eLearning for smart classrooms

This edition of Smart Classrooms Bytes provides an overview of eLearning. It explores the three major components that make up eLearning – digital pedagogy, digital content (including eCurriculum) and eLearning spaces. Also included is a guide to help readers consider the characteristics of effective digital learners, teachers and schools when developing their school's vision.

The Smart Classrooms strategy is a learning initiative that assists educators to make ICT integral to learning as part of the Department of Education, Training and the Arts' collective vision to create a clever, skilled and creative Queensland.

The strategy is about engaging the digital generation, improving individualised learning opportunities, sparking innovation in learning, enhancing teachers' digital pedagogy and getting the best from schools' ICT investment.

Smart Classrooms represents a focus on re-orienting our school structures and business processes around individual students and their learning needs.

It is a transformative strategy to transition from traditional ways of working to a digital way of working that is meaningful, engaging and connected.

The challenge lies in shifting from teaching and learning about ICT to teaching and learning with and through ICT. This means rather than using technology to do old things in new ways, we want to do new things in new ways and use technology to enable and transform teaching, learning and the curriculum.

Compelling case for change

The compelling case for change is clear. During the past decade, and particularly the last five years, our students have evolved.

Technologies have changed and the world has changed and will continue to do so at a rapid rate. This means teachers and their teaching methods must also adapt – traditional classroom learning is limited to the knowledge the teacher has and can access.

Students' ability to find and then evaluate information and construct new knowledge is enhanced through connecting with the world outside the classroom, opening new possibilities that will enable individuals to build new nodes of knowledge depending on their needs and learning styles.

This fundamental change will impact on what we teach, how we teach and where we teach.
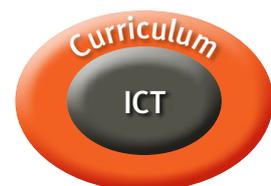
Traditional Logic

Curriculum   ICT

Transitional Logic

Curriculum   ICT

Transformational Logic

Curriculum   ICT

clever • skilled • creative

What is eLearning?

The Department's eLearning strategy is positioned at the forefront of transforming classroom practice and student learning opportunities. This approach promotes a blended model of learning featuring a balance between virtual and face to face delivery. The proportion of each delivery mode will vary significantly and is critically linked to the role of the teacher in facilitating learning. eLearning is not confined to independent study or remote learning models, it is an important consideration for all schools and teachers.

The Smart Classrooms' strategy for eLearning is comprised of three interrelated and co-dependent components:

1. Digital Pedagogy
2. Digital Content (including eCurriculum)
3. eLearning Spaces

These components co-exist to create the conditions for a new generation of digital learners. If one component is missing the approach is unbalanced and less effective.

The eLearning strategy is built on the foundation-of the Department's enabling infrastructure with a clear future focus of creating a ubiquitous environment for learning that connects students' personal, family, school and real world domains. At this intersection of a student's world, the goal of individualising outcomes can be achieved.
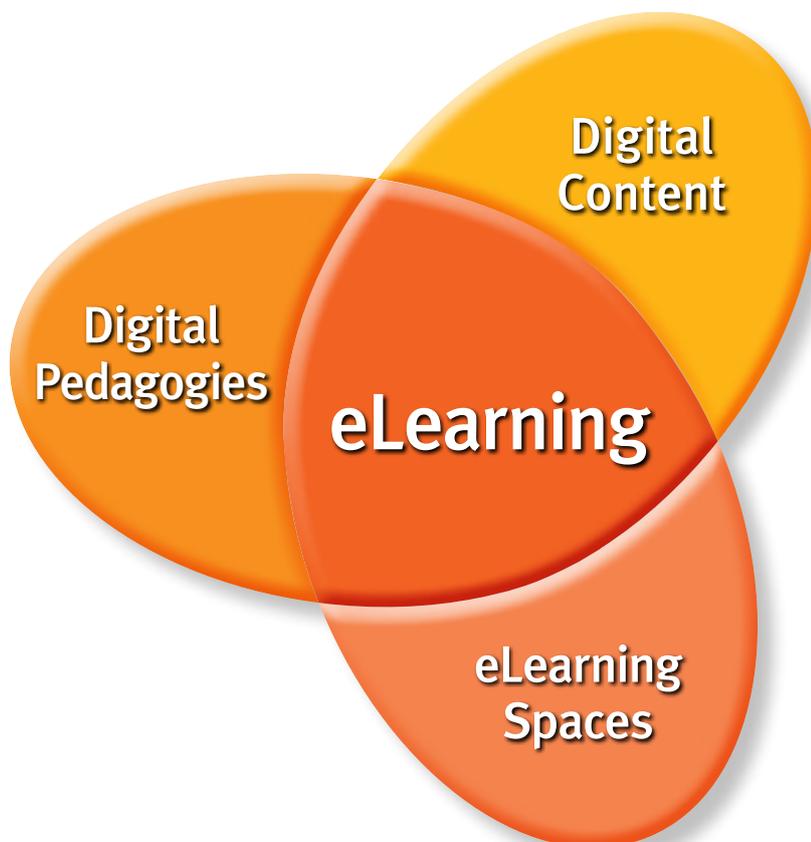
Why eLearning?

The Organisation for Economic Change and Development (OECD 2005) has identified critical factors that determine a nation's economic growth, development and success within a globally competitive market. Outlined was the critical role ICT played in entrepreneurship, innovation and the development of social capital. The capacity of students and teachers to use (digital literacy) and apply ICT (pedagogy) will be key for economic growth and stability in the future.

Similarly, the United Nations Education, Scientific and Cultural Organisation (UNESCO) strongly emphasises the relationship between ICT use, education reform, and economic growth. This is based on assumptions that systemic economic growth is the key to poverty reduction and increased prosperity and that ICT are engines for growth and tools for empowerment with profound implications (UNESCO, 2008).

While businesses, consumers, students and organisations globally are convinced of the potential and importance of ICT, some educators are still arguing and struggling to accept and adopt learning through, and with, ICT.

Digital Content

Digital Pedagogies

eLearning

eLearning Spaces

Digital Pedagogy

Digital Pedagogy is a new way of working and learning with ICT to facilitate quality learning experiences for 21st Century learners. Digital Pedagogy moves the focus from ICT tools and skills, to a way of working in the digital world.

Key to the program is the belief and philosophy that people, especially teachers, make the difference and that building workforce capacity is a key enabler and component for whole school implementation of eLearning. The Smart Classrooms Professional Development Framework is the cornerstone of this program and is designed to raise the bar of expectations for the way in which teachers work and learn with ICT.

Digital Pedagogy is defined as the convergence of technical skills, pedagogical practices and understanding of curriculum design appropriate for digital learners. Digital Pedagogy used effectively supports, enhances, enables and transforms teaching and learning to provide rich, diverse and flexible learning opportunities for a digital generation. It provides the basis for engaging students in actively constructing and applying rich learning in purposeful and meaningful ways. Digital Pedagogy enhances opportunities for authentic, contextualised assessment that supports learning in a digital context.

The Digital Pedagogy program incorporates contemporary teaching and learning strategies. It features personalised approaches, intellectual rigour and engagement, connectedness to global contexts, supportive and collaborative classroom environments and a clear alignment of curriculum, assessment and reporting to improve outcomes for students.

The Digital Pedagogy program cannot be viewed separately from the eLearning Spaces or Digital Content programs as teachers need to understand the ways in which students will work and learn in a digital and connected environment.

A key dependency or factor is a focus on improving students' digital literacy. Digital literacy is vital for students to become confident, creative and productive in a digital world. It is also important for students to understand the impact of ICT on society. Digital literacy also moves the focus from ICT skills to the ability to access, manage, integrate and evaluate information, develop new understandings and communicate with others in order to participate effectively in society (MCEETYA, 2005).

Students with proficient digital literacy have broad and complex knowledge and skills. They work digitally to:

• deepen knowledge and create knowledge through inquiry processes, interacting with communities of people, experts and information

• build ideas, learning solutions, products and plans through creative processes as well as for expression and reflection

• communicate, share and work collaboratively in local and global environments

• learn and work legally, ethically and safely as responsible users and creators

• develop new thinking, learning and problem solving skills to support their ongoing development.

The P-12 Student ICT Expectations support the Essential Learnings, ICT Scope and Sequence and the ICT Education Syllabus by providing a concise profile of a student's expected digital proficiency for year level junctures (3, 5, 7, 9 and 12). The Student ICT Expectations will assist teachers to determine the level of each student's competency and plan learning experiences to deepen digital proficiencies.

Components	Who can help me get started?	Want to know more?
Smart Classrooms Professional Development Framework The Smart Classrooms Professional Development Framework is a guide for planning professional learning with ICT. The framework is designed for teachers to reflect on and strengthen their beliefs and practices in using ICT for teaching and learning, regardless of which key learning area or phase of learning they teach. The framework offers clear expectations for schools and teachers about how ICT can be used effectively to support and extend student learning.	Trish McGregor **Phone:** (07) 3421 6560 **Email:** Trish.McGregor@deta.qld.gov.au	• Visit: http://education.qld.gov.au/smartclassrooms/strategy/tsdev_pd.html
Discovery and Digital Pedagogy packs These packages will help teachers develop the skills, knowledge and capabilities needed to facilitate a blend of face-to-face and online learning experiences that engages the digital generation: today's connected students. The Discovery Pack is designed to help teachers working towards the ICT Certificate level of the Smart Classrooms Professional Development Framework. Currently in development, the Digital Pedagogy Pack is intended to help teachers bridge the gap between the ICT Certificate and ICT Pedagogical Licence level.	Trish McGregor **Phone:** (07) 3421 6560 **Email:** Trish.McGregor@deta.qld.gov.au	• Visit: http://education.qld.gov.au/smartclassrooms/strategy/tsdev_pd.html
eLearning Principal Program This practicum for principals will provide greater information into the Smart Classrooms strategy with an in-depth exploration of eLearning. The program is designed to support the work of school leadership teams in creating the conditions for success for learning for a digital generation of students.	Emma Heffernan **Phone:** (07) 3421 6678 **Email:** Emma.Heffernan@deta.qld.gov.au	• Visit: http://education.qld.gov.au/smartclassrooms/strategy/dp/nt-principals.html
Indigenous Education through ICT This trial aims to capture the best practice in working and learning with ICT from teachers of Indigenous students and then create resources that can support other teachers. The project will provide targeted professional development for teachers working with Indigenous students and opportunities for collaborative student projects. Best practice stories will be celebrated through case studies.	Theresa Feletar **Phone:** 0408 731 584 **Email:** tfele1@eq.edu.au	
Smart Classrooms Teacher Awards The Smart Classrooms Teacher Awards is an annual event aimed at rewarding and recognising teachers' excellence in making ICT integral to teaching and learning.	Emma Heffernan **Phone:** (07) 3421 6678 **Email:** Emma.Heffernan@deta.qld.gov.au	• Visit: http://education.qld.gov.au/smartclassrooms/strategy/dp/teacher-awards.html
ICT Industry Project This project incorporates a number of research and professional development opportunities including 1:1 Summits and Practicum (21 steps to successful implementation of student laptop programs), ICT Industry Careers Portal and 1:1 device trials.	Sean Tierney **Phone:** (07) 5459 4590 **Email:** stier4@eq.edu.au	• Visit: http://www.learningplace.com.au/ea/licsunshinecoast/ictip
P-12 Student ICT Expectations The P-12 Student ICT Expectations support the Essential Learnings, ICT Scope and Sequence and the ICT Education Syllabus by providing a concise profile of a students expected digital proficiency for year level junctures (3, 5, 7, 9 and 12).	Emma Heffernan **Phone:** (07) 3421 6678 **Email:** Emma.Heffernan@deta.qld.gov.au	

Components	Who can help me get started?	Want to know more?
Thinking Digitally The Thinking Digitally project explores the latest learning technologies, both hardware and software, and their application to learning. Applied research and trials test peripherals and provide reviews, resources and professional development to assist teachers to make informed choices of technologies to integrate into their practice.	Adrian Greig **Phone:** (07) 5459 4590 **Email:** agrei8@eq.edu.au	• Visit: http://www.learningplace.com.au/ea/licsunshinecoast/thinkdig
Games in Learning Games in Learning explores in partnership with teachers, the application of games and learning theory through the dimensions of game play, study, design and innovation. The project leverages the work of teachers across Queensland to build a community of practice.	Colleen Stieler **Phone:** (07) 5459 4590 **Email:** Colleen.Stieler@deta.qld.gov.au	• Visit: www.gamesinlearning.com
Master Classes – Digital Pedagogy These classes provide professional development for professionals who want deeper theory and practice in mastering their own pedagogy. This project also includes research about digital portfolios.	Emma Heffernan **Phone:** (07) 3421 6678 **Email:** eheff7@eq.edu.au	• Visit: http://education.qld.gov.au/smartclassrooms/strategy/dp/masterclasses.html
Technology, Architecture and Furniture This project researches new and emerging technologies and their impact on traditional classroom spaces. For schools outfitting new learning spaces or retrofitting old ones, increased laptops or PCs will impact on space, furniture and utilities. This project captures ideas locally, nationally and internationally to provide practical advice in relation to the planning of or redesigning of learning spaces.	Sean Tierney **Phone:** (07) 3421 6334 **Email:** stier4@eq.edu.au	• Visit: http://www.learningplace.com.au/deliver/content.asp?pid=32996
ICT Learning Innovation Centre In 2004, the Department of Education Training and the Arts (DETA) opened the ICT Learning Innovation Centre to promote the innovative use of ICT to enhance learning. The Centre has evolved to become Education Queensland's test environment for research into new and emerging learning technologies including Virtual Worlds, Games in Learning, Spatial Technologies and Digital Pedagogy. The Centre supports teachers and schools by: • developing, researching and incubating innovative curriculum design and student-centred learning approaches to provide leadership in learning with technology • creating new professional development opportunities with learning technology aligned to the Standards for Teachers • delivering learning technology advisory support services.	Brett Burgess **Phone:** (07) 5459 4590 **Email:** Brett.Burgess@deta.qld.gov.au	• Visit: http://ictlic.eq.edu.au/wcmss/
Smart Classrooms Mentors Mentors are teachers who work locally to support other teachers to make ICT integral to learning. They are found in every district throughout Queensland to support school leadership teams and teachers to get started or extend learning opportunities for student learning and professional development. Mentors provide both hands on and practical advice to support teachers. More recently the Mentors are targeting schools with the rollout of the Computers for Teachers initiatives to ensure teachers get the best from the schools ICT investment.	Jim D'Castro **Phone:** (07) 3421 6647 **Email:** James.Dcastro@deta.qld.gov.au	• Visit: http://www.learningplace.com.au/en/showcase/scmentors

Digital Content

The *digital content* program consists of two key components – digital resources and eCurriculum.

eCurriculum is curriculum designed in a digital environment.

eCurriculum is only part of the teaching and learning process and is dependent on teacher pedagogy and value adding the learning process.

This program is designed to enable all learners to search, discover, manage, create and use digital content and resources. The digital content initiative is built on the basis of:

- developing high and low quality assurance resource collections
- removing barriers to student and teacher development and contributions
- auditing and incentivising schools to develop and share expertise in key curriculum areas
- expanding quality content collection and mapping to curriculum outcomes.

The Digital Content program consists of five key components:

- Resource Exchange (formerly known as the Curriculum Exchange)
- P-12 eCurriculum
- Digital Content Classroom
- Advisory and Development Services
- Library Services.

The Digital Content program cannot be viewed separately from Digital Pedagogy or eLearning spaces programs as teachers need to understand the ways students will work and learn in a digital and connected environment.

1. **The Resource Exchange currently holds more than 13,000 items and will:**
   - feature areas for staff and students to publish digital materials making it easier for teachers to contribute to a professional community of practice and share resources with colleagues
   - enable users to audit, explore and source (locally, nationally and internationally) new digital resources and content, including extant collections
   - evolve quality assurance and innovative models for eCurriculum development and implement learning object integration approaches
   - identify and target funding for key areas (GAPS) digital resources and eCurriculum then incentivise teachers and schools to develop digital resources to share with others
   - lead policy development to enable greater access to digital resources for educational uses and repurposing
   - provide opportunities to develop both high and low quality assured resources, many of which exist in schools, and unlock the potential that exists in classrooms across Queensland
   - profile individuals (using user profiling) so appropriate new resources can be sent to them as they become available.

2. **The P-12 eCurriculum (Maths and English) is in development and contributes to resources available in the Resource Exchange.**
   The eCurriculum includes a full scope and sequence across units and lessons with supporting resources linked to relevant curriculum documents and aligned to the QSA Essential Learnings. These materials have been designed to be contextualised by teachers and delivered in eSpaces and when completed will enable the potential for both horizontal and vertical programming.

3. **The Digital Content Classroom and Academy is an initiative to place instructional design and training in the hands of all students and teachers to promote the development and publishing of digital content for learning and enable the sharing and distribution of these to other staff and students.**
   The academy will:
   - deliver professional development to staff across Queensland to enable digital curriculum resource development within quality assurance framework
   - explore and research smart tools to assist teachers in linking Learning Objects and other digital content to create eCurriculum
   - incentivise schools to create new digital content and resources
   - explore existing instructional software and opportunities to develop instructional software that meet educational needs
   - explore digital content design for mobile devices and broadcast media.

4. **Advisory and Development Services provides a range of high quality digital resource development services to meet the needs of education and corporate clients. Its key services include:**
   - evolving quality assurance and innovative models for developing digital training and professional development with eLearning resources
   - developing Ready-To-Go online course shells for teachers
   - providing digital content and instructional design support services to all schools on a user-pays basis
   - auditing, exploring and sourcing (locally, nationally and internationally) existing eLearning training and professional development models
   - reviewing, developing and implementing technical and design standards frameworks to ensure innovative best practice solutions are achieved.

Main components	Who can help me get started?	Want to know more?
Resource Exchange The Resource Exchange contains more than 13,000 quality assured resources. A range of search, browse and help options make finding the right resource a simple process.	Andrew Dalgliesh **Phone:** (07) 3421 472 **Email:** Andrew.dalgliesh@ deta.qld.gov.au	http://education.qld.gov.au/ learningplace/cx/
Digital Content Classroom The Digital Content Classroom provides leadership and support to teachers and students throughout the state in digital content development.	Larry Taylor **Phone:** (07) 3421 6642 **Email:** Larry.taylor@ deta.qld.gov.au	http://www.dcclassroom.com/
P-12 eCurriculum The P-12 eCurriculum, currently under development, will include a full scope and sequence across units and lessons with supporting resources that align with essential learnings. Maths and English early years are currently in development.	Ken Jewell **Phone:** (07) 3421 6313 **Email:** Kenneth.Jewell@ deta.qld.gov.au	http://education.qld.gov.au/ smartclassrooms/strategy/ advisory-projects.html
Advisory and Development Services ADS, a team of educational, technological and creative experts work together to: • develop high quality digital content and resources that enrich educational and professional development experiences • provide a range of advisory services in the development of digital resources to best practice standards and their integration into professional practice.	Rebecca McLeish **Phone:** (07) 3421 6641 **Email:** rebecca.mcleish@ deta.qld.gov.au	http://education.qld.gov.au/ smartclassrooms/strategy/ advisory.html
Library Services (eResearch Services) Library Services provides desktop services and physical curriculum and professional development resources to all schools across Queensland.	Val Shine **Phone:** (07) 3421 6523 **Email:** valerie.shine@ deta.qld.gov.au	http://education.qld.gov.au/ library/

eLearning Spaces

The eLearning Spaces program is built on the belief that all learners can create eLearning spaces and utilise digital tools to suit their needs and purposes. The strategy places ownership of learning in the hands of all staff and students and enables the creation of formal and informal spaces to design, create, innovate, share and learn.

Central to the eLearning Spaces program is the Learning Place. The Learning Place is Education Queensland's gateway to an innovative range of online learning, communications, collaboration, community building and digital resources currently servicing more than 250,000 staff and students (as at August 2008). The Learning Place environment comprises a number of different technologies that provide learners with a rich variety of choice to suit their learning purpose, enabling content creation, innovation, communication, collaboration and community building.

Registered learners may choose from this menu of learning environments and eLearning tools to build spaces and learning sequences that meet individual needs and enable them to connect and communicate to those both within and outside of their school environments. The learning management system specifically supports individual and group instruction through virtual classrooms enabling 24/7 safe and secure access to digital drop boxes, collated assessment tools, learning activities, calendars and course materials.

One of the more recent research projects around learning design has resulted in the development of our Education Virtual World based on games design theory. Rather than using text based chats, learners within the environment can create a sense of presence online through use of avatars. Potentially, students from across Queensland will be able to enter the world to attend specialised sessions by guest lecturers and experts, join in group inquiry projects or learn in new and stimulating collaborative environments.

In addition, research is currently being conducted into instructional software and smart tools for planning, organising analysis and learning.

This program is positioned to deliver new and exciting environments and tools for teachers and students to learn, including:

- communication and collaboration spaces, such as Web 2 and social networking technologies
- professional communities
- research and information
- learning and knowledge creation, including Instructional Software
- planning, organising and analysis
- blended learning – formal and informal
- spaces for creativity and innovation (providing multiple formats for publishing, modelling, simulation, showcasing and sharing)
- Education – Virtual World
- digital resources harvested from the eLearning environment
- great ideas and innovative concepts, incentivised and actioned by teachers and students.

The eLearning Spaces program cannot be viewed separately from the Digital Pedagogy or Digital Content programs as teachers need to understand the ways in which students will work and learn in a digital and connected environment.

Components	Who can help me get started?	Want to know more?
Online Learning An enterprise-wide learning management system that supports and enables online student learning, professional development and training regardless of distance, place or time.	Jim D'Castro **Phone:** (07) 3421 6647 **Email:** James.DCastro@ deta.qld.gov.au	• Visit the Online Learning section of the Learning Place website • Join the Teaching in Blackboard community • http://education.qld.gov.au/ learningplace/help/help03.html
Communication and collaboration spaces A flexible secure range of online communication and collaboration spaces, providing staff and students the tools to connect, share, work, collaborate and learn.	Rebekah Hermann **Phone:** (07) 3421 6506 **Email:** Rebekah.Hermann@ deta.qld.gov.au	• Visit the communication section of the Learning Place website • Join the Learning Place project listserv • http://education.qld.gov.au/ learningplace/help/help04.html • Visit the collaborative online projects website: www. learningplace.com.au/cop
Community building: There are two types of professional communities within the Learning Place: 1. Professional communities are dynamic internet websites for networks to support community activity. 2. Blackboard communities are closed (password protected) spaces within the learning management system. Both community building spaces have a wide range of authoring and organising tools including WYSIWYG (what-you-see-is-what-you-get) editing, event registration, calendars, galleries and contact databases.	Linda Cooper **Phone:** (07) 3421 6652 **Email:** Linda.Cooper@ deta.qld.gov.au	• Visit www. learningplace.com.au • Join the professional community listserv • http://education.qld.gov.au/ learningplace/help/help02. html
Digital content and resources: See the Resource Exchange	Andrew Dalgliesh **Phone:** (07) 3421 6472 **Email:** Andrew.Dalgliesh@ deta.qld.gov.au	• Visit www. learningplace.com.au/cx
Education Queensland's Virtual World: Students will be able to meet and collaborate through avatars and enter a virtual world where their virtual presence helps them build learning relationships and content experts will provide scheduled specialised lessons. We are rising to meet this challenge and committed to developing a safe and secure virtual world specifically designed for students and teachers.	Colleen Stieler **Phone:** (07) 5459 4590 **Email:** Colleen.Stieler@ deta.qld.gov.au	• Visit the Games in Learning website: www.gamesinlearning.com
Web 2.0 tools and devices: There are a myriad of Web 2.0 tools on the internet. This strategy supports the research and brokerage to secure Web 2.0 learning environments such as Voicethread to support designing, creating and publishing; and the use of devices in education.	Adrian Greig **Phone:** (07) 5459 4590 **Email:** agrei8@eq.edu.au	• Visit the ICT Learning Innovation Centre http://www.learningplace.com. au/ea/licsunshinecoast • Visit the 'what's new' section on the Learning Place website

Building an eLearning vision for your school

Effective eLearning requires a strong, whole-school vision built on the belief that ICT can accelerate, enable, improve and transform student learning opportunities in all key learning areas and phases of learning.

This vision will inform and focus:

- leadership, planning and decision making
- the provision and use of infrastructure, spaces, resources and curriculum
- the development of workforce capacity.

The following table, while not exhaustive, provides stimulus to consider the characteristics of effective digital learners, effective eLearning teachers and effective eLearning schools. Schools and school leaders working towards effective eLearning should consider these characteristics and the following questions within their context:

- What are the futures we are preparing our students for?
- What is required to prepare our young people for tomorrow's social, cultural and economic futures?
- What is the value of education currently and in the future to the Australian and global economy?

- Do you and your staff have a collective vision of the future of learning and schooling?
- What does innovative service delivery with eLearning look like?
- What is and what will be the interface to learning at your school?
- What is the level of transformation required to bridge from what is now to what will be?
- How do we develop the workforce capacity required to deliver 21st Century learning?

Characteristics of an effective digital learner	Effective digital learners:
These characteristics should be considered in the context of the National Statements of Learning for ICT and the Queensland P-12 Digital Learning Expectations.	• demonstrate creativity and intellectual curiosity resulting in enjoyment, fun and resilience • exhibit a sense of self, confidence and enjoyment • are self directed and can work independently, collaboratively and cooperatively to learn and to develop products of use with themselves and others • display innovation and entrepreneurship • continually develop communication and collaboration skills • communicate globally through eLearning spaces • are able to research effectively and have information fluency • have developed digital literacy and understand technology operations and concepts • have developed digital proficiency to work effectively in 21st Century environments • understand digital citizenship and work on issues and challenges that are real and relevant, that make a difference to them and to others • demonstrate accountability and adaptability • have developed skills to design, create, share and publish • build critical and systems thinking enabling problem identification, formulation and solution, and decision making • use ICT purposefully to engage in real research • explore new ideas and tools in authentic contexts • exhibit and exercise the attributes of a lifelong learner: they are a knowledgeable person with deep understanding, a complex thinker, a creative person, an active investigator, an effective communicator, a participant in an interdependent world and a reflective and self-directed learner.

Characteristics of an effective eLearning teacher

These characteristics should be considered in the context of the National Framework for Professional Standards for Teaching, the Queensland Professional Standards for Teachers, the Professional Standards for Queensland Teachers (Queensland College of Teachers), and the Smart Classrooms Professional Development Framework.

Effective eLearning teachers:

- demonstrate an ongoing commitment to professional knowledge, professional practice, professional relationships and professional values.
- have an understanding of the transformative role of ICT for 21st Century curriculum design/interpretation, pedagogy and student learning
- make conscious decisions about student learning based on an understanding of digital learners
- are lifelong learners who are willing to take risks, fail and explore areas outside his or her expertise
- employ a variety of methodologies, current learning theories and practices
- constantly collaborate with colleagues and practicing professionals in order to consolidate understanding and to share and reflect on their learning, wonderings and discoveries.

Characteristics of an effective eLearning school

These characteristics should be considered in the context of the MCEETYA Learning in an Online World strategy documents and the UNESCO ICT Competency Standards for Teachers.

Effective eLearning schools feature:

Leadership and vision, including supportive policy
- shared vision for learning and systematic whole school plans for how to get there
- enabling policies and adequate resourcing
- classrooms fostering peer and tutor support that equip students as active citizens of a global village.

Workforce capability, including digital pedagogy, digital literacy, culture of learning and innovation
- commitment to ongoing learning with staff develop digital literacy and digital pedagogy
- supportive culture for innovation is developed.

Learning spaces, including physical spaces, virtual spaces and enabling infrastructure
- learning not restricted by barriers of time or place
- seamless access for students across school, personal, family and real world domains
- classrooms where technologies are used to empower and engage learners to participate in student-centred, project-based learning
- enabling eLearning environments that provide safe and secure access and flexibility
- communities of practice (including local community supportive of students use of technology for learning)
- enterprise architecture – supported and maintained including technical support.

eLearning curriculum, including digital content
- connectedness to global issues and authentic contexts
- curriculum, instruction and assessment are clearly aligned and exist to improve student learning opportunities
- assessment, reporting and evaluation are key components of curriculum design and delivery and are understood by all
- accessible digital content developed/created by teachers and students for learning and sharing
- eCurriculum that is built upon enacted curriculum and a clear and supported model of instruction
- learning integrated as multidisciplinary and accessible for all learners.

SMART Classrooms

Effective eLearning

Flexible, collaborative, interactive learning delivered and enabled using ICT

Higher order thinking

- Evaluate and create
- Analyse and apply
- Discover and collect

Skills and knowledge

Simple

Act ethically, legally, responsibly *using ...*
- safe, secure ICT practices
- awareness of copyright, digital rights

Ethics, issues and ICT

Discover, collect, organise and store data *using ...*
- digital resources
- online databases
- self training packages
- tutorials

Operating ICT

Investigate, research and problem solve *using ...*
- online courses
- learning objects
- real world data analysis
- data visualisation
- GIS, GPS
- datalogging
- simulation
- modelling

Inquiring with ICT

Innovate, create and publish *using ...*
- wikis, podcasts
- online courses
- learning objects
- digital resources
- digital stories
- tutorials

Creating with ICT

Collaborate and interact in real world projects *using ...*
- reflection and feedback
- learning communities
- wikis, forums, blogs
- comic and text chat
- travel buddies, raps
- virtual field trips
- web conferencing
- online projects

Communicating with ICT

Be a 21st century smart learner *using ...*
- a range of online ICT tools
- mobile, virtual, personal, connected learning
- local/global, authentic problems
- anywhere, any time learning
- collaborative interaction
- real world contexts

Complex

Considerations

Pedagogy/ learning
- Transmissional
- Instructivist
- Standalone
- Transactional
- Constructivist
- Integrated
- Transformational
- Connectivist
- Integral

Quality assured design, development, delivery, evaluation, usability, accessibility, web standards

Teachers
- ICT Certificate
- ICT Pedagogical Licence