



# Smart School Qualification Standards (SSQS)





## About MSC Malaysia

MSC Malaysia, formerly known as the Multimedia Super Corridor (MSC), is a national initiative spearheaded by the Malaysian Government to promote the national ICT industry and to provide a test-bed for the global ICT industry. MSC Malaysia provides a conducive enabling environment designed to facilitate companies to harness the full potential of ICT and multimedia technologies. With an ideal business environment coupled with availability of talent resources, MSC Malaysia has attracted participation from major global ICT companies to develop and host their leading-edge technologies in the designated MSC Malaysia Cybercities. MSC Malaysia also provides a perfect growth environment for Malaysian ICT SMEs to transform themselves into world-class companies.

Driving the MSC Malaysia initiative is Multimedia Development Corporation (MDeC), a unique high powered government-owned corporation. For more information, please contact:



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# Smart School Qualification Standards (SSQS)


## INTRODUCTION

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Since the Smart School initiative was launched in July 1997 as one of the seven flagships of the MSC Malaysia, much has been achieved, but one of the most critical includes the establishment of the '88 Smart Schools' as a consequence of the pilot project by the Ministry of Education (MoE).

These 88 Smart Schools were initially identified to act as the nucleus for the reference of Smart School concepts, materials, skills, and technologies developed by the MoE.

However, analysis such as the Impact Study (2005) indicated that the infrastructure set up by the MoE, including the provision of computers, applications and ICT Co-ordinators to the various schools, needed to be optimally managed and used.




It was timely when the National IT Council (NITC) in April this year saw the Prime Minister endorsing the Minister of Education's proposal that the Multimedia Development Corporation (MDeC) create a systematic transformation of the selected '88 Smart Schools' into model schools to promote best practices in technology-enabled teaching, learning and school management.

In other words, the MDeC has been mandated to come up with an easily replicated model to turn the 88 Smart Schools into role-models of how to increase and maximise ICT usage and utilization in education, given the infrastructure already provided by the MoE.

The MDeC, working closely with the MoE, has since created a 2-pronged approach of guidance and training, based on the basic management and transformation principle of positive “Monitoring” and “Value-adding”, to achieve this goal.

To encourage active participation, the ICT utilization of the Smart Schools must be measured and graded. There are several monitoring devices planned but of prime importance is the Smart School Qualification Standards (SSQS) with the Star Ranking as guide. To reinforce ICT usage, training workshops, online value-adding applications and on-site guidance are being implemented.



In June 2006, the Minister of Education met with MDeC and the SSQS and Star Ranking have been agreed.

### **ICT Benchmarking in Education**


As ICT becomes increasingly widespread, schools as well as education systems as a whole need to:

**develop performance indicators to monitor the use  
and outcomes of the technologies**

These indicators are needed specifically to monitor the types of ICT resources available, the extent and nature of professional development efforts, and changes in teaching/learning practices.

The indicators show how ICT should be used not only as a basic operational tool (such as the number of computers and online connectivity) but also as a communications tool which promotes the development of:

- creativity
- interactivity
- collaborative learning
- critical thinking
- problem-solving



It is hoped that eventually educational policy makers and administrators will mainstream the use of these indicators into their national educational policies and management information systems as the stimulus for change, rather than only as snapshot of current conditions.


Performance indicators in education have traditionally focused on academic results, such as the League Tables in the UK. There are very few comparable standards and measurements for ICT penetration and utilization in education on a national basis.

Key findings on performance indicators for ICT in education in other countries are highlighted below:

- Second Information Technology in Education Study (SITES), as part of Industry Canada's SchoolNet and Computers for Schools programs shows a clear example of how the SSQS can work. SITES was developed to address the increasing use of ICT in Canada's school system and confusion on how to use them. In an effort to generate vital data, Canada, along with 27 countries in total, participated in the SITES. SITES will provide valuable benchmark information against which future progress can be measured. The survey captures education systems at different stages in the implementation of their plans.



- Typically, national initiatives are part of a broader regional or international benchmarking programme. The guide developed by the Organisation for Economic Co-Operation and Development (OECD), “Education at a Glance – OECD Indicators”, is an example of a collection of indicators that represent the consensus of professional thinking on how to measure the current state of education internationally.
- UNESCO’s Asia and Pacific Regional Bureau for Education provides a situational analysis regarding the development and impact of ICT in Education. It offers methods of collecting indicators, comparisons of indicator themes in selected countries as well as several case studies on the use and impact of ICT in education.
- One of the users of UNESCO’s programme is African SchoolNet. The African Education Knowledge Warehouse (AEKW) is a pan-African education portal which services African SchoolNet practitioners, policymakers and school-based communities on ICTs in education across Africa.
- In Europe, the eEurope+ Final Progress Report provided a set of indicators to benchmark the introduction of new technologies into education and



everyday life. The report showed that all Acceding and Candidate Countries have made significant efforts towards the implementation of a knowledge-based society but also highlights the need to stimulate the development of interactive, multi-media rich and multilingual content, as a driver for broadband deployment. The implementation of e-government services, the integration of ICT training into every pupils' education and the deployment of lifelong ICT training were other measures recommended.

## **STRATEGIC OVERVIEW OF THE SMART SCHOOL QUALIFICATION STANDARDS**

The SSQS is unique in that it is possibly the first set of indicators created by a government organisation for national use and development, as opposed to international comparison and benchmarking.

While locally developed and driven, the SSQS is globally positioned, as it is consistent with the 2003 World Summit on the Information Society (WSIS) in Geneva which specifically highlighted the need for effective monitoring and evaluation tools on the performance of ICT for Development programs, particularly in the education sector.




### **Objectives of the SSQS:**

- To develop a system (set of indicators) to measure ICT use in education
- To provide a basis for policy planning and programme improvements
- To raise standards in education
- To serve as a catalyst for educational change
- To empower teachers and learners

In any transformation exercise, benchmarks and indicators of success and failure are required to measure the way we conduct our work, projects and programs. When the exercise is transforming education through the use of ICTs, indicators focused on ICT are given emphasis.

Efforts to integrate ICT in education are widespread globally, but to determine the national impact of ICT, the set of indicators or criteria is required for measurement and ranking on a local basis. Performance indicators to monitor the use and outcomes of technologies also provide useful information for responding to challenges that may arise.

The relationships between technology use and educational development, empowerment of teachers, changes in teaching and learning processes and student learning are demonstrated through the use of indicators. It is important to note that using technology is not an end in itself, but a means to promote



educational outcomes, creativity, empowerment of learners and teachers, and the development of resourceful learners and problem solvers. In order to assess these outcomes, appropriate measurement tools and indicators are needed.

To transform a school, no matter how academically brilliant, from a non-ICT oriented teaching and learning environment, to one which maximizes and promotes the teaching and learning advantages of ICT to the fullest, clear direction and guidance must be given to the training of both the educators (who use the system) and the technicians (who maintain the system).

Strategically, the thrust of the entire programme is one of monitoring and guidance (as a form of subtle and gentle enforcement) activities simultaneously backed by value-adding (or reinforcement) support in identified weak areas.

**Monitoring Programmes** – are “coaching” activities carried out on-line (via computers) and on-site.

**Value-Adding Programmes** – are “reinforcement” activities which include training workshops and infrastructure support, such as:

- Professional Development for stakeholders
- Technical Support Enhancement
- Deployment Strategies of enhanced applications



## STAR RANKING METHODOLOGY

The Star Ranking is a monitoring tool. A 4-step methodology has been developed for assessing the 88 Smart Schools and deriving the Star Ranking of each school:

### 1. Key Performance Indicators

The first step to the methodology is to establish Key Performance Indicators of the ICT Focus Areas. These KPIs set the accepted conditions and assign scores upon which the Star Ranking is based.

### 2. Survey and Appraisal

Having established the KPIs, each Smart School will be surveyed to ascertain the conditions of each ICT Focus Area. The survey will be conducted quarterly while the online monitoring system captures live data that will verify the survey.

### 3. Smart School Qualification Standards (SSQS)

The SSQS outline the ICT Focus Areas each Smart School is appraised on. Each area carries its own weightage reflecting its significance in the SSQS



The areas are:


☑ Utilization	40%
☑ Human Capital	30%
☑ Applications	20%
☑ Technology Infrastructure	10%

To qualify as a Smart School, the schools must achieve the minimum conditions (or 1 star) specified for each KPI within the ICT Focus Areas.

- ☑ **Utilization:** monitors the extent to which the school makes use of ICT in its operation, management, teaching and learning activities. Utilization accounts for 40% of the Star Ranking appraisal as it forms the integral part of transformation.

*KPIs within Utilization are:* Student-to-PC contact hours, courseware integration by teachers for core subjects, WSMS updating, TVP and LCMS usage, and student completion of self-learning modules.

- ☑ **Human Capital:** refers to the competency of end-users in integrating ICT in teaching, learning and/or administration. Human Capital accounts for 30% of the Star Ranking appraisal.



*KPIs for Human Capital are:* ICT Co-ordinators' competency, core-subject teachers' ICT competency, use of ICT in dissemination of information, smart partnerships, use of multimedia in teaching and the students' awareness of the availability of educational courseware.

- ☑ **Applications:** refers to the various applications provided by the MoE and others that the schools have adopted. It accounts for 20% of the Star Ranking appraisal.

*KPIs for Applications are:* at least 5 modules used for operations management, LCMS and MoE courseware are used for teaching, and website presence and maintenance.

- ☑ **Technology Infrastructure:** not only audits the provision of the infrastructure itself (provided by MoE) but also looks at maintenance and support of the infrastructure within the schools. As a large portion of the infrastructure provision is determined by MoE at the central level, this focus area account of only 10% of the Star Ranking appraisal.

*KPIs for Technology Infrastructure are:* PC-to-Student ratio, PC-to-Teacher ratio, TV-to-class ratio, PC accessibility, LAN & WAN, and technology downtime.

#### 4. Star Ranking

The goal of this exercise is the quarterly Star Ranking, where the Smart Schools are measured in the ICT Focus Areas and ranked between 1 to 5 stars.

Schools which do not qualify for any Star Ranking may regard that as a clear indication that they do not qualify as model smart schools, and urgent steps need to be taken to get back on the development track.

Schools which show a steady improvement or maintain an exemplary standard in the key areas will be positioned as ideal role-model Smart Schools.

It is hoped that the 88 schools will make use of the ranking system to qualify themselves as 5-Star Smart Schools.

The Star Ranking is awarded based on a unified score from the indicators to:

- Serve as a device for monitoring
- Provide information for specific actions to uplift schools
- Facilitate decision and policy making



**The Star Rankings are:**

**Basic** ★

Smart Schools with merely basic conditions across all indicators

**Basic Plus** ★ ★

Star ranking for Smart Schools with basic features with slight additions but falling below the average conditions for all indicators.

**Median** ★ ★ ★

Star ranking awarded to Smart Schools with fair or average conditions of all the indicators.

**Advanced** ★ ★ ★ ★

A seal of approval awarded to Smart Schools with good or advanced conditions for most indicators.

**Advanced Plus** ★ ★ ★ ★ ★

The highest approval ranking, awarded to Smart Schools with advanced conditions for most indicators.



# S M A R T S C H O O L Q U A L I F I C

School Ranking	BASIC (< 50%) ★	BASIC PLUS (50% – 60%) ★★	
<b>Smart School Indicators</b>  <b>UTILIZATION (40%)</b> – ICT Integration in teaching, learning, and school administration	<ul style="list-style-type: none"> <li>☑ Usage of ICT-based content: 0–79 minutes per month</li> <li>☑ Teachers integrate courseware (select relevant topics from the courseware in at least 0–79 minutes per month) for each core subject</li> <li>☑ Teachers develop Teaching Learning Materials in a form of multimedia for teaching and learning: Once in a year</li> <li>☑ Usage of Learning Content Management System (Teacher): 0–79 minutes per month</li> <li>☑ Usage of Educational TV content: 0 Period per month</li> <li>☑ Student-PC contact hours: 0–80 minutes (for any subjects) per month</li> <li>☑ Usage of Learning Content Management System (Student): 0–1 assignment per month</li> <li>☑ Student able to complete 0–1 title of self-learning module per month</li> <li>☑ Updates of activities and data on the relevant modules in Web Based School Management System/Smart School Management System: Once a year</li> </ul>	<ul style="list-style-type: none"> <li>☑ Usage of ICT-based content: 80–159 minutes per month</li> <li>☑ Teachers integrate courseware (select relevant topics from the courseware in at least 80–159 minutes per month) for each core subject</li> <li>☑ Teachers develop Teaching Learning Materials in a form of multimedia for teaching and learning: Twice a year</li> <li>☑ Usage of Learning Content Management System (Teacher): 80–159 minutes per month</li> <li>☑ Usage of Educational TV content: 1 Period per month</li> <li>☑ Student-PC contact hours: 81–160 minutes (for any subjects) per month</li> <li>☑ Usage of Learning Content Management System (Student): 2–3 assignments per month</li> <li>☑ Student able to complete 2–3 titles of self-learning module per month</li> <li>☑ Updates of activities and data on the relevant modules in Web Based School Management System/Smart School Management System: Once In 6 months</li> </ul>	<ul style="list-style-type: none"> <li>☑ Usage of ICT-based content: 160–239 minutes per month</li> <li>☑ Teachers integrate in at least 160–239 minutes per month) for each core subject</li> <li>☑ Teachers develop Teaching Learning Materials in a form of multimedia for teaching and learning: More than twice a year</li> <li>☑ Usage of Learning Content Management System (Teacher): More than 159 minutes per month</li> <li>☑ Usage of Educational TV content: More than 1 Period per month</li> <li>☑ Student-PC contact hours: More than 160 minutes (for any subjects) per month</li> <li>☑ Usage of Learning Content Management System (Student): More than 3 assignments per month</li> <li>☑ Student able to complete more than 3 titles of self-learning module per month</li> <li>☑ Updates of activities and data on the relevant modules in Web Based School Management System/Smart School Management System: More than once in 6 months</li> </ul>
<b>HUMAN CAPITAL (30%)</b> – Administrators, teachers, and students able to integrate ICT in processes of teaching, learning and school administration	<ul style="list-style-type: none"> <li>☑ ICT competency level of IT Coordinator: Basic (&lt; 1)</li> <li>☑ ICT competency level of Technician: Basic (&lt; 1)</li> <li>☑ Teachers have basic ICT competency level: Level 1 (&lt; 1.5)</li> <li>☑ Teachers have advanced ICT competency: Level 1 (&lt; 1.5)</li> <li>☑ Teachers have basic competency level in using ICT-based content in teaching and learning: Level 1 (&lt; 1.5)</li> <li>☑ Teachers have basic competency level in integrating ICT-based content in teaching and learning: Level 1 (&lt; 1.5)</li> <li>☑ Teachers have basic competency level in developing teaching learning materials in a form of multimedia for teaching and learning: Level 1 (&lt; 1.5)</li> <li>☑ &lt;50% of students have the knowledge of the ICT-based content and know how to use them in learning</li> <li>☑ Frequency of ICT Smart-partnership program with community: 0 activity</li> <li>☑ Conducted in-house ICT training: 1 training</li> <li>☑ Usage of Email: &lt; 4 times a year</li> <li>☑ Dissemination of information via ICT: &lt; 4 times a year</li> <li>☑ Conducted change management programme: Nil</li> </ul>	<ul style="list-style-type: none"> <li>☑ ICT competency level of IT Coordinator: Basic Plus (1-1.99)</li> <li>☑ ICT competency level of Technician: Basic Plus (1-1.99)</li> <li>☑ Teachers have basic ICT competency level: Level 2 (1.51-2.5)</li> <li>☑ Teachers have advanced ICT competency level: Level 2 (1.51-2.0)</li> <li>☑ Teachers have basic plus competency level in using ICT-based content in teaching and learning: Level 2 (1.501-2.5)</li> <li>☑ Teachers have basic plus competency level in integrating ICT-based content in teaching and learning: Level 2 (1.501-2.5)</li> <li>☑ Teachers have basic plus competency level in developing teaching learning materials in a form of multimedia for teaching and learning: Level 2 (1.501-2.5)</li> <li>☑ 50%–60% of students have the knowledge of the ICT-based content and know how to use them in learning</li> <li>☑ Frequency of ICT Smart-partnership program with community: Once a year</li> <li>☑ Conducted in-house ICT training: 2 trainings</li> <li>☑ Usage of Email: 4 times a year</li> <li>☑ Dissemination of information via ICT: 4 times a year</li> <li>☑ Conducted change management programme: once a year</li> </ul>	<ul style="list-style-type: none"> <li>☑ ICT competency level of IT Coordinator: Basic Plus (1-1.99)</li> <li>☑ ICT competency level of Technician: Basic Plus (1-1.99)</li> <li>☑ Teachers have basic plus ICT competency level: Level 3 (2.01-2.5)</li> <li>☑ Teachers have advanced plus ICT competency level: Level 3 (2.01-2.5)</li> <li>☑ Teachers have basic plus plus competency level in using ICT-based content in teaching and learning: Level 3 (2.01-2.5)</li> <li>☑ Teachers have basic plus plus competency level in integrating ICT-based content in teaching and learning: Level 3 (2.01-2.5)</li> <li>☑ Teachers have basic plus plus competency level in developing teaching learning materials in a form of multimedia for teaching and learning: Level 3 (2.01-2.5)</li> <li>☑ 61%–70% of students have the knowledge of the ICT-based content and know how to use them in learning</li> <li>☑ Frequency of ICT Smart-partnership program with community: More than once a year</li> <li>☑ Conducted in-house ICT training: More than 2 trainings</li> <li>☑ Usage of Email: More than 4 times a year</li> <li>☑ Dissemination of information via ICT: More than 4 times a year</li> <li>☑ Conducted change management programme: More than once a year</li> </ul>
<b>APPLICATIONS (20%)</b> – ICT-based content and systems available	<ul style="list-style-type: none"> <li>☑ At least 5 modules for management</li> <li>☑ No additional ICT-based applications beyond Smart School Management System/Web Based School Management System i.e. attendance and canteen</li> <li>☑ Must have Learning Content Management System for teaching and learning</li> <li>☑ Must have the Ministry of Education courseware and ICT-based content: 1</li> <li>☑ Schools do not have website</li> </ul>	<ul style="list-style-type: none"> <li>☑ 6 modules for management</li> <li>☑ 1 additional ICT-based applications beyond Smart School Management System/Web Based School Management System i.e. attendance and canteen</li> <li>☑ Must have Learning Content Management System for teaching and learning</li> <li>☑ Must have the Ministry of Education courseware and ICT-based content: 2</li> <li>☑ Schools have website</li> </ul>	<ul style="list-style-type: none"> <li>☑ 7 modules for management</li> <li>☑ 2 additional ICT-based applications beyond Smart School Management System/Web Based School Management System i.e. attendance and canteen</li> <li>☑ Must have Learning Content Management System for teaching and learning</li> <li>☑ Must have the Ministry of Education courseware and ICT-based content: 3</li> <li>☑ Schools must have website</li> </ul>
<b>TECHNOLOGY INFRASTRUCTURE (10%)</b> – Technology equipment available	<ul style="list-style-type: none"> <li>☑ PC:Student Ratio (1:&gt;80)</li> <li>☑ PC/Notebook:Teacher Ratio (1:&gt;11)</li> <li>☑ Local Area Network &amp; Wide Area Network accessibility (Extremely Low availability &amp; location)</li> <li>☑ Standard maximum downtime &gt; 7 hours/month</li> <li>☑ Internet accessibility (Extremely Low availability &amp; location)</li> <li>☑ 0–24% of the Teaching of Mathematics and Science in English (PPSMI) ICT facilities in good working condition</li> <li>☑ LCD Projector:Class Ratio (1:&gt;39)</li> <li>☑ 1 operational computer lab</li> </ul>	<ul style="list-style-type: none"> <li>☑ PC:Student Ratio (1:61-80)</li> <li>☑ PC/Notebook:Teacher Ratio (1:9-11)</li> <li>☑ Local Area Network &amp; Wide Area Network accessibility (Low availability &amp; location)</li> <li>☑ Standard maximum downtime 6–7 hours/month</li> <li>☑ Internet accessibility (Low availability &amp; location)</li> <li>☑ 25–49% of the Teaching of Mathematics and Science in English (PPSMI) ICT facilities in good working condition</li> <li>☑ LCD Projector:Class Ratio (1:30-39)</li> <li>☑ 2 operational computer labs</li> </ul>	<ul style="list-style-type: none"> <li>☑ PC:Student Ratio (1:41-60)</li> <li>☑ PC/Notebook:Teacher Ratio (1:6-8)</li> <li>☑ Local Area Network &amp; Wide Area Network accessibility (Medium availability &amp; location)</li> <li>☑ Standard maximum downtime 5–6 hours/month</li> <li>☑ Internet accessibility (Medium availability &amp; location)</li> <li>☑ 50–74% of the Teaching of Mathematics and Science in English (PPSMI) ICT facilities in good working condition</li> <li>☑ LCD Projector:Class Ratio (1:20-29)</li> <li>☑ 3 operational computer labs</li> </ul>

# A T T I O N   S T A N D A R D S   ( S S Q S )

<b>MEDIAN</b> <b>(61% – 70%)</b> ★★ ★★	<b>ADVANCED</b> <b>(71% – 80%)</b> ★★ ★★ ★★	<b>ADVANCED PLUS</b> <b>(&gt; 80%)</b> ★★ ★★ ★★ ★★
<p>content: 160–239 minutes per month courseware (select relevant topics from the courseware in minutes per month) for each core subject</p> <p>teaching Learning Materials in a form of multimedia for content: Every 3 months</p> <p>Content Management System (Teacher): 160–239 minutes</p> <p>al TV content: 2 Periods per month</p> <p>hours: 161–240 minutes (for any subjects) per month</p> <p>Content Management System (Student): 4–5 assignments</p> <p>complete 4–5 titles of self-learning module per month</p> <p>s and data on the relevant modules in Web Based School m/Smart School Management System: Monthly</p>	<ul style="list-style-type: none"> <li>☑ Usage of ICT-based content: 240–319 minutes per month</li> <li>☑ Teachers integrate courseware (select relevant topics from the courseware in at least 240–319 minutes per month) for each core subject</li> <li>☑ Teachers develop Teaching Learning Materials in a form of multimedia for teaching and learning: Monthly</li> <li>☑ Usage of Learning Content Management System (Teacher): 240–319 minutes per month</li> <li>☑ Usage of Educational TV content: 3 Periods per month</li> <li>☑ Student-PC contact hours: 241–320 minutes (for any subjects) per month</li> <li>☑ Usage of Learning Content Management System (Student): 6–7 assignments per month</li> <li>☑ Student able to complete 6–7 titles of self-learning module per month</li> <li>☑ Updates of activities and data on the relevant modules in Web Based School Management System/Smart School Management System: Weekly</li> </ul>	<ul style="list-style-type: none"> <li>☑ Usage of ICT-based content: &gt; than 320 minutes per month</li> <li>☑ Teachers integrate courseware (select &amp; modify relevant topics from the courseware in at least &gt; than 320 minutes per month) for each core subject</li> <li>☑ Teachers develop Teaching Learning Materials in a form of multimedia for teaching and learning: Weekly</li> <li>☑ Usage of Learning Content Management System (Teacher): &gt; than 320 minutes per month</li> <li>☑ Usage of Educational TV content: 4 Periods per month</li> <li>☑ Student-PC contact hours: &gt; 320 minutes (for any subjects) per month</li> <li>☑ Usage of Learning Content Management System (Student): 8 or more assignments per month</li> <li>☑ Student able to complete 8 or more titles of self-learning module per month</li> <li>☑ Updates of activities and data on the relevant modules in Web Based School Management System/Smart School Management System: Daily</li> </ul>
<p>el of IT Coordinator: Median (2-2.99)</p> <p>el of Technician: Median (2-2.99)</p> <p>ic ICT competency level: Level 3 (2.51-3.5)</p> <p>anced ICT competency level: Level 3 (2.01-2.5)</p> <p>ian competency level in using ICT-based content in teaching: Level 3 (2.501-3.5)</p> <p>an competency level in integrating ICT-based content in teaching: Level 3 (2.501-3.5)</p> <p>ian competency level in developing teaching learning of multimedia for teaching and learning: Level 3 (2.501-3.5)</p> <p>nts have the knowledge of the ICT-based content and term in learning</p> <p>art-partnership program with community: Twice a year</p> <p>ICT training: 3 trainings</p> <p>ntly</p> <p>ormation via ICT: Monthly</p> <p>management programme: Once in three months</p>	<ul style="list-style-type: none"> <li>☑ ICT competency level of IT Coordinator: Advanced (3-3.99)</li> <li>☑ ICT competency level of Technician: Advanced (3-3.99)</li> <li>☑ Teachers have basic ICT competency level: Level 4 (3.51-4.5)</li> <li>☑ Teachers have advanced ICT competency level: Level 4 (2.51-3.0)</li> <li>☑ Teachers have advanced competency level in using ICT-based content in teaching and learning: Level 4 (3.501-4.5)</li> <li>☑ Teachers have advanced competency level in integrating ICT-based content in teaching and learning: Level 4 (3.501-4.5)</li> <li>☑ Teachers have advanced competency level in developing teaching learning materials in a form of multimedia for teaching and learning: Level 4 (3.501-4.5)</li> <li>☑ 71%–80% of students have the knowledge of the ICT-based content and know how to use them in learning</li> <li>☑ Frequency of ICT Smart-partnership program with community: Monthly</li> <li>☑ Conducted in-house ICT training: 4-5 trainings</li> <li>☑ Usage of Email: Weekly</li> <li>☑ Dissemination of information via ICT: Weekly</li> <li>☑ Conducted change management programme: Weekly</li> </ul>	<ul style="list-style-type: none"> <li>☑ ICT competency level of IT Coordinator: Advanced Plus (4-5)</li> <li>☑ ICT competency level of Technician: Advanced Plus (4-5)</li> <li>☑ Teachers have basic ICT competency level: Level 5 (&gt; 4.5)</li> <li>☑ Teachers have advanced ICT competency level: Level 5 (&gt; 3.0)</li> <li>☑ Teachers have advanced plus competency level in using ICT-based content in teaching and learning: Level 5 (&gt; 4.5)</li> <li>☑ Teachers have advanced plus competency level in integrating ICT-based content in teaching and learning: Level 5 (&gt; 4.5)</li> <li>☑ Teachers have advanced plus competency level in developing teaching learning materials in a form of multimedia for teaching and learning: Level 5 (&gt; 4.5)</li> <li>☑ &gt; 80% of students have the knowledge of the ICT-based content and know how to use them in learning</li> <li>☑ Frequency of ICT Smart-partnership program with community: Weekly</li> <li>☑ Conducted in-house ICT training: &gt; 5 trainings</li> <li>☑ Usage of Email: Daily</li> <li>☑ Dissemination of information via ICT: Daily</li> <li>☑ Conducted change management programme: Weekly</li> </ul>
<p>agement</p> <p>sed applications beyond Smart School Management</p> <p>School Management System i.e. attendance</p> <p>Content Management System for teaching and learning</p> <p>stry of Education courseware and ICT-based content: 3</p> <p>maintained, updated &amp; accessible website</p>	<ul style="list-style-type: none"> <li>☑ 8 modules for management</li> <li>☑ 3 additional ICT-based applications beyond Smart School Management System/Web Based School Management System i.e. attendance and canteen</li> <li>☑ Must have Learning Content Management System for teaching and learning</li> <li>☑ Must have the Ministry of Education courseware and ICT-based content: 4</li> <li>☑ Schools must have maintained, updated &amp; accessible interactive website</li> </ul>	<ul style="list-style-type: none"> <li>☑ &gt; than 8 modules for management</li> <li>☑ &gt; than 3 ICT-based applications ICT-based applications beyond Smart School Management System/Web Based School Management System i.e. attendance and canteen</li> <li>☑ Must have Learning Content Management System for teaching and learning</li> <li>☑ Must have the Ministry of Education courseware and ICT-based content: &gt; 4</li> <li>☑ Schools must have maintained, updated, accessible &amp; advanced interactive website</li> </ul>
<p>:41-60)</p> <p>er Ratio (1:6-8)</p> <p>&amp; Wide Area Network accessibility (Optimal availability &amp; location)</p> <p>downtime 4–5 hours/month</p> <p>ly (Optimal availability &amp; location)</p> <p>ching of Mathematics and Science in English (PPSMI)</p> <p>orking condition</p> <p>Ratio (1:20-29)</p> <p>uter labs</p>	<ul style="list-style-type: none"> <li>☑ PC:Student Ratio (1:18-40)</li> <li>☑ PC/Notebook:Teacher Ratio (1:3-5)</li> <li>☑ Local Area Network &amp; Wide Area Network accessibility (High availability &amp; location)</li> <li>☑ Standard maximum downtime 2–3 hours/month</li> <li>☑ Internet accessibility (High availability &amp; location)</li> <li>☑ 75–99% of the Teaching of Mathematics and Science in English (PPSMI) ICT facilities in good working condition</li> <li>☑ LCD Projector:Class Ratio (1:10-19)</li> <li>☑ 4 operational computer labs</li> </ul>	<ul style="list-style-type: none"> <li>☑ PC:Student Ratio (1:&lt;17)</li> <li>☑ PC/Notebook:Teacher Ratio (1&lt;2)</li> <li>☑ Local Area Network, Wide Area Network, Wireless and value-added</li> <li>☑ Standard maximum downtime &lt; 2 hours/month</li> <li>☑ Internet accessibility (Advanced availability &amp; location)</li> <li>☑ 100% of the Teaching of Mathematics and Science in English (PPSMI) ICT facilities in good working condition</li> <li>☑ LCD Projector:Class Ratio (1:&lt;10)</li> <li>☑ &gt; 4 operational computer labs</li> </ul>

[www.msc.com.my](http://www.msc.com.my)



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