Assessment in Singapore:
Assessing creativity, critical thinking and other skills for innovation

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Assessment Philosophy

- Contains three key messages:
  
  Assessment is integral to the learning process

  Assessment begins with clarity of purpose

  Assessment should gather information to inform practice
Project Work (PW)

- PW is a learning experience which aims to provide students with the opportunity to *synthesize knowledge* from various areas of learning, and critically and creatively apply it to real-life situations.
- This process, which enhances students' knowledge and enables them to acquire skills like *collaboration, communication* and *independent learning*, prepares them for lifelong learning and the challenges ahead.
Project Work (PW)

- Primary & Secondary schools free to set their own project tasks
- Approach: Problem-Based Learning, Creative Problem Solving or other methods
- E.g. Identify a specific problem faced by the community in which the school is situated, research the problem, generate possible solutions
- PW results count

### Domains

<table>
<thead>
<tr>
<th>Knowledge Application</th>
<th>Learning Outcomes</th>
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<tbody>
<tr>
<td></td>
<td>Search for and access information from various sources (print, electronic, etc)</td>
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<tr>
<td></td>
<td>Analyse and evaluate research material</td>
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<tr>
<td></td>
<td>Apply and transfer knowledge and skills learnt across disciplines to authentic situation</td>
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<td></td>
<td>Generate ideas</td>
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<table>
<thead>
<tr>
<th>Collaboration</th>
<th>Collaborate with others</th>
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<tbody>
<tr>
<td>Communication</td>
<td>Communicate ideas clearly and effectively</td>
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<th>Independent Learning</th>
<th>Monitor own learning</th>
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<td>Demonstrate a positive and responsible attitude towards learning and work</td>
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Performance Tasks

- Important part of how students carry out project work in some schools
- Individual subjects may also use performance tasks to develop and assess students' critical and inventive thinking skills

Holistic Assessment in Primary Schools
Standards & Benchmarks for the Emerging 21st Century Competencies (as at 29 Apr 2011)

CIT 1  
Explore possibilities and generate ideas

1.1a The student is able to generate ideas in response to an issue/challenge.
1.1b The student is able to generate ideas and explore different pathways to respond to an issue/challenge.
1.1c The student is able to generate ideas and explore different pathways that are appropriate for responding to an issue/challenge.
1.1d The student is able to generate ideas and explore different pathways that lead to solutions.

CIT 2  
Exercise sound reasoning and decision making

2.2a The student is able to recall relevant experiences which he/she has learnt from.
2.2b The student is able to reflect on his/her thoughts, attitudes, behaviour and actions during the learning experiences and determine the implications required.
2.2c The student is able to suspend judgement, reassess conclusions and consider alternatives to refine his/her thoughts, attitudes, behaviour and actions.

CIT 3  
Manage complexities and ambiguities

3.1a The student is able to identify the implications of his/her role and stay focused on them.
3.1b The student is able to identify essential elements of multiple tasks, stay focused on them and persevere when he/she encounters difficulties and unanticipated challenges.
3.1c The student is able to manage uncertainty and adapt to diverse demands and challenges in new and unfamiliar contexts.

Standards & Benchmarks for 21C Competencies

- The Standards are aspirational statements that define what the students should know and be able to do.
- The Benchmarks further clarify and specify the Standards, indicating developmentally appropriate targets for each stage – P3 and P6, S2 and S4/5, and JC2/PU3.
- These provide a common point of reference for all teachers to plan, teach, and assess 21C competencies – Also a guide for systemic evaluation.
The 21st Century Competencies (21CC) Framework

National Examination System

Singapore Examinations and Assessment Board (SEAB)

<table>
<thead>
<tr>
<th>End of Grade 6</th>
<th>End of Grade 10</th>
<th>End of Grade 12</th>
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<tbody>
<tr>
<td>PSLE</td>
<td>GCE N(T)-Level</td>
<td>GCE N(A)-Level</td>
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National exams

• Designed in alignment with objectives of national curriculum
• Used for emplacement of students in next stage of their education
• Used to maintain standards and for benchmarking purposes
National Examination System – Revision for Greater Emphasis on Thinking Skills

- Thinking skills incorporated in subject syllabuses:
  - remembering, comparing and contrasting, classifying and categorising, inferring and predicting, analysing, interpreting, generating ideas, drawing conclusions, distinguishing between fact, opinion and judgement, evaluating, synthesising, making decisions, and solving problems
- MOE’s increasing control over the ‘O’ and ‘A’ level examinations
- Examination format revised to factor in more thinking questions

National Examination System – Different modes to assess range of skills

**Variety of formats**, e.g.:
- Multiple-choice questions
- Structured questions
- Open-ended questions
- Source-based questions
- Unseen text questions
  - Coursework
  - Oral and listening
Assessing Thinking Skills through National Examinations (examples)

A. Social Studies

Source Based Questions:
- Draw inferences
- Analyse and evaluate evidence
- Comparing viewpoints
- Distinguishing between facts, opinion and judgement
- Drawing conclusions based on reasoned consideration of evidence and arguments
- Recognise values and detect bias

Structured Essay Questions:
- Make judgements, recommendations and decisions

B. Sciences

• Assessment objectives include:
  - Applying knowledge with understanding
  - Handling information and solving problems
  - Level of experimental skills and investigations

• School-Based Science Practical Assessment (SPA)
  - Assesses skills of performing and observing, analysing and planning for experiments
Assessing Thinking Skills through National Examinations (examples)

C. Art
Coursework component
- Leveraging critical and creative thinking skills in the production of a finished art piece
- Thinking skills developed and assessed through the preparatory, exploratory and production phases
- Students need to decide on appropriate media and techniques to express their artistic intentions
- Preparatory studies submitted for evaluation together with final work

Assessing Thinking Skills through National Examinations (examples)

D. Music
Coursework component
- Requires students to create music with a given text as stimulus
- Assessed on the quality and inventiveness of their musical ideas in response to the meaning of the text

E. Design & Technology
Coursework component
- Design Project where students identify design opportunity based on a given theme
- Work on their design concepts to product the artefact
National Examination System

- Examination format revised to factor in more thinking questions
- Influences what is taught in classrooms and how
- But there are limitations

School-based Assessments

- Flexibility to cover a broader range of competencies
Thank you

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