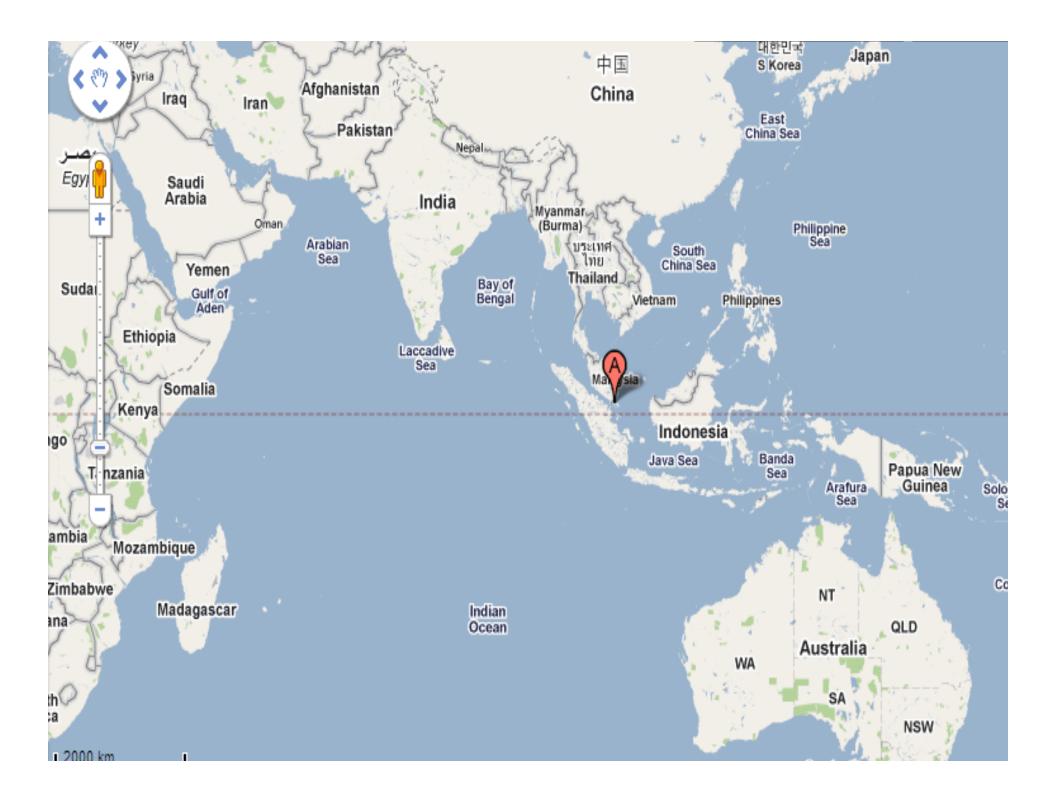


Achieving Singapore's Desired Outcomes of Education Through Restorative Practices:
A Case Study of Ping Yi Secondary School





Singapore City







- What are Singapore's Desired Outcomes of Education?
- Overview of Ping Yi's RP journey
- Lesson Study
- Research Findings
- Q&A Session

Mr Abdul Malek Bin Osman

- Currently, teaching in Ping Yi Secondary School, Singapore
- Head of Department (Mathematics), School Staff Developer (Covering)
- Bachelor of Engineering (Hons), National University of Singapore
- Diploma in Education (National Institute of Education, Singapore)
- Diploma in Departmental Management (National Institute of Education, Singapore)

Mr Ryan Neo

- Currently, teaching in Ping Yi Secondary School, Singapore
- Head of Department (Pupil Management)
- Bachelor of Engineering (Hon), Nanyang Technological University
- Diploma in Education (National Institute of Education, Singapore)
- Experience working as Civil Engineer in Private Sector



21st Century Competencies and Outcomes



C2015 Student Outcomes

Confident Person

Thinks independently
Communicates effectively
Has good inter-personal skills

Self-directed Learner

Takes responsibility
for own learning
Questions, reflects, perseveres
Uses technology adeptly

Concerned Citizen

Is informed about world and local affairs Empathises with and respects others Participates actively

Active Contributor

Exercises initiative and takes risks Is adaptable, innovative, resilient Aims for high standards

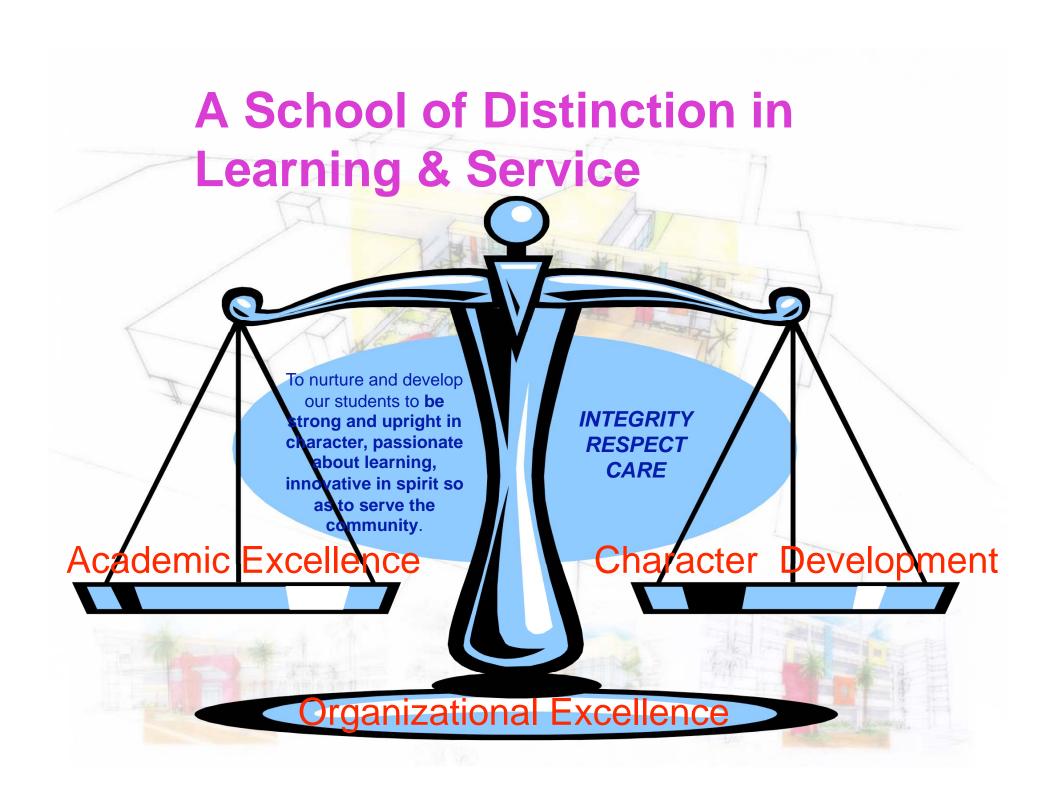
Singapore's Desire Outcomes of Education

The Key Stage Outcomes of Education

	the end of <u>Second</u> ool, students sho		
have n	noral integrity	*	
	e in their abilities e to adapt to char		
	e to work in team empathy for other		
	ative and have an	Ď	
	e to appreciate di and communicate vely		
take re learnin	esponsibility for o	own	
the state of the s	physical activities ciate the arts	and	
	e in Singapore an stand what matter oore		

Ping Yi Secondary School





Our Student Profile

No of Students (1230)

Express 418 (34%)

N A 589 (47.9%)

NT 223 (18.1%)

Total 1230

Distribution by Race

Chinese 52%

Malays 28.5%

Indians 14%

Others 5.5%

Primary School Leaving Examination Mean Score (average over 5 yrs)

Express 199

NA 158

NT 103

Student Residence

HDB 1-3 room 29.7 (21.1)

Financial Assistance Scheme

248 (20%)

Achievements

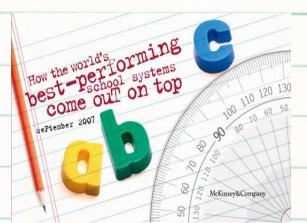
- Outstanding Character Development Award
- Outstanding National Education Award
- Academic Value Added results for the last 5 years
- Higher than national average in Quality School Experience survey in stems relating to teacherstudent and student-student relationship
- Decreasing trend in recalcitrant of major offences for the last 5 years



"Learning occurs when students and teachers interact.

Thus, to improve learning implies improving the quality of that interaction"

Mc Kinsey Report on education 2009



Restorative Practice

- Philosophy: Every child can achieve
- Principles:
- Building relationships
- Repairing relationships
 - Wrongdoing is a violation of people and relationships
 - Putting rights the wrong
- Reaffirming relationships
 - develop relational practices to prevent incidents of inappropriate behaviour



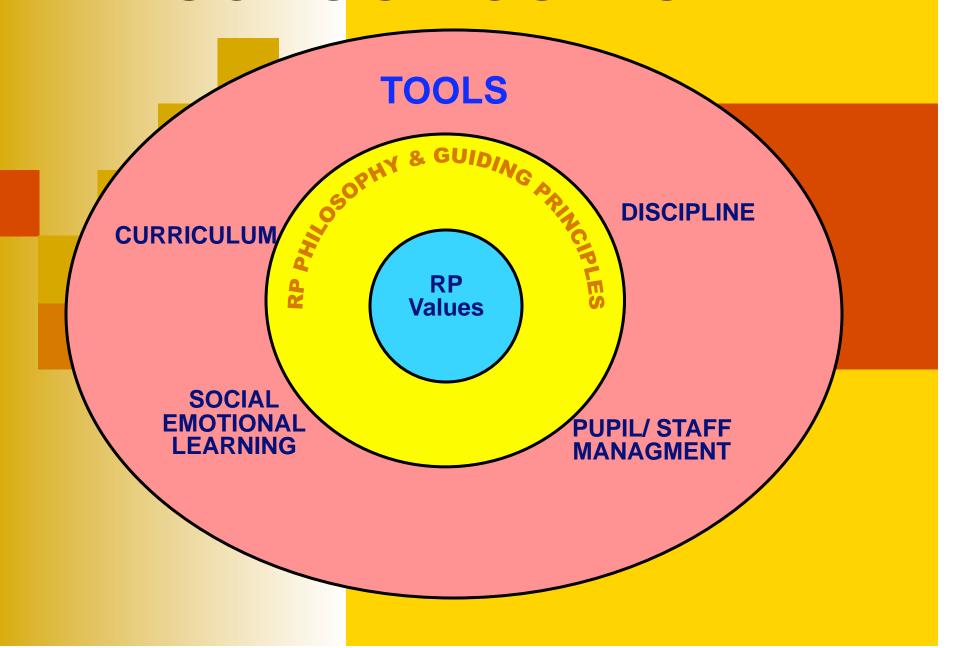
RESTORATIVE PROGRAMME 2005

First 4 RP Pilot Schools in Singapore

- Woodlands Ring Sec
 - St Andrew's Sec
 - Junyuan Sec
 - Ping Yi Sec

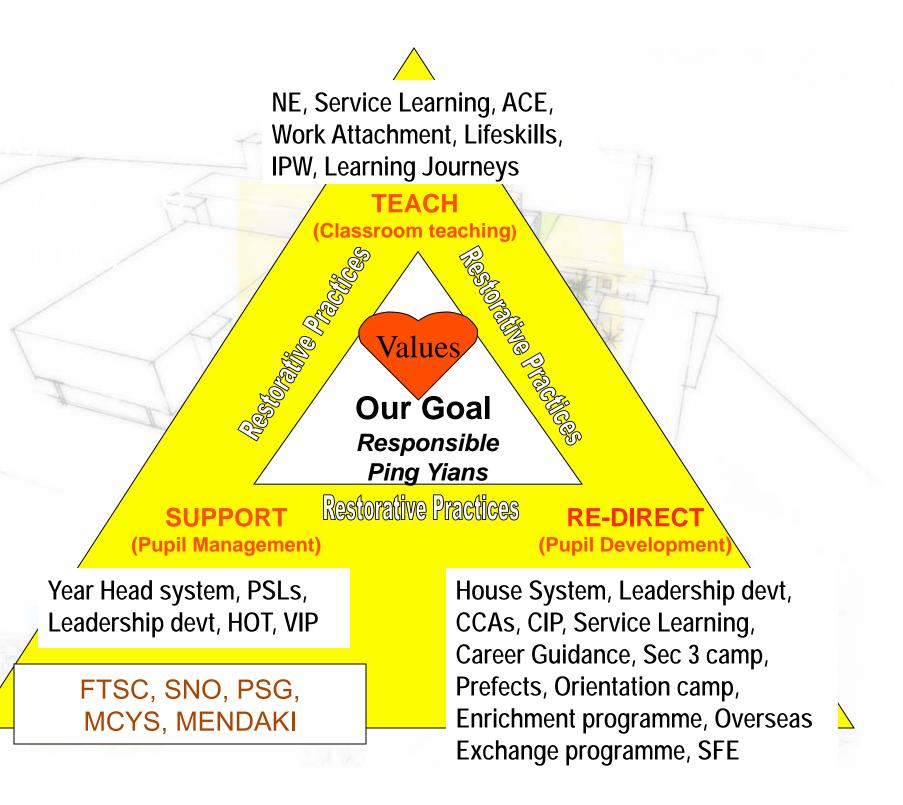


RP SCHOOL CULTURE

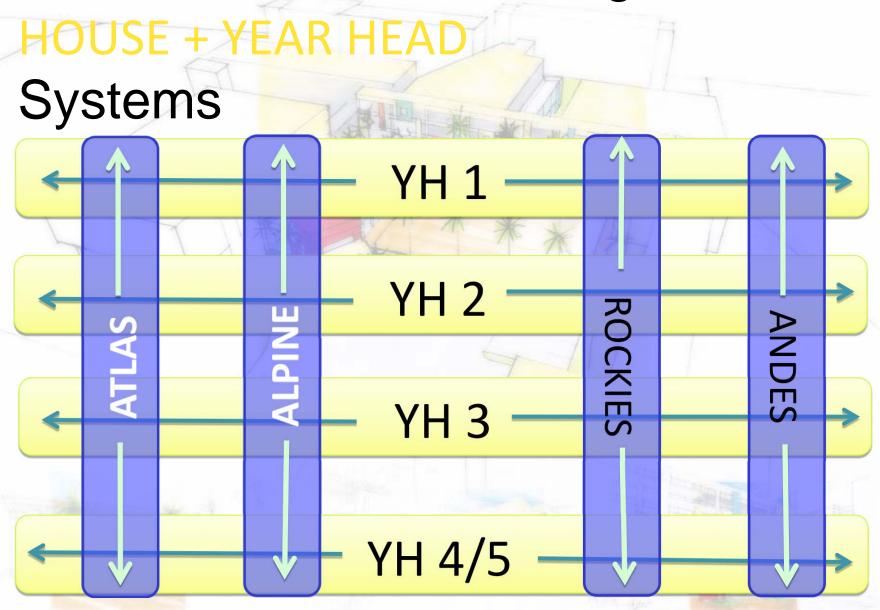




- Reculture school
- Redesign curriculum
- Review curriculum time
- Restructure school organization



Vertical & Horizontal Integration:



Systemic Changes to develop RP Culture in PYSS

- Year Head system for horizontal integration
- House system for vertical integration
- "Values for Breakfast" Programme
- Relational Teaching
- Management of students' misbehaviour using RP
- **RP** Tools for curriculum

Using Circle Time as a pedagogy Tool



Using Circle Time as a pedagogy Tool



Using Circle Time as a pedagogy Tool



Professional Learning Community

- ProfessionalDevelopment Structure for Singapore teachers
- Identify key issues in the classroom and school
- Work collaboratively to address issues for the benefit of the students



Link Between Circle Time Outcomes with Singapore DOE's

Circle Time
Outcomes



At the end of Secondary school, students should:

have moral integrity

believe in their abilities and be able to adapt to change

be able to work in teams and show empathy for others

be creative and have an inquiring mind

be able to appreciate diverse views and communicate effectively

take responsibility for own learning

enjoy physical activities and appreciate the arts

believe in Singapore and understand what matters to Singapore

Problem Statement

"Does lessons conducted using RP's Circle Time, with appropriate questioning techniques, enhances development of self confidence, communication and interpersonal skills of students?"



Lesson Study: Processes

- 1 year study
- Selection of teachers & class
- Crafting of survey questions
- Pre & Post Observation
- Tagging of Transcripts

Lesson Study: Selection of Teachers

- 2 teachers were identified and selected
- Profile of teachers
 - □ Teacher A
 - Female
 - 4 years in service
 - Major in teaching of Mathematics
 - Trained to conduct circle time
 - □ Teacher B
 - Male
 - 4.5 years in service
 - Major in teaching of English
 - Trained to conduct circle time

Lesson Study: Selection of Class

- 2 groups of students selected
- Profile of class
 - □ Class A
 - Age group 13 years old
 - Co-ed
 - Ethnic composition: Malay, Chinese, Indian
 - Academic status: Express (High Average Ability)
 - □ Class B
 - Age group 15 years old
 - Co-ed
 - Ethnic composition: Malay, Chinese, Indian
 - Academic status: Normal Academic (Average Ability)

Lesson Study: Crafting of Survey Questions

- Based on literature reviews, descriptors that characterizes student's engagement in class were identified
- Question stems were crafted
- Survey were administered to students before and after intervention
- Sample of survey

Lesson Study : Pre & Post Observations

- Classroom observation conducted for both teachers
 - □ Teacher A (Class with 30 minutes duration)
 - □ Teacher B (Class with 60 minutes duration)
- All lessons were recorded
- Recorded lessons were analyzed and transcribed
- Lesson transcripts were then tagged



Lesson Study: Tagging of Transcripts

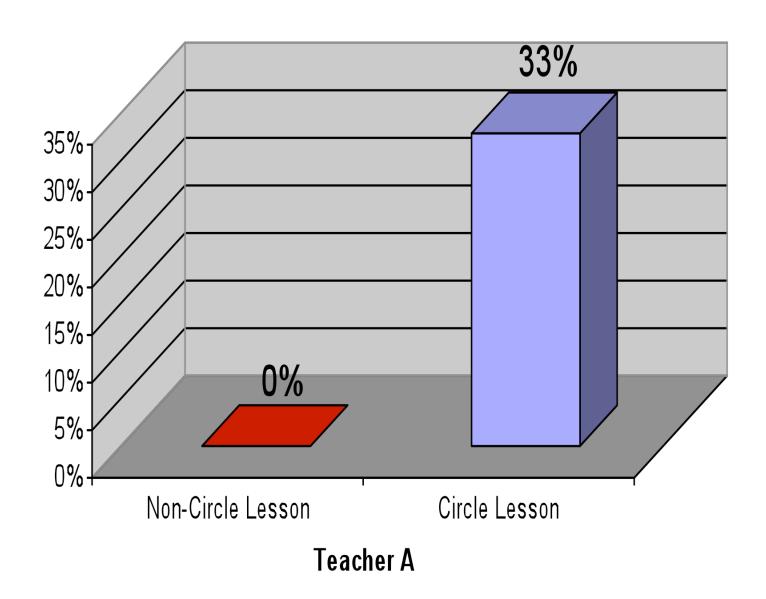
- Conversational transcripts were tagged according to these processes
 - Every lesson broken down to 10 minutes episodes
 - Each episodes were analyzed for these 2 key descriptors
 - Classroom Discourse (Univocal Discourse vs Open Ended Questions vs Closed Ended Questions)
 - □ Talk Time (Teacher Talk vs Student Talk vs Non Verbal)

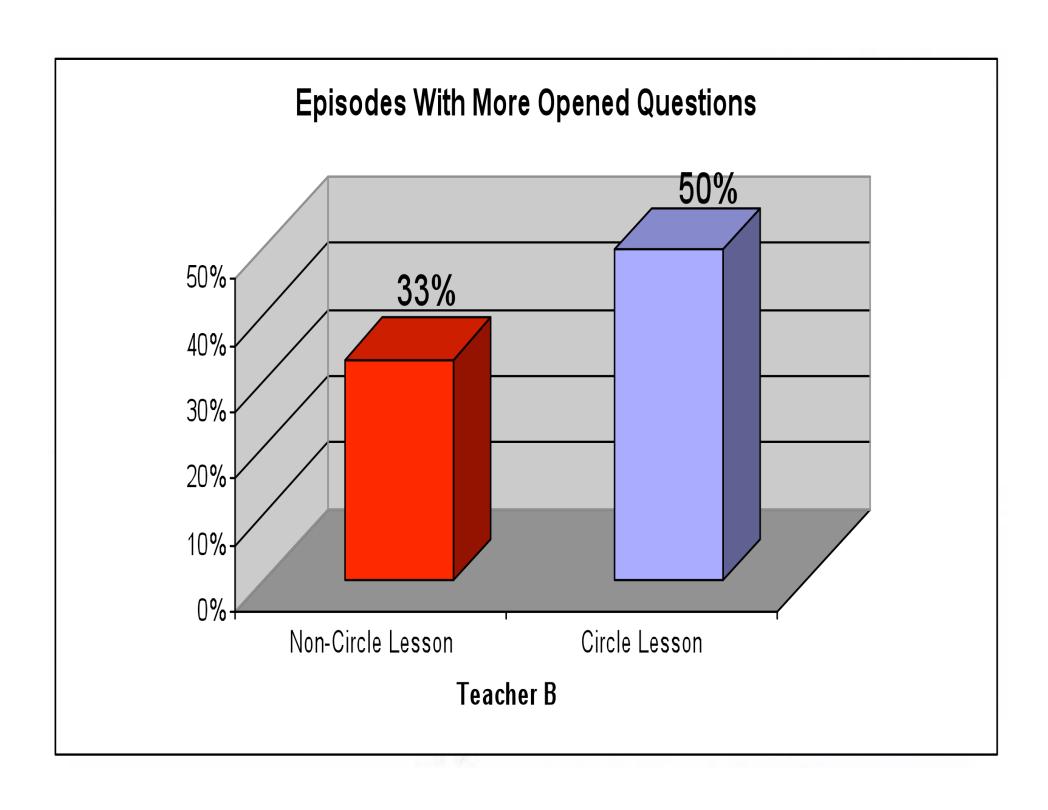
Lesson Study: Analysis of Data

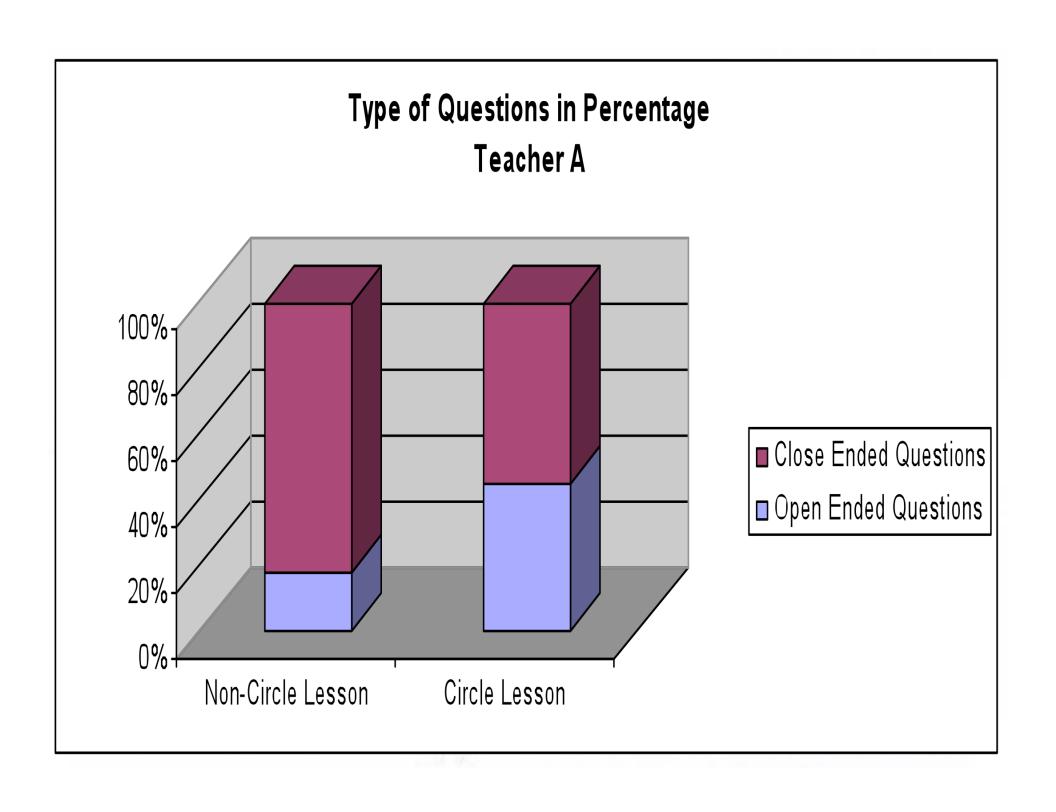
From the data, an increase in the numbers of episode that has more open-ended questions was observed in circle lessons of both teacher A and B

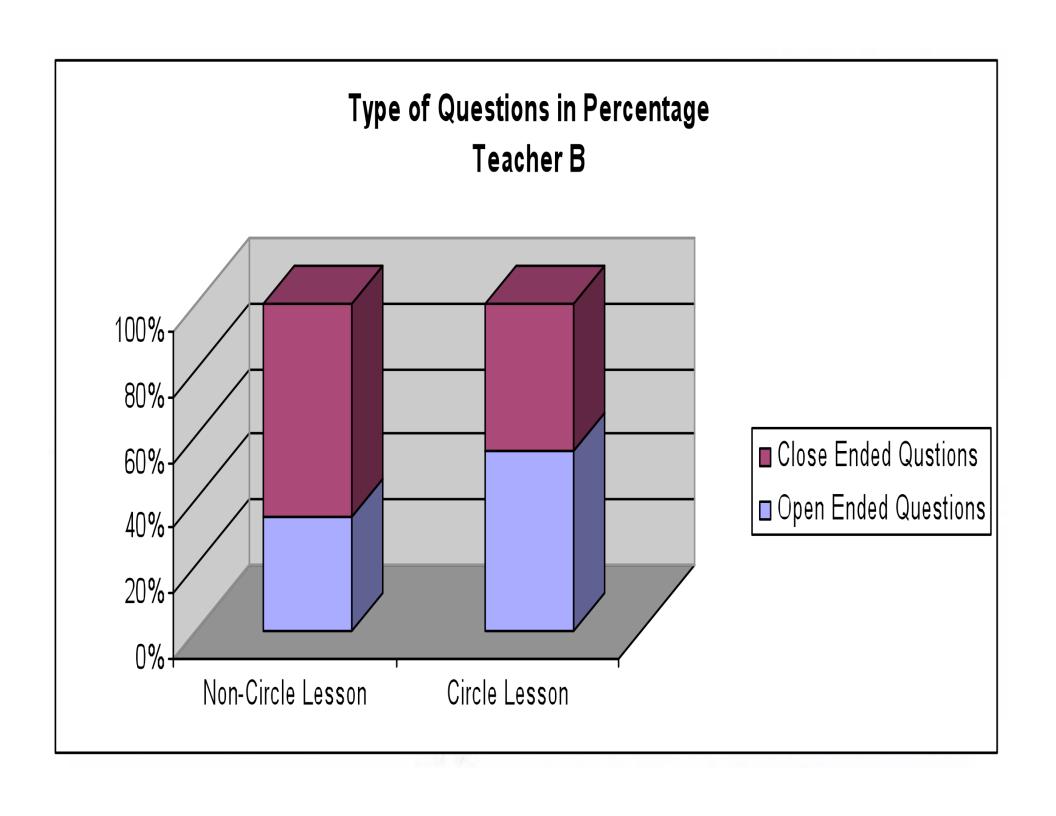
An increase in the percentage of openended questions from non-circle to circle lessons was also observed for both teachers











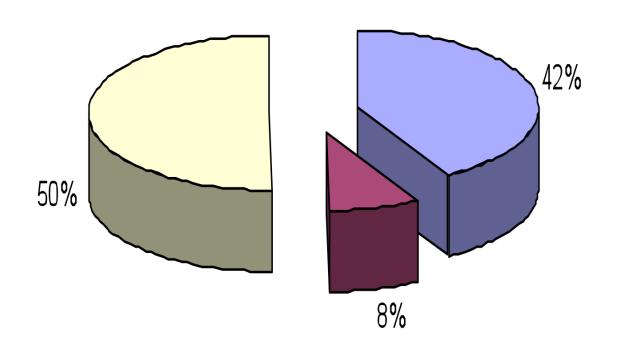
Lesson Study: Implications

- Open-ended questions are more dominant across the entire duration of circle lessons compared to non-circle lessons.
- Students have more chances of verbalising their thoughts throughout the entire lesson
- Teachers have a higher tendency of asking openended questions in circle lessons
- This is beneficial to the development of students' self awareness and effective communication skills which are part of Singapore's key educational outcomes.

Lesson Study: Analysis of Data

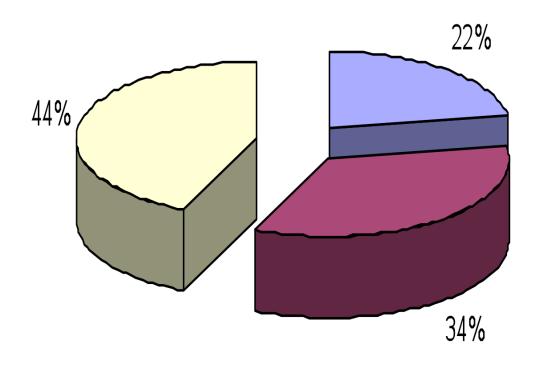
 Comparisons between the non-circle and circle lessons show an increase in Student's Talk-time in circle lessons

Normal Frontal Lesson Teacher A



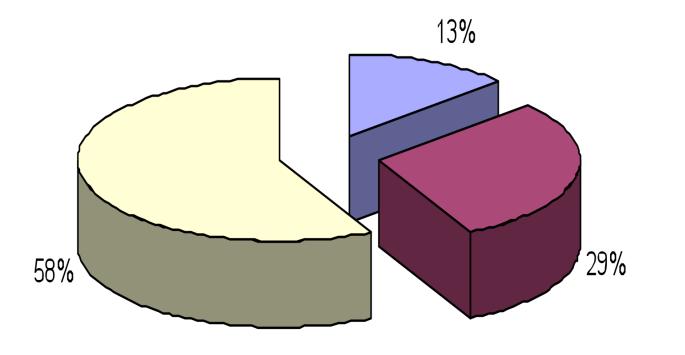
- Univocal Discourse
- Student Talktime
- □ Teacher Talktime

Circle Time Lesson Teacher A



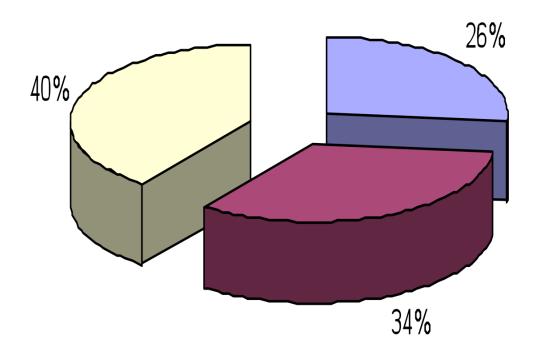
- Univocal Discourse
- Student Talktime
- □ Teacher Talktime



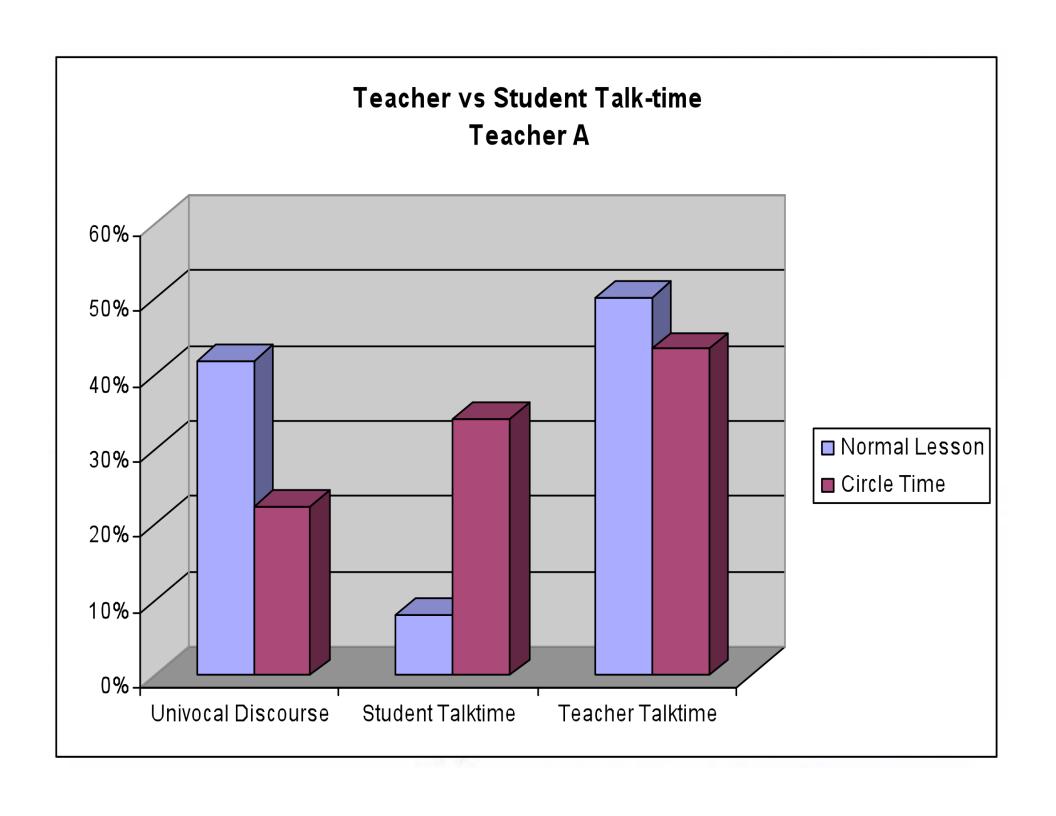


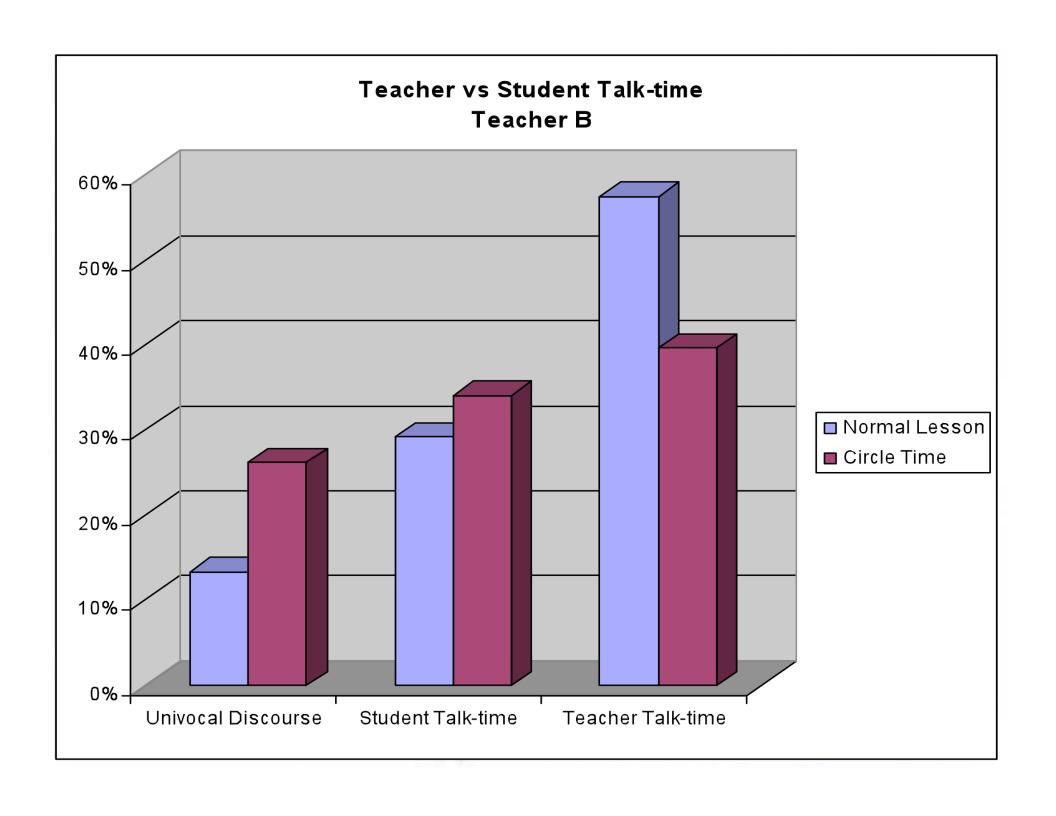
- Univocal Discourse
- Student Talk-time
- □ Teacher Talk-time

Circle Time Lesson Teacher B



- Univocal Discourse
- Student Talk-time
- □ Teacher Talk-time





Lesson Study: Implications

- Students are more likely to air their views and participate in discussions in circle lessons.
- Conducive for developing self confidence and communication skills of students

Lesson Study: Limitations

- Sound quality of the videos captured
- Lack of specialised software to transcribe and analysis data
- Lack of a greater pool of teachers comfortable to conduct circle lessons, resulting in a small sample size of students and lessons studied

Conclusion

- Increased and improved communications between teacherstudents and students-students
- Reflective learners resulting in deeper learning and development of selfconfidence
- Develop inter-personal and communication skills

Bibliography

- Ballard, J. (1982). Circle Book. New York, Irvington.
- Ministry of Education, Singapore. 2009. Desired Outcomes of Education. From the MOE website, http://www.moe.gov.sg/education/desired-outcomes/
- Smith, Charlie. (2003). Introducing Circle Time to Secondary Students. Inyahead Press, Australia.
- Carpenter, T. P., & Lehrer, R. (1999). Teaching and learning mathematics with understanding. In E. Fennama & T. A. Romberg (Eds.), Mathematics classrooms that promote understanding (pp. 19-32). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Wertsch, J. V., & Toma, C. (1995). Discourse and learning in the classroom: A sociocultural approach. In L. P. Steffe & J. Gale (Eds.). Constructivism in education (pp. 159-174). Hillsdale, NJ: Lawrence Erlbaum.
- Resnick, L. B. (1988). Treating Mathematics as an III-Structured Discipline. In R. I.
- Charles & E. A. Silver (Eds.), The Teaching and Assessing of Mathematics Problem Solving (pp. 32-60). Reston, VA: Lawrence Erlbaum, National Council of Teachers of Mathematics.
- Schoenfeld, A. H. (1992). Learning to Think Mathematically: Problem Solving, Metacognition and Sense Making in Mathematics. In D. A. Grouws (Ed.), Handbook of Research on Mathematic's Teaching and Learning: A Project of the National Council of Teachers of Mathematics (pp. 334-370). New York: Macmillan.
- Schoenfeld, A. H. (1994). Reflections on Doing and Teaching Mathematics. In Mathematical Thinking and Problem Solving. Hillsdale, NJ: Erlbaum.
- Lloyd, G. M. (2008). Teaching Mathematics with a New Curriculum: Changes to Classroom Organization and Interactions. *Mathematical Thinking & Learning*, 10(2), 163-195.
- Cobb, P., Boufi, A., McClain, K., & Whitenack, J. (1997). Reflective discourse and collective reflection. Journal for Research in Mathematics Education, 28, 258 277.
- Mitchell J. Nathan, Billie Eilam, Suyeon Kim (2007). To Disagree, We Must Also Agree: How Intersubjectivity Structures and Perpetuates Discourse in a Mathematics Classroom.
 Journal of the Learning Sciences, Volume 16, Issue 4 October 2007, pages 523 563
- Thompson, A. G., Philipp, R. A., Thompson, P. W., & Boyd, B. A. (1994). Calculational and conceptual orientations in teaching mathematics. In A. Coxford (Ed.), 1994 Yearbook of the NCTM (pp. 79-92). Reston, VA: NCTM.



A copy of the slides presented may be downloaded from our school's website:

http://www.pyss.edu.sg/index.php

Q&A Session