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**Evaluation of school restructuring intended to create  
a middle schooling culture**

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## Abstract

As a consequence of rationalisation of educational provision in Western Australia, Maddington Senior High School was closed in 1999. A new principal was appointed with the brief to create a middle school. Following extensive refurbishment of physical facilities, appointment of new staff and major curriculum revision, the school was re-opened in 2000 as Yule Brook College.

Re-structuring of the school was based upon application of research into effective teaching, learning and school improvement to create a 'middle-school' learning community. Particular attention was given to identifying the characteristics of school and classroom learning environments conducive to improved student educational outcomes. This influenced school leadership practices, staff selection, curriculum provision, class groupings and classroom design.

Prior to re-structuring, The School Cultural Elements Questionnaire, the Classroom Cultural Elements Questionnaire and the Parental Involvement in School Questionnaire were administered respectively to staff, students and parents to profile the prevailing culture of the school. All three surveys were re-administered after one year of school improvement implementation. Survey data were subject to one-way analysis of variance to identify stability and change in multiple dimensions of the learning community culture. Results indicate significant changes occurred within the school over the one year period of re-structuring.

## Introduction

A major review of educational provision in the Western Australian Cannington Education District resulted in closure of three comprehensive senior high schools. This also resulted in establishment of an upper secondary senior college and two community colleges that were based upon the notion of middle schooling. One of the senior high schools was replaced by a community college on the same site. Prior to closure of Maddington Senior High School in 1999 and the opening of Yule Brook College in 2000, a new principal was appointed. Although this appointment was to lead restructuring and guide the development of the community college, it included six months as principal of the senior high school with existing facilities, staff and curriculum provision. The principal sought the assistance of the Curtin University of Technology Faculty of Education to research the restructuring process, its progress and initial outcomes.

In cognisance of school improvement literature emphasising that school improvement requires transformation of the culture of the school (Dalin, Rolff and Kleekamp, 1993; Fullan, 1993), investigation of the change process centred upon a longitudinal examination of school culture. In particular, determining whether or not there had been changes in:

- The professional beliefs, values and attitudes of staff;
- The classroom learning environments; and
- The nature and extent of parental involvement.

## **Background and Significance**

The context for the study was lower secondary school reform in Western Australia. In recent years, a number of secondary schools have implemented a variety of initiatives in Years Eight to Ten with the intention of improving student outcomes through alternative curriculum structures and instructional practices (Jackson, 1998 p.18). The theoretical foundation of this reform is pedagogy concerning the learning of adolescents. However, changing the nature of the teaching and learning processes within these schools has necessitated complementary changes in school organisation and the management of staff.

The study of lower secondary school reform, often described as the middle years of schooling, has been the subject of extensive international (Beane, 1991) and national research (Eyers & Cummings, 1995). The application of 'middle schooling' teaching and learning initiatives is a priority of the Western Australian Education Department (EDWA, 1997). Middle schooling is generally accepted as "an overall style of teaching and learning based on well founded beliefs about adolescents and their development" (Jackson, 1998). Creation of Yule Brook College and implementation of other lower secondary school reform initiatives across the state are intended to explore means of improving student outcomes in the lower secondary years. Yule Brook College is the first of a number of new schools to emerge with a specific focus on adolescent education. In 2001 a further three schools commenced operation with a lower secondary focus. This paper provides an insight into the initial outcomes of a school improvement program in the lower secondary years of schooling.

## **Research Approach**

### **Theoretical Orientation**

School effectiveness has been positively correlated with the presence of: professional leadership; shared vision and goals; a learning environment; concentration on teaching and learning; purposeful teaching; high expectations; positive reinforcement; monitoring progress; pupil rights and responsibilities; home-school partnership; and a learning organisation (Sammons, 1995). The effectiveness of a school in improving student educational outcomes appears dependent upon a set of beliefs and values concerning the future of the school and the roles of leaders, teachers, students and parents. Belief and value systems are a major component of the culture of a school and the attributes of effective schools can be considered as the characteristics of a school improvement oriented learning community culture (Cavanagh & Dellar, 1996 & 1997).

The study was grounded upon a learning community culture orientation with attention to assignment of values by teachers, students and parents and their expression within the resulting psycho-sociological environment within the school. Cavanagh and Dellar (2001) proposed a learning community to be characterised by:

- The social processes which develop, maintain and transform the culture;
- The group and individual knowledge, beliefs, attitudes, values, norms and behaviour; and
- An emphasis on learning and attainment of educational outcomes.

### **Research Design**

The investigation could be simplistically viewed as a post-positivist experiment with profiling of existing conditions, an intervention or treatment to transform existing conditions and evaluation of the outcomes of the intervention in comparison to pre-intervention conditions. Three survey type questionnaires were administered prior to restructuring and then re-

administered one year later. The *School Cultural Elements Questionnaire (SCEQ)* (Cavanagh & Dellar, 1996, Cavanagh, 1997) profiles staff perceptions of the school culture, the *Classroom Cultural Elements Questionnaire (CCEQ)* (Cavanagh, Dellar, Ellett & Rugutt, 2000) profiles student perceptions of the classroom and the *Parental Involvement in School Questionnaire (PISQ)* (Cavanagh & Dellar, 2001) profiles parent perceptions of the school and classroom culture. The three instruments were developed from a common paradigmatic framework and solicit multiple perspectives on the interactive social processes within the learning community and also on individual and collective beliefs and values of community members. The constructs profiled by each instrument are consistent with those identified from school and classroom effectiveness research. Specifically, the student and parent instruments contain scales on student values about education and the attainment of educational outcomes.

The teacher and the parent instruments were refined by factor analysis of data obtained in previous investigations with a multiple secondary school sample. The refined versions of these instruments were applied in this study. The size of the sample of students surveyed in this study about their classroom culture was considered sufficient to allow the data to be factor analysed. Consequently the 'original' instrument was administered with factor analysis being applied to develop a refined instrument profiling student/classroom attributes specific to the single school being investigated.

### The Sample

Table 1 (p.4) presents the number of staff, students and parents in the college community for each period of surveying. The number of valid surveys returned for data processing is expressed as a percentage of the respective populations under investigation. All the staff were surveyed in the first year with a stratified sample surveyed in the following year. A stratified sample of classes including all three year cohorts and specific subject areas were surveyed each year. This resulted in some students completing more than one survey. All parents were mailed the *PISQ* and the completed surveys were returned to school. The level of parental response was low, but relatively consistent with that in similar investigations in other Western Australian secondary schools (Cavanagh & Dellar, 2001).

Table 1

#### *Sample and percentage of valid surveys processed*

Group	Administration Period	Population	Valid Surveys	% Valid
Staff	1999	21	21	100%
	2000	20	11	55%
Students	1999	284	389	137%
	2000	283	340	120%
Parents	1999	206	34	17%

	2000	228	44	19%
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### **The Intervention: Restructuring Priorities, Strategies and Issues**

The overall improvement program commenced with expression of a vision of the college's future state. The mission of the school leadership and teaching staff was to develop:

- A culture of teamwork in which students are encouraged to work collaboratively with their peers and staff work with colleagues across learning areas to maximise learning opportunities and outcomes;
- A learning community that fosters innovation by continually seeking improvement, the integration of "good practice" approaches, and supported by up-to-date learning technologies; and
- A learning environment in which each student is provided with a challenging and stimulating educational program that encourages a rigorous and passionate approach to learning reflective of middle-schooling philosophy.

Vision realisation and mission attainment were recognised as being dependent upon a common set of beliefs and values. These included:

- Staff, students and the community being passionate about learning;
- Commitment, pride and loyalty to the college;
- Striving for personal best and excellence;
- Recognition of the unique needs and characteristics of the adolescent;
- The appropriateness of middle schooling practice and pedagogy;
- A student centred approach for developmental learning;
- A collaborative team approach to teaching and learning;
- Respect and empowerment of the individual through attention to systemic expectations about equality of opportunity, social justice and pastoral care;
- The need for learning to occur in a safe and caring environment;
- The promotion of healthy, active life styles for students;
- Staff being learners who engage in reflection of practice and activity in order to improve student learning; and
- Staff being role models for the student community.

The physical conditions within the school were extensively enhanced. Expenditure of \$1 million enabled renovation of existing buildings to create dedicated learning areas; installation of an information and communication technology 'intra-net' for students and staff; and landscaping to provide new gardens, lawns, pathways and recreational areas. The learning areas were designed to provide adolescent students and teaching staff with a stimulating and flexible learning environment. The technology network was to enable communication within the school and to enable access to external agencies and resources. Redevelopment of the grounds was planned to complement the configuration of the learning areas in consideration of aesthetic and functional requirements.

The formal organisation of the college centred on the creation of learning community teams rather than traditional subject departments and hierarchical management structures. Team leaders were designated to provide leadership and guidance for approximately 100 students and their teachers. The teams were to be similar to 'sub-schools' with major responsibility for

a holistic approach to student learning and welfare through the development of supportive and empowering relationships between teachers, students and parents.

The college's curriculum was developed around a series of assumptions about the learning of children. The curriculum was to be characterised by:

- Integration of traditionally disparate subject disciplines to provide a holistic learning experience through teachers facilitating learning across a range of disciplines;
- Student centred learning to cater for a diverse range of student needs, dispositions and learning styles;
- A collaborative approach toward student learning with teachers and students working in partnership;
- A constructivist view of learning by building upon what students already know, and developing programs that allow students to further their learning experiences. Specifically a social constructivist approach to learning in which the quality of relationships within the classroom and school shapes development of attitudinal systems concerning social interaction and socially acceptable behaviour; and
- Exploitation of current and emergent information and communication technology to enhance the learning process and prepare students for future learning and life experiences.

The selection and professional development of staff was recognised as of fundamental importance in the improvement process and for the future of the college. Staff were selected on 'merit'. Apart from providing evidence of being highly competent classroom practitioners, applicants were required to demonstrate commitment to or have experience in middle schooling reform, particularly understanding the pedagogy underpinning middle schooling. All newly appointed staff were required to undertake a comprehensive induction program and to be given collegiate support through a staff mentor program. A significant proportion of the college's annual budget was allocated to the professional development of staff. Professional development was viewed as a process of reflective practice through journal keeping and mentoring in conjunction with action research to explore alternative classroom practices. In addition, staff were in-serviced in emergent developments in information and communication technology, the systemic curriculum and contemporary middle schooling research findings.

Promoting and enhancing parent and wider community understanding and involvement with the college was another major priority. A marketing and public relations plan was developed to raise the college profile in the community. A professional quality newsletter is published regularly and the college prospectus was also redesigned and formatted commercially. Volunteer parents assist in peer literacy programs and open day events. The college has a 'Memorandum of Understanding' with the Curtin University of Technology Faculty of Education concerning joint activity in pre-service training, post-graduate research and staff development and training. The college also has a 'teaming agreement' with an information and technology company in a reciprocal relationship through which the college leases desktop and laptop computers and the company provides IT support and professional development opportunities for staff. In addition the college and the neighbouring senior college have established a 'compact' to ensure continuity of educational provision as students progress through lower school to post-compulsory study.

The restructuring priorities and strategies were underpinned by a series of assumptions about adolescent learning. Development of a 'middle schooling' culture commenced with the explicit statement of a vision of the college's future state and the mission of the college. Early attention was given to culture building through identification of the beliefs and values required of community members to effect mission realisation. Subsequent restructuring

initiatives then targeted the organisation of the college, the curriculum, physical facilities, staff selection, professional development and parental involvement. Although the scope of the proposed changes was extensive and the change effort was applied throughout the college, there was cohesion between the various strategies utilised. The intentions of the change process were highly visible and extensively promoted by the principal. The overall program was thoroughly planned, well resourced and carefully managed. In contrast to the recommended time span for school improvement being at least three years (Fullan, 1991), the pace of change was rapid. There was a sense of urgency with the pressure for change being immediately applied to every aspect of the college. Not surprisingly, the effects on the physical environment, school organisation and curriculum structures were obvious. However the creation of a new culture and its effect on student learning and ultimately educational outcomes were anticipated to be more difficult to assess. There was also the possibility of the improvement period being too short for the changes to permeate the instructional core of the college and transform the teaching and learning within classrooms. Related considerations include the resiliency of teachers towards modifying their instructional practices; the ephemeral nature of rapidly implemented innovations; and the need for routinisation of improvements after dissipation of initial enthusiasm and return to normal levels of resourcing.

## Results and discussion

Analysis of variance (ANOVA) between 1999 and 2000 staff, student and parent data was used to examine stability and change in attributes of the college community. For ease of interpretation, the following tables present 'scale interval' mean scores for the respective instrument scales for each period of instrument administration. Scale mean scores were calculated and then divided by the respective numbers of items to produce a value corresponding to the Likert scale intervals used in the instruments. The *SCEQ* staff survey utilises a five point Likert scale comprising strongly agree (5), agree (4), uncertain (3), disagree (2) and strongly disagree (1). Scale mean scores above 3.5 indicate an aggregated response level in the 'agree' range,  $> 2.5$  and  $< 3.5$  indicates overall uncertainty with  $< 2.5$  indicating overall disagreement. The *CCEQ* student survey and *PISQ* parent survey utilise a four point Likert scale similar to that of the *SCEQ* but without the 'uncertain' category. Thus scale mean scores  $< 2.5$  indicate aggregated disagreement and  $> 2.5$  aggregated agreement. Asterisks have been used to indicate statistically significant differences identified by ANOVA in data obtained over the two years. Presentation of the results of data analyses has been divided into separate sections specific to staff, student and parents.

### Staff

The staff instrument, the *School Cultural Elements Questionnaire (SCEQ)* (Cavanagh & Dellar, 1996, 1997 & 1998), was refined by principal components factor analysis of data from 422 teachers in eight Western Australian secondary and primary schools.

The *SCEQ* instrument scales, numbers of items and sample items are presented in Appendix 1 and scale internal reliability and the range of inter-scale correlation coefficients are presented in Appendix 2.

Table 2 (p.7) presents the results of ANOVA for the six elements between the 1999 and 2000 data. The scale mean scores suggest the 2000 staff had more positive perceptions of all six elements than did the 1999 staff. According to the ANOVA significance values presented in Table 1, these differences are statistically significant, but caution needs to be exercised when interpreting the ANOVA results due to the small size of the respective datasets analysed. Although there is some evidence of a positive change in staff perceptions of the emphasis on learning, collegiality and transformational leadership, this cannot be conclusively confirmed by statistical methods. However, the merit selection of new staff,

professional development based upon reflective practice, and the creation of 'learning community teams' could be expected to impact on how teachers perceive their professional environment.

Table 2

*Scale mean scores and ANOVA for 1999 and 2000 data*

Scale	Scale mean score 1999 (N = 21)	Scale mean score 2000 (N = 11)	Sig.
Professional Values	3.3	3.5	0.108
An Emphasis on Learning	4.3	4.5	0.033*
Collegiality	3.5	3.8	0.049*
Collaboration	3.0	3.1	0.506
Shared Planning	3.1	3.4	0.183
Transformational Leadership	3.0	3.6	0.031*

\* indicates statistically significant difference (sig < 0.05)

### **Students**

The original *Classroom Cultural Elements Questionnaire (CCEQ)* was administered to stratified samples of 729 students over two years. Since the total sample size over the two years exceeded the number of items by a factor of five, principal components factor analysis was used to explore the structure of the CCEQ data. Oblique rotations were applied on assumption of the constructs under investigation being interdependent. The loading of each item within the resulting Structure Matrix was examined and items were retained in a component if the minimum loading was 0.33. Items loading above 0.33 on more than one component were retained in the component with the highest loading provided the difference in the squared loading values was at least 10%. To ensure potential scale reliability only components with four or more items were retained. The items remaining in each component were then examined for construct consistency and those that described a common construct were retained. The components were then operationally defined. The refined CCEQ instrument scales, numbers of items and sample items are presented in Appendix 3 and scale internal reliability and the range of inter-scale correlation coefficients are presented in Appendix 4.

Having established the refined instrument had both reliability and construct validity, ANOVA between data from 1999 and 2000 was calculated to determine whether or not student perceptions of their values about education, of classroom conditions and of learning outcomes had changed (Table 3).

Table 3

*Scale mean scores and ANOVA for 1999 and 2000 data*

Scale	Scale mean score 1999 (N = 389)	Scale mean score 2000 (N = 340)	Sig
Educational Values	3.4	3.4	0.504
Shared Planning and Organisation	2.5	2.7	0.128
Peer Support	2.7	2.9	0.000*
Collaborative Assessment	2.6	2.9	0.023*
Student Centred Teaching	2.9	3.0	0.285
Teacher Caring	2.4	2.5	0.013*
Learning Outcomes	2.9	2.9	0.211
Teacher to Parent Communication	2.6	2.9	0.000*
Teacher Expectations	3.2	3.4	0.001*
Parent to Teacher Communication	2.4	2.6	0.322

\* indicates statistically significant difference (sig < 0.05)

Students perceived higher levels of shared planning and organization, peer support, collaborative assessment, student centred teaching, teacher caring, teacher to parent communication, teacher expectations and teacher to parent communications in 2000 than in 1999. This change is likely a consequence of staff professional development on pedagogically grounded middle school teaching and learning practices and also on the importance of encouraging the involvement of parents in their child's education. There is evidence of the school being successful in improving conditions anticipated to be conducive of improved educational outcomes. However, student perceptions of their values about education and of their attainment of educational outcomes did not change. There are a variety of hypotheses to explain this finding. Firstly, the instrument was not sufficiently sensitive to detect such changes. Secondly, the period of investigation and the time span of the school improvement process was too short for classroom environmental changes, particularly the application of 'student-centred' and 'cooperative learning' instructional practices to impact on student learning. The third explanation is that 'student-centred' and

'cooperative learning' instructional practices as profiled by the *CCEQ* do not lead to improved educational outcomes. The fourth explanation is a combination of the previous three hypotheses. Data obtained from administration of the *CCEQ* has enabled identification of changes in the classroom learning environment but has raised issues about the relationship between classroom environment attributes and the outcomes of the school's instructional program.

**Parents**

The parent instrument, the *Parental Involvement in Schooling Questionnaire (PISQ)* (Cavanagh & Dellar, 2001), was refined by principal components factor analysis of data from 526 parents of children in three Western Australian secondary schools. The *PISQ* instrument scales, numbers of items and sample items are presented in Appendix 5 and scale internal reliability and the range of inter-scale correlation coefficients are presented in Appendix 6.

Table 4 (p.9) presents the results of ANOVA of parental perceptions of their involvement with the school and their child's learning in 1999 and 2000. In comparison to 1999, parents in 2000 were more confident in communicating with teachers, viewed the culture of the school as being more focussed upon student learning and perceived teachers as providing more information about classroom learning and school activities.

Table 4

*PISQ scale mean scores and ANOVA for 1999 and 2000 data*

Scale	Scale mean score 1999 (N = 34)	Scale mean score 2000 (N = 44)	Sig
Parent to Student Expectations	3.4	3.5	0.770
Parental Confidence to Assist Student	2.9	2.7	0.045*
Parental Confidence in Communic'n with Teachers	3.1	3.4	0.000*
School Culture	3.2	3.3	0.000*
Student Educational Values	3.5	3.5	0.060
Student Learning Outcomes	2.9	2.9	0.057
Student Learning Preferences	3.1	3.1	0.071
Student to Parent Assistance Requests	3.0	3.0	0.151
Student to Parent Information	2.9	2.9	0.483

Teacher to Parent Communication	2.3	2.5	0.001*
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\* indicates statistically significant difference (sig < 0.05)

Parental perceptions of their child's values about education, preferences for learning, attainment of educational outcomes and child to parent communication about their learning at school and how they as parent's could assist their child's learning did not change. These findings about parental involvement and improved educational outcomes are similar to that from the student data on their classroom learning environment. The school and teachers have successfully implemented strategies to increase parental involvement but at this early stage these have not impacted on student educational outcomes.

Parental belief in their capacity to assist their child's learning diminished over the period of investigation. A plausible explanation is that increased provision of information from teachers about classroom and school activities to parents has overwhelmed parents. Too much information concerning their role and effectiveness in supporting their child's learning has caused feelings of inadequacy.

### ***The Composite View***

The culture of the college prior to restructuring was characterised by collegial relationships amongst staff and recognition of the importance of teacher and student learning. Students valued their education and perceived their teachers to have high expectations of behaviour and learning within the classroom. They also confirmed there was shared planning and organisation, peers supported one another, assessment was collaborative and teachers communicated with parents. Both students and parents had positive views about academic progress and attainment of educational outcomes. Within the home, there was discussion about school activities and learning. Parents were also aware of the college culture and expressed confidence in their capacity to assist their child's learning and communicate with teachers when necessary. However they were critical of the level of communication from teachers.

After restructuring, many aspects of the college culture remained unchanged. Significantly, students and parents did not perceive an increased level of attainment of student learning outcomes or in the value students placed upon their education and schooling. This is notwithstanding students perceiving higher levels of peer support, collaborative assessment, teacher caring, teacher to parent communication and higher teacher expectations of students. Additionally, parents were more confident in communicating with teachers, more knowledgeable about the college culture and perceived an increased level of communication from teachers. Restructuring has changed the learning environment and led to an improvement of conditions expected to support student learning, particularly increased levels of support, collaboration and cooperation within the classrooms, but has not impacted on the outcomes of learning.

There are several possible explanations for this finding. Firstly, the instruments may not be sufficiently sensitive to profile changes in educational values and outcomes. However, previous research using the SCEQ, CCEQ and PISQ has revealed all three instruments have the capacity to discriminate between samples from different schools and within schools. Secondly, the period of restructuring could have been too short for the modified teaching and learning processes to effect a change in student educational values and

outcomes. These student attributes can change, but this requires several years. Thirdly, these attributes are exceptionally stable and may not change over long periods of schooling. Fourthly, the restructuring effort failed to target conditions that would improve student learning. Fifthly, the focus on improving specific conditions has diverted energy and attention away from the learning process. The final explanation is a combination of factors and influences.

### **Conclusion and recommendations**

The study was limited by the relatively short period of investigation, sample size and the use of quantitative instruments and data processing. However, the findings have provided a valuable insight into school restructuring and improvement.

The Yule Brook College innovation was directed at effecting change in what could be viewed as four layers within the college. These are the physical conditions throughout the college; the structure of the school organisation and the curriculum; classroom teaching; and student learning. The study has provided evidence of change in the first three layers but not in the fourth. This could be viewed as an issue concerning the 'depth' of reform with the objective of reform being too deeply embedded within the culture of the school to be susceptible to change. Apart from the change process needing to permeate the other layers without dissipation or re-orientation, a clear understanding of the nature of the bottom layer is essential. If this is elusive, the change effort will lack direction; if prevailing instructional practices are highly valued and perceived as 'sacred', the change process will be rejected; and if it is too complex, the change process will become confused.

Another consideration is the allocation of energy and resources in proportion to the estimated respective difficulty in effecting change in the four layers. It is obvious that changing the instructional core of the school is difficult and should receive maximum attention. However, in the prevailing 'results oriented' educational environment, school leaders and decision-makers are accountable for effecting and demonstrating change. This can be efficiently and quickly achieved by modifying physical facilities and structural aspects of the school since such improvements are highly visible or readily explainable. Engaging in expensive long term innovations to change teaching and learning which do not produce relatively immediate results is more difficult to justify.

Nearly two decades ago, (Anderson, 1982) acknowledged that the belief systems, values, cognitive structures and meaning which comprise the culture of a school are the predominant determinants of school effectiveness. Also, school improvement has been portrayed as a process of cultural transformation (Dalin, Rolff and Kleekamp, 1993; Fullan, 1993). In terms of the multiple layer notion previously proposed, the culture of a school is ultimately expressed through the classroom learning environment and the teaching and learning processes. At this level, school effectiveness research findings concern the classroom learning environment and present a superficial view of the teaching and learning process. School improvement informed by school effectiveness research will centre upon conditions conducive to improved educational outcomes rather than on how the teacher can enable the learning of individual students.

In conclusion, there is a need for further research into the culture of learning communities and school improvement. Specifically, application of quantitative and qualitative data collection methods in many schools to investigate how learning community beliefs and values influence the teaching and learning processes at the classroom level.

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## APPENDICES

### Appendix 1

#### *SCEQ scales, number of items and sample items*

Scale	Number of Items	Sample item
Professional Values	7	Educational programs contribute to improving the quality of life in our society.
An Emphasis on Learning	7	We believe that every child can learn.
Collegiality	7	We are willing to help each other when problems arise.
Collaboration	7	We frequently discuss what should be taught in particular curricula or courses.
Shared Planning	7	We have identified ways of determining if school priorities are achieved.
Transformational Leadership	7	Members of the administration show a genuine concern for me as a person.
Total	42	

### Appendix 2

#### *SCEQ scale internal reliability and inter-scale correlation (N =422 from eight schools)*

Scale	Cronbach Alpha Reliability	Range of Inter-scale Correlation Coefficients (Spearman)
Professional values	0.71	0.28 - 0.53

Emphasis on learning	0.75	0.20 - 0.40
Collegiality	0.72	0.25 - 0.55
Collaboration	0.81	0.25- 0.56
Shared planning	0.74	0.28 -0.49
Transformational leadership	0.70	0.24 - 0.49

### Appendix 3

#### *Refined CCEQ instrument scales, number of items and sample items*

Operational Definition	Number of Items	Sample items
Educational Values	12	I feel confident about my education.
Shared Planning and Organisation	9	We have a choice of what we can work on
Peer Support	12	Students share problems with each other.
Collaborative Assessment	5	We talk about our progress
Student Centred Teaching	21	The teacher values our opinions.
Teacher Caring	5	The teacher helps students with family problems.
Learning Outcomes	11	I usually produce my best work
Teacher to Parent Communication	4	My parents(s) is/are informed when I produce excellent work
Teacher Expectations	10	The teacher is proud of our achievements.
Parent to Teacher Communication	4	My parent(s) visit the school and teachers.
Total	93	

## Appendix 4

### *CCEQ refined scale internal reliability and inter-scale correlation (N = 729)*

Scale	Cronbach Alpha reliability	Range of inter-scale correlation coefficients (Spearman)
Educational Values	0.89	0.21 - 0.50
Shared Planning and Organisation	0.87	0.15 - 0.52
Peer Support	0.92	0.21 - 0.69
Collaborative Assessment	0.76	0.10 - 0.53
Student Centred Teaching	0.97	0.19 - 0.72
Teacher Caring	0.84	0.24 - 0.72
Learning Outcomes	0.92	0.39 - 0.60
Teacher to Parent Communication	0.78	0.16 - 0.54
Teacher Expectations	0.93	0.10 - 0.55
Parent to Teacher Communication	0.74	0.18 - 0.53

## Appendix 5

### *PISQ instrument scales, number of items and sample items*

Refined Scale	Number of Items	Sample Item
Parent to Student Expectations	4	I really want my child to do well in school
Parental Confidence to Assist the Student	5	Our family has strengths that help my child to succeed at school
Parental Confidence in Communicating with Teachers	8	I find my child's teachers approachable
School Culture	5	There is a belief that every child can learn
Student Educational Values	6	My child considers attending school will be useful for future education or work
Student Learning Outcomes	7	He/she is a successful student
Student Learning Preferences	5	My child asks for help from his/her teachers when required
Student to Parent Assistance Requests	4	My child lets me know when he/she is having problems in class
Student to Parent Information	4	My child usually shows me the work he/she has done at school
Teacher to Parent Communication	10	Teachers keep me informed about classroom activities
Total	58	

## Appendix 6

*PISQ scale internal reliability and inter-scale correlation (N = 526 from three schools)*

Scale	Cronbach Alpha Reliability	Range of Inter-scale Correlation Coefficients (Spearman)
Parent to Student Expectations	0.84	0.16 - 0.50
Parental Confidence to Assist Student	0.85	0.31 - 0.41
Parental Confidence in Communication with Teachers	0.94	0.29 - 0.54
School Culture	0.82	0.26 - 0.54
Student Educational Values	0.88	0.31 - 0.72
Student Learning Outcomes	0.92	0.31 - 0.80
Student Learning Preferences	0.84	0.39 - 0.54
Student to Parent Assistance Requests	0.86	0.27 - 0.79
Student to Parent Information	0.87	0.23 - 0.53
Teacher to Parent Communication	0.92	0.16 - 0.54