47
Higher order thinking	EIPR	26	3.96	.662	.130	
	SIPA	664	2.55	.934	.036	1.74
Metalanguage	EIPR	26	3.38	.898	.176	
	SIPA	664	2.47	1.199	.047	0.86
Substantive communication	EIPR	26	4.12	.816	.160	
	SIPA	664	2.84	1.007	.039	1.39
Explicit quality criteria	EIPR	26	3.31	.838	.164	
	SIPA	664	1.84	.985	.038	1.60
Engagement	EIPR	26	4.69	.549	.108	
	SIPA	664	3.30	.860	.033	1.94
High expectations	EIPR	26	4.23	.863	.169	
	SIPA	664	2.60	.977	.038	1.77
Social support	EIPR	26	4.58	.809	.159	
	SIPA	664	3.70	.929	.036	1.00
Student's self-regulation	EIPR	26	4.58	.578	.113	
	SIPA	664	3.67	.962	.037	1.15
Student direction	EIPR	26	2.08	1.055	.207	
	SIPA	664	1.57	.826	.032	0.53
Background knowledge	EIPR	26	3.62	.898	.176	
	SIPA	664	2.73	.986	.038	0.94
Cultural knowledge	EIPR	26	2.19	1.234	.242	
	SIPA	664	1.27	.651	.025	0.94
Knowledge integration	EIPR	26	2.88	1.243	.244	
	SIPA	664	1.45	.757	.029	1.40
Inclusivity	EIPR	26	4.73	.724	.142	
	SIPA	664	4.20	1.062	.041	0.59
Connectedness	EIPR	26	2.92	1.055	.207	
	SIPA	664	2.04	1.008	.039	0.86
Narrative	EIPR	26	3.19	1.201	.235	
	SIPA	664	2.30	1.359	.053	0.69

Lesson observation scores by QT dimension– Comparison of QT Rounds teachers and "typical" NSW teacher (SIPA study) Appendix 3 continued

	EIPR or SIPA	N	Mean	Std. Deviation	Std. Error Mean	Cohen's d
Intellectual Quality	EIPR	26	21.19	2.498	.490	
	SIPA	664	15.76	4.029	.156	1.62
Quality Learning Environment	EIPR	26	23.46	2.319	.455	
	SIPA	664	16.68	3.821	.148	2.14
Significance	EIPR	26	19.54	3.658	.717	
	SIPA	664	13.98	3.407	.132	1.57
QT total (IQ+QLE+SIG)	EIPR	26	64.19	7.116	1.396	
	SIPA	664	46.42	9.444	.367	2.13

d = 0.2 is considered small
d = 0.5 is consider medium or moderate
d= 0.8 is considered large