Program i-Think

Thinking Maps
Apakah Program i-THINK?

Program i-Think adalah program yang bertujuan mempertingkatkan dan membudayakan kemahiran berfikir dalam kalangan murid ke arah menghasilkan murid berinovatif.
Kenapa Program i-THINK?

Dapatan melalui kajian keperluan (Needs Analysis) menunjukkan kemahiran berfikir aras tinggi (Higher Order Thinking Skills) dalam kalangan guru dan murid di Malaysia amat rendah.
Siapakah Bertanggungjawab?

Agensi Inovasi Malaysia (AIM)
dipengerusi kan oleh YAB Perdana Menteri
dipertangungjawab memacu inovasi negara

bejerjasama dengan

Kementerian Pelajaranan Malaysia (KPM)

untuk merealisasikan impian tersebut
Apakah yang diharapkan dari Program i-Think?

- Dengan menggunakan Alat Berfikir (Thinking tools); murid lebih fokus, berkeyakinan dan aktif di dalam kelas.
- Aktiviti banyak berpusatkan murid
- Prestasi murid meningkat selepas menggunakan alat berfikir dalam pengajaran & pembelajaran
- Hubungan guru dengan murid lebih rapat kerana guru lebih banyak berperanan sebagai fasilitator
Apakah alat berfikir yang akan diperkenalkan?

- *Thinking Maps* - akan diperkenalkan terlebih dahulu
- *Habits of Mind*
- *Thinking Hats*
- *Q-Matrix Charts*
Bagaimana ia dilaksanakan?

Kursus i-Think kepada Pasukan Pemandu Sekolah & Guru

Pelaksanaan Rintis Program i-Think

Pelaksanaan Penuh program i-Think di semua SR dan SM [secara berperingkat]
Bila dan Siapa yang Terlibat

<table>
<thead>
<tr>
<th>Fasa</th>
<th>Tahun</th>
<th>deskripsi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasa 1</td>
<td>2012 (Jan-Mac)</td>
<td>Rintis di 10 buah sekolah (4 SM + 6 SR)</td>
</tr>
<tr>
<td>Fasa 2</td>
<td>2012</td>
<td>280 buah sekolah + 3 IPGK</td>
</tr>
<tr>
<td>Fasa 3</td>
<td>2013</td>
<td>1000 buah sekolah</td>
</tr>
<tr>
<td>Fasa 4</td>
<td>2014</td>
<td>? buah sekolah</td>
</tr>
<tr>
<td>Fasa 5</td>
<td>2015</td>
<td>Semua sekolah</td>
</tr>
</tbody>
</table>

- Semua murid kecuali tingkatan 5
- Semua guru sekolah
THINKING MAPS

- Circle Map
  - Defining in Context

- Double Bubble Map
  - Comparing and Contrasting

- Brace Map
  - Whole-Parts

- Multi-Flow Map
  - Cause and Effect

- Bubble Map
  - Describing

- Tree Map
  - Classifying

- Flow Map
  - Sequencing

- Bridge Map
  - Seeing Analogies
Circle Map

**Thinking Process:** Defining in Context

**Key Question:** How are you defining this thing or idea?

**Key Words and Phrases:** List, define, tell everything you know, brainstorm, identify, relate prior knowledge, describe, explore the meaning

**Design:** the topic is in the middle, smaller circle. Everything you know about the topic is in the larger circle. A box, that may be included, around the entire map is a “Frame of Reference” that is used to answer the question “How did I learn this?” (The frame of reference can be used around any of the maps)

**Common Uses:** Brainstorm for writing, used as a starting point during the prewriting stage, defining words, identifying audience and author’s point of view

**Writing Mode:** Point of View Essay
Notemaking Guide for Learning Thinking Maps

**Circle Map**

*LOOKS LIKE:*

My frame of reference

*THINKING PROCESS:*
Defining in Context or Brainstorming

*NOTES:*
- Topic
- Everything I know
- How or where did I learn this?

Can be used for:
- Brainstorming
- Diagnosing prior knowledge
- Closure/review

Circle to Tree for Writing

Language for Learning pages 24-29
Help plants

Lives in soil

Tube shaped body

Slime

Need moisture

No feet

Have hair

Enemies are birds

2,700 kinds

Lay eggs

Vibrations

Nocturnal

Earthworms
Who measures things?

School keeper
Mum and Dad

Chair
Table
Door
Table leg

What can We Measure?

Height of coat
Hook
Pencils
Arms
Radiator
Books
Desk

Our bags

Ourself
Feet
Head
Teacher
Workman
Frame of Reference

What is the Frame of Reference?
The Frame of Reference can be used with any of the eight maps. It provides an area for students to synthesize information, think more deeply, and support their reasoning.

What goes into the Frame of Reference?
• How do you know what you know?
• Elaborate with Extras (E’s) ~or~ Interpret the Information (I’s)
# Frame of Reference

<table>
<thead>
<tr>
<th>Elaborating with the Extras (The E’s)</th>
<th>Interpreting Information (The I’s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include your own personal <strong>experiences</strong>.</td>
<td>What is the <strong>importance</strong> of this information?</td>
</tr>
<tr>
<td>Use supporting <strong>examples</strong> from the text.</td>
<td>What <strong>inferences</strong> can be made?</td>
</tr>
<tr>
<td>Incorporate <strong>evidence</strong> from text/world.</td>
<td>What <strong>influences</strong> affect this information?</td>
</tr>
<tr>
<td>What historical/literary <strong>events</strong> support your ideas?</td>
<td></td>
</tr>
<tr>
<td>Include further <strong>explanation</strong> on the subject.</td>
<td></td>
</tr>
<tr>
<td><strong>Elaborate</strong> on your thinking and reasoning.</td>
<td></td>
</tr>
<tr>
<td>What <strong>expert</strong> “opinions” can you find as support?</td>
<td></td>
</tr>
<tr>
<td>Include <strong>excitement</strong> or personal feelings about the topic.</td>
<td></td>
</tr>
</tbody>
</table>
DAYDREAMING?
NO MA'AM, I WASN'T DAYDREAMING...

I WAS JUST CONCEPTUALIZING
Thinking schools…..

Setting the context

The 21st Century
Group 1
From the point of view of a parent

What are the skills that are needed?

A 21st Century learner
Group 2

From the point of view of the school

What are the skills that are needed?

A 21st Century learner
Group 3

From the point of view of an employer

What are the skills that are needed?

A 21st Century learner
Group 4

From the point of view of Malaysia, the country

What are the skills that are needed?

A 21st Century learner
**Bubble Map**

**Thinking Process:** Describing Qualities; Characterization

**Key Question:** How are you describing this thing? What adjectives best describe it?

**Key Words and Phrases:** Describe, use vivid language, describe feelings, observe using the five senses

**Design:** The topic being described is in the center bubble. The outer bubbles contain adjectives and adjective phrases describing the topic.

**Common Uses:** Describing things, identifying qualities, character traits, attributes and/or properties of things. The Bubble Map is a tool for enriching students’ abilities to identify qualities and use descriptive words.

**Writing Mode:** Descriptive Writing
Notemaking Guide for Learning Thinking Maps

Bubble Map

**LOOKS LIKE:**

**NOTES:**

- Adjective, phrase, character trait
- Thing you are describing
- Attributes: Maths
  Properties: Science
- Adjectives Only!

**THINKING PROCESS:**

Describing (adjectives or adj. phrases only)

Language for Learning

pages 30-35
How would my History teacher see me?

irritating
under achieving
Amy
disinterested
noisy
chatty
lazy
Double Bubble Map

Thinking Process: Comparing and Contrasting

Key Question: What are the similar and different qualities of these things?

Key Words and Phrases: Compare/contrast, discuss similarities and differences, prioritize essential characteristics, distinguish between, differentiate

Design: In the center circles are the words for the two things being compared and contrasted. In the middle bubbles, use terms to show similarities. In the outside bubbles, describe the differences. If there are too many similarities or differences, students should prioritize and keep only the most important.

Common Uses: A tool for comparing and contrasting two things.

Writing Mode: Comparison Essay
Notemaking Guide for Learning Thinking Maps

Double Bubble Map

*LOOKS LIKE:*

*THINKING PROCESS:*
Compare/contrast, similar/different

*NOTES:*
- Differences
- Similarities

Unique: Common
Alike: Different
Related to the Venn Diagram
Colour Code

Language for Learning
pages 36-41
**Tree Map**

**Thinking Process:** Classifying

**Key Question:** What are the main ideas, supporting ideas, and details in information?

**Key Words and Phrases:** Classify, sort, group, categorize, give sufficient and related details

**Design:** The category name is on the top line, subcategories on the second level, details under each subcategory

**Writing Mode:** Persuasive Essay
Notemaking Guide for Learning Thinking Maps

Tree Map

**LOOKS LIKE:**

**THINKING PROCESS:**
Classify/Group/Sort

**NOTES:**
- Title, topic or category
- Categories or groups
- Details, examples

**Types of...**
- Kinds of...
  - Inductive/Deductive

Language for Learning
pages 42-47

Kestrel
Growing Through Language
Classification of objects in our classroom

Length

- Longer than 1 metre
- Between 1 metre and \( \frac{1}{2} \) metre
- Less than \( \frac{1}{2} \) metre
Brace Map

Thinking Process: Part to whole relationship

Key Question: What are the parts and subparts of this whole physical object?

Key Words and Phrases: Part of, take apart, show structure

Design: On the line to the left, the name of the whole object is written. On the lines within the first brace, list the major parts. The subparts are listed in the next set of braces.

Common Uses: Used to analyze physical objects. Can be used with anatomy, boundaries in geography, parts of tangible objects. It is for parts only, for “types” of things, a Tree Map should be used.

Writing Mode: Technical Writing
Notemaking Guide for Learning Thinking Maps

**Brace Map**

*LOOKS LIKE:*

**THINKING PROCESS:**
Part/whole relationships, structure

**NOTES:**
- Whole
- Sub-parts
- Parts

---

Parts of...
- Physical, tangible objects

---

Language for Learning
pages 48-53
Flow Map

Thinking Process: Sequencing

Key Question: What happened? What is the sequence of events? What are the sub-stages?

Key Words and Phrases: Sequence, put in order, order, recount, retell, what happens next, cycles, patterns, describe processes, describe change, solve multi-step problems

Design: Each stage of the event is in the larger rectangles. The sub-stages are in smaller rectangles below the larger ones. Not all Flow Maps will have sub-stages.

Common Uses: Can be used to plot a story, show historical events in sequence, sequence paragraphs for writing, steps in problem solving in math, identifying stage of a life

Writing Mode: Narrative Writing
Notemaking Guide for Learning Thinking Maps

Flow Map

*LOOKS LIKE:*

**THINKING PROCESS:**
Sequence, Order, Cycles, etc.

**NOTES:**
- Major Stage
- Substages

Plots, Processes, Chronology
Can go in any direction

Language for Learning
pages 54-59
Flow Map for Sequencing

What are the phases of the moon?
**Multi Flow Map**

**Thinking Process:** Cause and Effect; Problem-Solution

**Key Question:** What are the causes and effects of this event? What might happen next?

**Key Words and Phrases:** Causes and effects, discuss consequences, what would happen if, predict, describe change, identify motives, discuss strategies

**Design:** The event is in the center rectangle. On the left side, causes of the event. On the right side, effects of the event.

**Common Uses:** Used to show and analyze cause and effect relationships. It can also be used with only part of the map showing, such as predicting outcomes.

**Writing Mode:** Prediction; Cause and Effect Essay
Notemaking Guide for Learning Thinking Maps

**Multi-Flow Map**

*LOOKS LIKE:*

- [Diagram of multi-flow map with arrows indicating causality]

**THINKING PROCESS:**
- Cause & Effect
- Reasoning, Prediction

**NOTES:**
- Causes
- Event
- Effects, Outcome

- Causal Explanation
- Projecting
- Consequences
- Analyzing Effects
- “if-then”
- “when... then”

- Can be one-sided

---

Language for Learning
pages 60-65
I put too much water in.

I was upset.

I did not measure my flour accurately.

Mum made another cake.

I opened the oven door too soon.

My cake sunk in the middle.

It cost more money.
Bridge Map

**Thinking Process:** Sequencing

**Key Question:** What is the analogy being used?

**Key Words and Phrases:** Identify the relationship, guess the rule, interpret symbols

**Design:** On the far left line, write the relating factor. On the top and bottom of the bridge, write in the first pair of things that have this relationship. On the right side of the bridge, write the second pair with the same relationship. The line of the bridge represents the relating factor between the pair of things.

**Common Uses:** Identifies similarities between relationships. The relating factor answers “How are they related?” The Bridge Map should be able to be read as a complete sentence.

**Writing Mode:** Reasoning by Analogy
Notemaking Guide for Learning Thinking Maps

Bridge Map

LOOKS LIKE:

A C

B D

RF:

THINKING PROCESS:
Seeing Analogies,
Transferring Similar Relationships

NOTES:

Similar relationships

Relating or Common Factor

How are they related?

Language for Learning
pages 66-71
The President leads our country like the governor leads our state.

President as Governor as Mayor as Principal
Our Country  Our State  Our City  Our School

Leads

Relating Factor
Useful Websites

Examples of each map grades K-6
http://fdlrs.brevard.k12.fl.us/ThinkingMaps/default.html

Newsletters devoted to each Thinking Map
http://www.kcclc.org/thinkingmaps2?print-friendly=true

Chippewa Valley ELA Website
http://chippewavalleyela.pbworks.com
YOU HAVE A QUESTION, CALVIN?

YES! WHAT ASSURANCE DO I HAVE THAT THIS EDUCATION IS ADEQUATELY PREPARING ME FOR THE 21ST CENTURY?

AM I GETTING THE SKILLS I'LL NEED TO EFFECTIVELY COMPETE IN A TOUGH, GLOBAL ECONOMY? I WANT A HIGH-PAYING JOB WHEN I GET OUT OF HERE! I WANT OPPORTUNITY!
IN THAT CASE, YOUNG MAN, I SUGGEST YOU START WORKING HARDER. WHAT YOU GET OUT OF SCHOOL DEPENDS ON WHAT YOU PUT INTO IT.

OH.

THEN FORGET IT.
Sekian, terima kasih.