Crescent Girls’ School

Transforming Learning Through Technology as a FutureSchool in Singapore

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Crescent Girls School
SINGAPORE’S ICT MASTERPLAN JOURNEY
ICT MASTERPLANS IN SINGAPORE

**Building Strong Foundations**

*Masterplan 1 (1997 – 2002)*
- Basic infrastructure
- Curriculum
- Teacher Training
- Digital Learning Resources
- Research & Development

**Seeding Innovations**

*Masterplan 2 (2003 – 2008)*
- School autonomy & ownership
- Integration of ICT into curriculum for engaged learning
- Ground-up innovations

**Strengthening & Scaling**

*Masterplan 3 (2009 – 2014)*
- Develop competencies for self-directed & collaborative learning
- Differentiated professional development
- 21st century learning
THE FUTURESCHOOLS@SINGAPORE PROGRAMME
• Launched in 2007, during ICT Masterplan 2
• Push the frontiers of teaching and learning practices at a **school-wide level** by providing different models for engaged learning that leverage on ICT/IDM
• Engage in **research** to develop and evaluate **new IDM tools and/or pedagogies**

• 8 FutureSchools to date:
  – 6 from Phase 1 and 2 from Phase 2
THE FUTURE SCHOOL ECOSYSTEM

Support & Governance

FS Implementation

Infocomm Development Authority

Industry Engagement

Industry & IHL Partners

Investment & Devt.
FUTURESCHOOLS@SINGAPORE

SCHOOL-LEVEL IMPLEMENTATION:
THE CRESCENT JOURNEY
CRESCENT GIRLS’ SCHOOL

AMFIE2012 PRESENTATION . PLENARY SESSION

• All-girls school
• 13-16 years old
• Around 1300 students
• Around 100 staff
Culture of Excellence

- School Excellence Award (Pinnacle award)
- Band 1 for O Level Results for past 5 years
- Sustained Achievement Award – Academic Value-Added
- Outstanding Character Development Award
- Best Practice Awards:
  - Student All-round Development
  - Teaching & Learning
  - Staff Well-being
  - Organisational Effectiveness
- Singapore Quality Class
- Singapore Innovation Class
- People Developer Standard
FAST FACT #2

HOLISTIC EDUCATION

Academics

Character Development

Socio-Emotional Well-Being
FAST FACT #3

TECHNOLOGY as ENABLER

Crescent Girls' School
Awarded as Mentor to
“Schools of the Future”
Around the World.
Bill Gates
31 Jan 2007
THE CRESCENT JOURNEY

Pre-1997
IT Demo School
LEAD ICT School
TLLM Prototype School
2003
2006
2007
m-learning: 1-1 computing programme
Start of FutureSchool Project
- school-wide transformation
- development of technology solutions
HOLISTIC IMPLEMENTATION

- Leading technology-rich schools
- Professional development for staff
- Infrastructure planning & implementation
- Curriculum, Pedagogy & Assessment
- Collaboration with partners
- Research
Leading technology-rich schools

CHANGE MANAGEMENT FRAMEWORK
CHANGE MANAGEMENT

Vision

Disconfirmation  Commitment  New competence  Coherence  Consensus

Current Reality

Unfreezing

Complacency  Loss  Old competence  Confusion  Conflict

The Human Side of School Change (Robert Evans, 1997)
HOLISTIC IMPLEMENTATION
Professional Development for Staff

SCHOOL-WIDE

SPECIALIZED

DEPARTMENT-WIDE

Targeted training for ICT team
Subject-specific ICT integration
Protected PD time
Customised training
E-Coaches

Essential ICT Skills
Induction Programme
Half-yearly Staff Seminars
On-the-job Training
HOLISTIC IMPLEMENTATION
Infrastructure Planning & Implementation

- Fully wireless campus with high speed internet
- 1-1 computing environment
- Technology-enabled learning spaces
- Innovative ICT solutions for T & L
- Problem Based Learning in Sec 1 & 2
- Integrated Curriculum in Sec 1 – 3
- Blended learning
- Flipped classrooms
- Assessment of 21st century competencies
- 21st century pedagogies
5E MODEL OF ICT USAGE

- **EXCHANGE**: Swop of traditional practices with ICT
- **ENRICH**: Use of rich media and applications
- **ENHANCE**: Learning through active learner use of ICT
- **EXTEND**: ICT to support learning directed by learner
- **EMPOWER**: ICT to support learner control of learning and creation of knowledge

**LEARNER ENGAGEMENT**

**COLLABORATIVE PROBLEM-SOLVING & KNOWLEDGE CREATION**

**SHALLOW**

- Passive: Teacher-Centred

**DEEP**

- Active: Student-Centred
HOLISTIC IMPLEMENTATION
Collaboration with Partners

- Partners, **not** vendors
- Cultivating synergistic relationships with partners
- Win-win outcomes
- Scalable technology solutions, **not** turnkey projects
All teachers conduct action research

- Evidence-based evaluation of outcomes
- Research programme to examine the impact of technology on development of 21st century competencies
THE CRESCENT JOURNEY

Pre-1997

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2003

m-learning: 1-1 computing programme

2006

Start of FutureSchool Project
- school-wide transformation
- development of technology solutions

2007

2011

Completion of Key Technology Solutions

2012

m-learning 2.0
CrADLe
Development of Innovative ICT Solution

By teachers. For Teachers
Traditional Trails

• Learning beyond classroom
• Learning beyond syllabus
• Authentic Learning
• Experiential Learning
Challenges

• Lack of customised trails to suit needs

• Does not leverage on multimedia e.g. video, audio, quizzes

• Does not leverage on new, exciting technology e.g. real-time monitoring, augmented reality, GPS
Transforming Learning through Innovative Technology

Trail Shuttle – 1st open toolkit for learning trail

Web-based Design Toolkit

Exploring App (Student)

Monitoring App (Teacher)
How easy to create?
Trail Shuttle – How It Works

Contents Streamed Through Cloud LIVE!

- Web-based Design Toolkit
- Mobile App
- Cloud Infrastructure
- Student Generated Content
- Student Generated Content
- Trail Content
- Publish

Easy, Safe, Available 24/7, Anytime Anywhere, Connects Multiple Devices

Transforming Learning through Innovative Technologies
Transforming Learning through Innovative Technology
Trail Shuttle
Trail Shuttle

Welcome
Nur Ziana Binte Jumari

Orchard Madness
Rockmoon Teacher

Orchard Trail
Rockmoon Teacher

Testing Trail
Nur Ziana Binte Jumari

Watch Video

Make a 1 min video with narration. In your video, you are to compare the past and present land uses around Alexandra based on the following:
- Residential
- Transport
- Drainage

Next Task
Trail Shuttle

**Take a video**
Take a video of 30 sec interviewing the General Office Staff. Please upload as MP4 format.

**Quiz**
By referring to the educational panels in the Educational Hut, name the four national tugs of Singapore.

- Catchments
- 
- 
- Next Task

**Hotspots**

Camera  Album
Trail Shuttle - Monitoring

At a glance, you will see the location of ALL the students doing the trail.

You can also zoom in and select individual students to check on their progress.
Trail Shuttle - Monitoring

- Overall Progress: 0%
- Completed Hotspots: 0 out of 4
- Time: 434:48:34

- New School: Incomplete
- Old School: Locked
- Mail Central: Locked
- The OC: Locked
Trail Shuttle – Exciting Features

Location-Finder
3D Animated Object
AR Code Scan
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- 21st century learning
“A leading academy in empowering schools to transform learning in the digital age.”
SIX STRANDS

Leading technology-rich schools

Professional development for staff

Infrastructure planning & implementation

Consultancy

Collaboration with partners

Research
• From Self-Directed/Collaborative Learning to Collaborative Problem-Solving/Knowledge Creation
• From assessment of 21st Century Competencies to development of 21st Century Competencies
• From action research to in-depth research
• From explicit use of technology to ubiquitous use of technology
• From CrADLe (local) to CrADLe (global)
Take-aways

Visit Singapore.
Visit Crescent Girls' School.
Join CrADle.
Move ahead together.
Free accounts for Trail Shuttle.
Start transforming learning.
THANK YOU

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