Singapore City
SHARING for the DAY

- 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

Core Values

- Self-Awareness
- Self-Management
- Social Awareness
- Relationship Management
- Critical and Inventive Thinking
- Active Contributor
- Concerned Citizen
- Responsible Decision-Making
- Information and Communication Skills
- Civic Literacy, Global Awareness and Cross-cultural Skills
- Confident Person
- Self-directed Learner
## C2015 Student Outcomes

<table>
<thead>
<tr>
<th>Confident Person</th>
<th>Self-directed Learner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinks independently</td>
<td>Takes responsibility for own learning</td>
</tr>
<tr>
<td>Communicates effectively</td>
<td>Questions, reflects, perseveres</td>
</tr>
<tr>
<td>Has good inter-personal skills</td>
<td>Uses technology adeptly</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concerned Citizen</th>
<th>Active Contributor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is informed about world and local affairs</td>
<td>Exercises initiative and takes risks</td>
</tr>
<tr>
<td>Empathises with and respects others</td>
<td>Is adaptable, innovative, resilient</td>
</tr>
<tr>
<td>Participates actively</td>
<td>Aims for high standards</td>
</tr>
</tbody>
</table>
## Singapore’s Desire Outcomes of Education

**The Key Stage Outcomes of Education**

<table>
<thead>
<tr>
<th>At the end of <strong>Secondary school</strong>, students should:</th>
</tr>
</thead>
<tbody>
<tr>
<td>have moral integrity</td>
</tr>
<tr>
<td>believe in their abilities and be able to adapt to change</td>
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<td>be able to work in teams and show empathy for others</td>
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<td>be creative and have an inquiring mind</td>
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<td>be able to appreciate diverse views and communicate effectively</td>
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<td>take responsibility for own learning</td>
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<tr>
<td>enjoy physical activities and appreciate the arts</td>
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<td>believe in Singapore and understand what matters to Singapore</td>
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</table>
Ping Yi Secondary School
A School of Distinction in Learning & Service

Academic Excellence  Character Development

INTEGRITY  RESPECT  CARE

To nurture and develop our students to be strong and upright in character, passionate about learning, innovative in spirit so as to serve the community.

Organizational Excellence
# Our Student Profile

## No of Students (1230)

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express</td>
<td>418</td>
<td>34%</td>
</tr>
<tr>
<td>NA</td>
<td>589</td>
<td>47.9%</td>
</tr>
<tr>
<td>NT</td>
<td>223</td>
<td>18.1%</td>
</tr>
<tr>
<td>Total</td>
<td>1230</td>
<td></td>
</tr>
</tbody>
</table>

## Distribution by Race

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td>52%</td>
</tr>
<tr>
<td>Malays</td>
<td>28.5%</td>
</tr>
<tr>
<td>Indians</td>
<td>14%</td>
</tr>
<tr>
<td>Others</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express</td>
<td>199</td>
</tr>
<tr>
<td>NA</td>
<td>158</td>
</tr>
<tr>
<td>NT</td>
<td>103</td>
</tr>
</tbody>
</table>

## Student Residence

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDB 1-3 room</td>
<td>29.7 (21.1)</td>
</tr>
</tbody>
</table>

## 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 teacher-student and student-student relationship
- Decreasing trend in recalcitrant of major offences for the last 5 years
SCHOOL CULTURE
“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
4 ‘R’ Approach

- Reculture school
- Redesign curriculum
- Review curriculum time
- Restructure school organization
NE, Service Learning, ACE, Work Attachment, Lifeskills, IPW, Learning Journeys

TEACH
(Classroom teaching)

SUPPORT
(Pupil Management)

RE-DIRECT
(Pupil Development)

Our Goal
Responsible Ping Yians

Restorative Practices

Values

Year Head system, PSLs, Leadership devt, HOT, VIP

FTSC, SNO, PSG, MCYS, MENDAKI

House System, Leadership devt, CCAs, CIP, Service Learning, Career Guidance, Sec 3 camp, Prefects, Orientation camp, Enrichment programme, Overseas Exchange programme, SFE
Vertical & Horizontal Integration: HOUSE + YEAR HEAD Systems
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

- Professional Development 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

Key Stage Outcomes of Education

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
“Does lessons conducted using RP’s Circle Time, with appropriate questioning techniques, enhances development of self confidence, communication and interpersonal skills of students?”
METHODOLOGY
Lesson Study
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)
Based on literature reviews, descriptors that characterize 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
Sample Survey Questions
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 open-ended questions from non-circle to circle lessons was also observed for both teachers.
Episodes With More Opened Questions

Teacher B

<table>
<thead>
<tr>
<th></th>
<th>Non-Circle Lesson</th>
<th>Circle Lesson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>33%</td>
<td>50%</td>
</tr>
</tbody>
</table>
Type of Questions in Percentage
Teacher A

- Close Ended Questions
- Open Ended Questions

Non-Circle Lesson: Close Ended 60%, Open Ended 40%
Circle Lesson: Close Ended 80%, Open Ended 20%
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 open-ended 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.
Comparisons between the non-circle and circle lessons show an increase in Student’s Talk-time in circle lessons.
Circle Time Lesson
Teacher B

- 40%: Univocal Discourse
- 26%: Student Talk-time
- 34%: Teacher Talk-time
Teacher vs Student Talk-time
Teacher A

- Univocal Discourse
  - Normal Lesson: 50%
  - Circle Time: 25%

- Student Talktime
  - Normal Lesson: 15%
  - Circle Time: 30%

- Teacher Talktime
  - Normal Lesson: 60%
  - Circle Time: 45%
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 teacher-students and students-students
- Reflective learners resulting in deeper learning and development of self-confidence
- Develop inter-personal and communication skills
Bibliography

- 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.
Thank you!

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

http://www.pyss.edu.sg/index.php
Q&A Session