THE MALAYSIAN EDUCATIONAL TRANSFORMATION EXPERIENCE THROUGH SCHOOL IMPROVEMENT SPECIALIST COACHES PROGRAMME (SISC)

UNESCO BANGKOK HIGH LEVEL EXPERT MEETING ON EDUCATION – BEYOND 2015: TRANSFORMING TEACHING & LEARNING IN THE ASIA-PACIFIC REGION
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Malaysia Educational Transformation Programme

“.. a transformation of the national education system is necessary to create younger generation who can think and adapt knowledge to face future challenges...”

The Issues: The international environment is becoming increasingly competitive with students from some peer countries starting to pull ahead in terms of their student performance.

“.. This government is committed to transform Malaysia’s education system over the next one-and-half decades...”(National Education Blue Print 2013)
What is SISC?

SISC is a program under the School Improvement Programme (SIP).

Entails a systematic and organized structure of implementation of the Education National Key Result Areas (NKRA).

The goal is to help teachers who are teaching the low achievers in the under performing schools using the instructional coaching strategy.

Builds an instructional leadership coaching support system to improve students’ academic performance and ultimately advance the school to a better band level.
7,616 PRIMARY SCHOOLS WERE RANKED IN 2010

(Source: PEMANDU 2010)
2,198 SECONDARY SCHOOLS WERE RANKED IN 2010

(Source: PEMANDU 2010)
How does SISC Work?

- Master Trainer/Coaches:
  Selected Excellent Lectures From Institute of Teacher Education

- Specialist Coach:
  Selected Excellent and Experience Teachers

- Teachers teaching in examination classes of under performing schools

- Improve students’ performance and raise school standards

The SISC Model

- TRAINING
- COACHING VISITS
- REPORTS
- EVALUATION
# Findings based on Instructional Coaching Researches

<table>
<thead>
<tr>
<th>Training Component</th>
<th>Knowledge Gained</th>
<th>Skills Learned</th>
<th>Transfer into the Classroom/School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study of Theory</td>
<td>10%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Demonstration</td>
<td>30%</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>Practice with Feedback</td>
<td>60%</td>
<td>60%</td>
<td>5%</td>
</tr>
<tr>
<td>Instructional Coaching</td>
<td>95%</td>
<td>95%</td>
<td>95%</td>
</tr>
</tbody>
</table>

**Source:** Stephen Barkley, *Quality Teaching in a Culture of Coaching*. (2005)
The Theory behind Coaching

Implementation rate of traditional professional development versus instructional coaching

Implementation rates of new instructional methods: Traditional inservice professional development sessions versus instructional coaching

Source: Showers, Murphy & Joyce (1996)
The Challenges

STUDENTS’ LOW ATTENDANCE

STUDENTS’ LOW PERFORMANCE

STUDENTS WITH LOW MOTIVATION

INAPPROPRIATE PEDAGOGICAL APPROACH

I felt that I am being punished to teach this class. What did I do wrong?

Data Collection – Online Reporting
SISC Activities & Qualitative Findings

- Root Cause Analysis
- 5Why Method
- Brainstorming
- Goal Setting
- Giving Feedback
- Action Planning
- Headcount
- Intervention
- Problem Identification
Classroom Observation

Modeled & Co-taught
District Office Workshop

Workshop for school heads
Parenting Programs

Focus on students learning

Innovation

21st century skills
The Quantitative Findings

Primary schools

<table>
<thead>
<tr>
<th>Year</th>
<th>In Band 6 &amp; 7</th>
<th>Out of Band 6 &amp; 7</th>
<th>In 2010</th>
<th>In 2011</th>
<th>In 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>209</td>
<td>93</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>140</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>90</td>
<td>32</td>
<td></td>
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</tr>
</tbody>
</table>

Secondary schools

<table>
<thead>
<tr>
<th>Year</th>
<th>In Band 6 &amp; 7</th>
<th>Out of Band 6 &amp; 7</th>
<th>In 2010</th>
<th>In 2011</th>
<th>In 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>427</td>
<td>209</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>243</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>195</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NUMBER OF SCHOOLS</td>
<td>BAND 6 &amp; 7 SCHOOLS 2010</td>
<td>BAND 6 &amp; 7 SCHOOLS 2013</td>
<td></td>
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<td>------------------------</td>
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<tr>
<td>PRIMARY SCHOOL</td>
<td>7,616</td>
<td>209 (2.74%)</td>
<td>58 (0.76%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECONDARY SCHOOL</td>
<td>2,198</td>
<td>427 (19.42%)</td>
<td>133 (6.05%)</td>
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<td>9814</td>
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</table>

BAND 6 & 7 SCHOOLS IN MALAYSIA IN 2013

- PRIMARY SCHOOLS: 0.75%
- SECONDARY SCHOOLS: 5.79%
CONCLUSION – worth while trip

- On the whole, the SISC programme has shown remarkable potential to assist the Ministry of Education achieve its aspiration of quality education for all children in Malaysia in order that no child is left behind.
Enhancing Form 5 Students Mastery Of Skills In Multiplication of two matrices Using The ‘RoCo TECHNIQUE’
THE PROBLEMS

• MANY STUDENTS

I) Can multiply and combine rows and columns, however confused when to put the answer in an appropriate position.

II) Forgot to do addition after multiplication operation.

III) Were not able to identify a pair of numbers to be multiplied because there are many formulas to be remembered.

IV) Made many small mistakes, especially involving problems with many negative numbers with lengthy algorithm.
Conventional Method

\[
\begin{pmatrix}
a_{11} & a_{12} \\
a_{21} & a_{22}
\end{pmatrix}
\begin{pmatrix}
b_{11} & b_{12} \\
b_{21} & b_{22}
\end{pmatrix}
= \\
\begin{pmatrix}
a_{11}b_{11} + a_{12}b_{21} & a_{11}b_{12} + a_{12}b_{22} \\
a_{21}b_{11} + a_{22}b_{21} & a_{21}b_{12} + a_{22}b_{22}
\end{pmatrix}
= \\
\begin{pmatrix}
c_{11} & c_{12} \\
c_{21} & c_{22}
\end{pmatrix}
\]

Very difficult to memorize these formula
MULTIPLICATION OF MATRICES

Find the products of the matrices

\[
\begin{pmatrix}
2 & 3 \\
1 & 4
\end{pmatrix}
\begin{pmatrix}
2 & 1 \\
3 & 2
\end{pmatrix} = 
\]

Arrange in this form

Draw the lines for rows and columns

Multiply the matrices and put the answers at the intersecting line

\[
\begin{align*}
2x2 + 3x3 & = 13 \\
2x1 + 3x2 & = 8 \\
1x2 + 4x3 & = 14 \\
1x1 + 4x2 & = 9
\end{align*}
\]
MULTIPLICATION OF MATRICES

Find the product of the matrices

\[
\begin{pmatrix}
2 & 3 \\
5
\end{pmatrix} =
\begin{pmatrix}
1
\end{pmatrix}
\]

Arrange the matrices as below

Draw lines for the rows and columns

Multiply the matrices and put the answers at the intersecting lines

2x1 + 3x5

Exercise
Teacher’s explanation using RoCo Technique manually
Teaching and learning process
Pairing activities, teacher as a facilitator
Enhancing and Strengthen students' understanding to find the image of Rotation using Swastika Logo
THE PROBLEM

MANY STUDENTS

• were not able to determine the image of a rotation
• did not have proper mathematics instruments such as compas.
• did not remember the procedure to construct right angle using compas
ROTATION
The transformation Rotation represent a point R(3, 5) under 90° anticlockwise rotation about the centre (3,2). State the coordinate image of point R’

Coordinate image
R’ = (0, 2)

The transformation Rotation represent a point R(3, 5) under 180° anticlockwise rotation about the centre (3,2). State the coordinate image of point R”

Coordinate image
R” = (0, -3)
The transformation Rotation represents a point P(5, 6) under 90° clockwise rotation about the centre (2,4). State the coordinate image of point P’

Coordinate image
P’ = (4, 1)

The transformation Rotation represents a point P(5, 6) under 180° rotation about the centre (2,4). State the coordinate image of point P’’

Coordinate image
P’’ = (-1, 2)
The transformation Rotation represent a point R(4, 5) under 90° anticlockwise rotation about the centre (3,2). State the coordinate image of point R’

Coordinate image
R’ = (0, 3)

The transformation Rotation represent a point R(4, 5) under 180° anticlockwise rotation about the centre (3,2). State the coordinate image of point R’’

Coordinate image
R’ = (3, -1)
Students determining the image of a rotation using swastika logo
Recommendations

1. Lowest performing classes for each level should be taught by the excellent teachers or teachers who have at least 3-5 years teaching experience

2. Students’ performance based reward to teachers

3. Promote pedagogical innovations via competitions

4. Teacher Exchange Programs to share best practices

5. Permanent SISC coach for all subjects posts at the District Education Offices

6. Provide platforms for teachers to share best practices

7. Promote Professional Learning Communities eg: Lesson Study

8. Encourage teachers to do classroom reflections