

Blended Learning

'any time, any how, many ways'



NSW Country Areas Program

Synopsis

The purpose of this document is for teachers to develop understandings and strategies to facilitate learning in a blended environment. This document will assist teachers in blending Quality Teaching practices with contemporary ICTs and appropriate hardware to maximise student educational outcomes.

Whilst the elements of quality teaching practices are relatively constant, the definition of socially valued skills and knowledge as well as the types of technologies used to maximise student educational outcomes are fluid and dynamic.

As Alvin Toffler stated in Rethinking the Future we must recognise that:

"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn."

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About the Country Areas Program

The [Country Areas Program \(CAP\)](#) is an equity program designed to assist schools and their communities to enhance the learning outcomes and educational opportunities for students in geographically isolated areas.



Educational research recognises that students attending primary and secondary schools in geographically isolated areas have less access to educational opportunities than metropolitan students.

Country Areas Program resources are provided to improve student outcomes through curriculum access and

enhancement, student engagement and peer interaction, and connected learning for geographically isolated students.

The availability of contemporary Information and Communications Technologies (ICT), together with the capacity and expertise of educational practitioners in rural regions and across the education technology network means that these areas can be addressed more effectively now than ever before.

The Country Areas Program in NSW includes both government and non-government schools. For further information about the Country Areas Program please visit the CAP Website at <http://www.cap.nsw.edu.au/>.



What is Blended Learning?

Blended Learning is a student centred, flexible, self-paced, multimodal approach to learning. It is the teaching practice that intersects traditional face-to-face teaching and online teaching. It is an increasingly popular instructional model that is helping schools and their communities address issues of student engagement, challenges of student achievement, access to staff professional learning and the expectations of 21st century learners. It requires *all* students to draw on their prior learning, acquire new knowledge and tap into their creativity to fashion new solutions to real world problems utilising a range of synchronous and asynchronous tools.



Figure 1: Multimodal Learning – one content in rich multiple formats

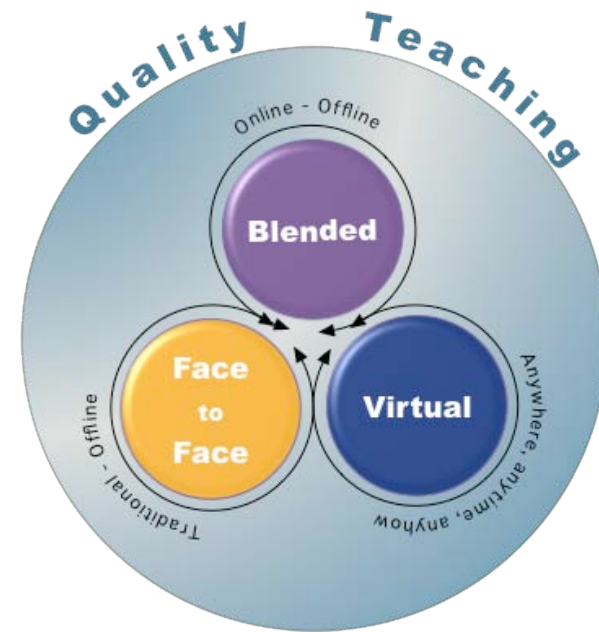


Figure 2: The principles of Quality Teaching apply in all learning environments

A blended learning approach allows teachers to blend [Quality Teaching](#) practices with the increasing availability of contemporary ICTs and appropriate technological hardware within the P-12 classroom environment (See Figure 2). In recent times we have seen an increase in the acceptance of ICTs within the P-12 education sector. The introduction of collaborative technologies such as video conferencing,

interactive whiteboards, mobile devices and web 2.0 tools into schools has been indicative of this.

More than ever, students have access to an enormous quantity of information (content) in a wide array of formats. They also have the opportunity to develop the ability to be content producers and publishers across a range of social networks and learning communities. Through using and creating content, students and teachers are developing a clearer understanding of the differences between teaching and learning interactions and content delivery (see Figure 3). For teachers the recognition of these differences should lead to reflection upon the dimensions of Quality Teaching and how they apply to their practice.

We must also be mindful that poorly designed or implemented technologies can create new barriers to participation for students with diverse learning needs. Conversely, universal design can empower students to participate as equals.

What technologies we incorporate and *how* we do so can make a significant difference in whether the technologies are *enabling* rather than *disabling*.

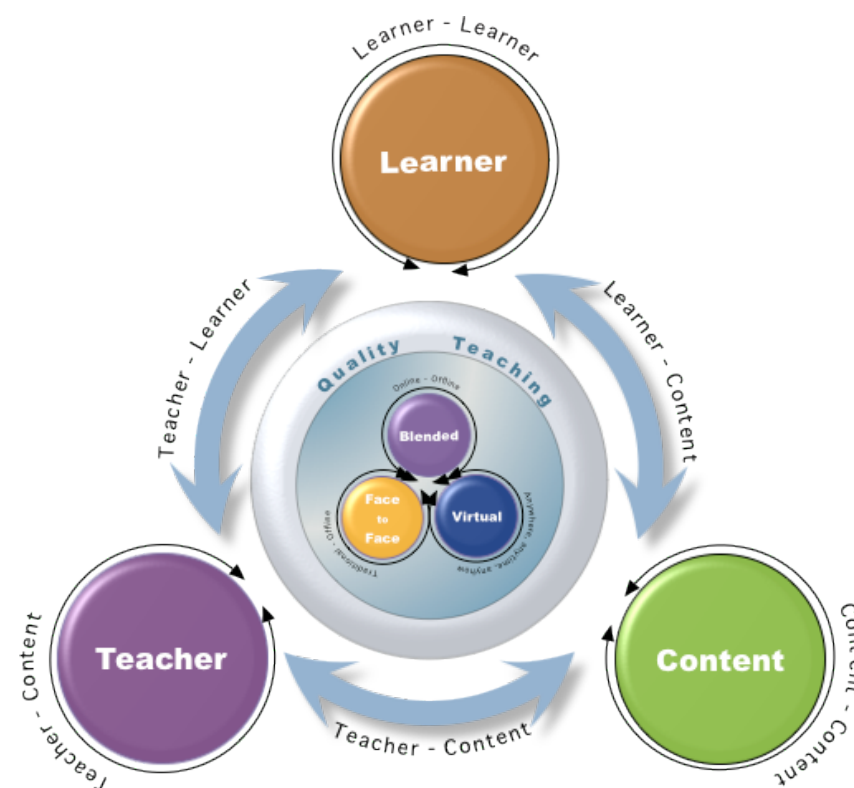


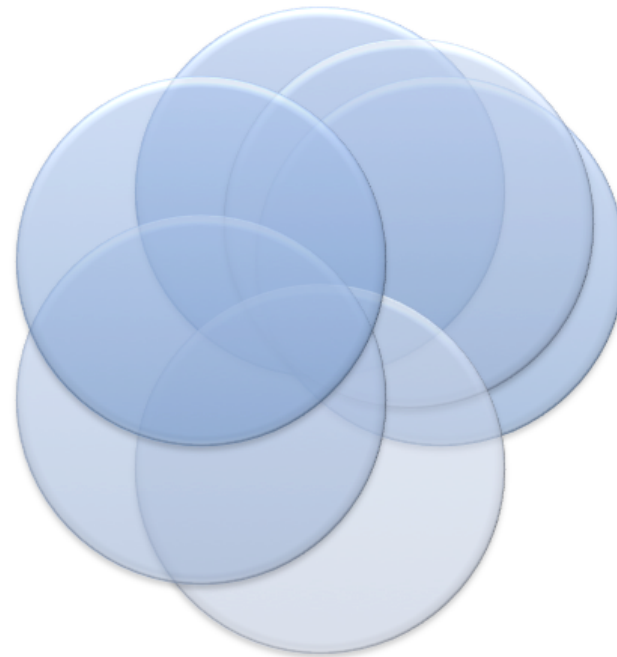
Figure 3: Teaching & learning Interactions – the relationship between student, content and teacher.

There is no, one definable picture of blended learning. Rather it is a continuum of pedagogical permutations. (See Figure 4). Furthermore, we must recognise that whatever approach to

Blended Learning Continuum

Fully online curriculum with options for face-to-face instruction.

Mostly or fully online curriculum with some time in either the classroom or the computer lab.



Classroom instruction that includes online resources with limited or no requirements for students to be online.

Classroom instruction with substantial required online components that extend beyond the classroom and/or the school day.

Mostly or fully online curriculum with students meeting daily in the classroom or computer lab.

Figure 4: Blended Learning Continuum

blended learning is utilised, it does not operate in isolation, rather it is part of a digital ecosystem (See Figure 5).

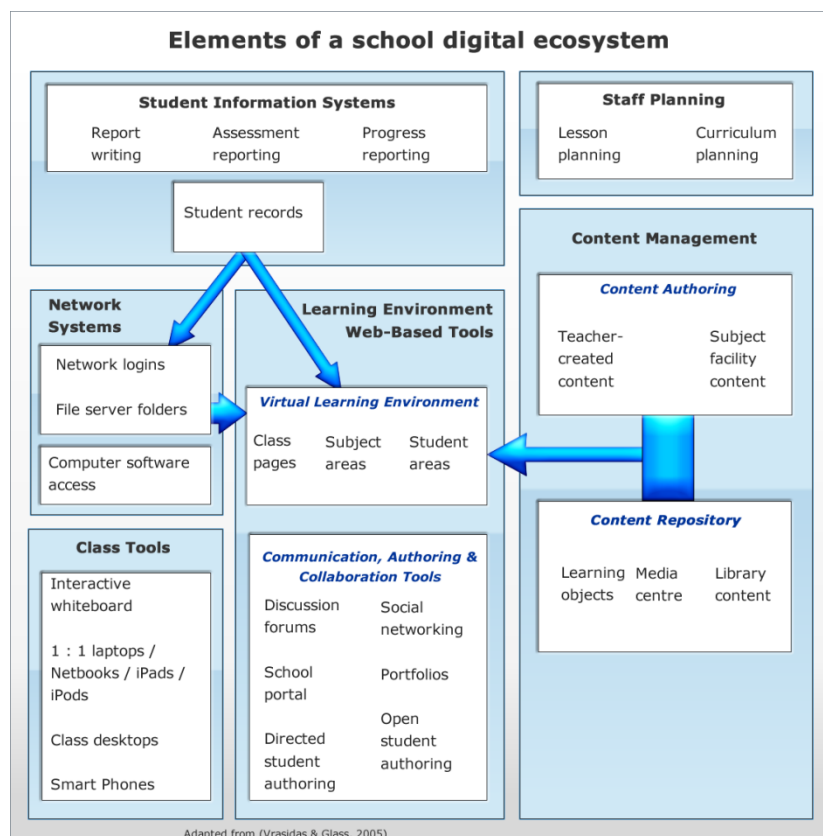


Figure 5: Elements of a school digital ecosystem (Vrasidas & Glass, 2005)

Blended learning has many advantages for ALL students. However, for isolated rural school communities, a blended approach has further advantages:

- Provides students with curriculum access and enhancement through access to a wider range of teachers, curriculum materials, learning experiences and sources of knowledge.
- Facilitates student engagement and peer interaction across small educational cohorts to gain a more direct and timely opportunity to engage in collaborative learning with a wider range of peers.
- Engages students in connected learning so they are supported in a wide variety of interactions across space and time, in accessing information sources, educational and community services and individual connections.

Finally we must reiterate that the purpose of this Blended Learning document is for teachers to develop understandings and strategies to facilitate learning in a blended environment. It is first and foremost about Quality Teaching practices and how we can incorporate and utilise contemporary ICTs and appropriate hardware within those practices to maximise student educational outcomes.

Quality Teaching – Intellectual Quality

Element	What does it look like in classrooms?	What does it look like in assessment tasks?	Examples of Teaching and Learning activities	
			Strategies, Tools, Systems, Processes	Learning Technologies
Deep Knowledge	The knowledge being addressed is focused on a small number of key concepts and ideas within topics, subjects or KLAs, and on the relationships between and among concepts.	Tasks focus on a small number of key concepts and ideas within topics, subjects or KLAs, and require clear articulation of the relationships between and among concepts.	Think/pair/share , Venn Diagram , Stay-n-Stray , Affinity Diagram , Expert/Jig Saw , KWL , Lotus Diagram , 5 Whys , PMI , Global Café , Hot Potato , Operation Definition	Blogging, Web & Wiki Tools Document & Presentation Tools
Deep Understanding	Students demonstrate a profound and meaningful understanding of central ideas and the relationships between and among those central ideas.	Tasks require students to demonstrate deep rather than superficial understanding of what they are learning.	Plus/Delta , Student Teaching, Affinity Diagram , Class presentations, X/Y Chart , Mind/Concept Map, Lotus , Fishbone , 6 Thinking Hats , Bone Diagram	Image, Video & Audio Tools Data Representation & Manipulation Tools
Problematic Knowledge	Students are encouraged to address multiple perspectives and/or solutions and to recognise that knowledge has been constructed and therefore is open to question.	Tasks require students to present and analyse alternative perspectives and/or solutions and to demonstrate how the construction of knowledge relates to their understanding of the task.	Pros and Cons, NGT , Parking Lot , SWOT , Venn Diagram , Y & X Chart , If/Then	Programming Environments Media Conversion Tools

Quality Teaching – Intellectual Quality

Element	What does it look like in classrooms?	What does it look like in assessment tasks?	Examples of Teaching and Learning activities	
			Strategies, Tools, Systems, Processes	Learning Technologies
Higher-Order Thinking	Students are regularly engaged in thinking that requires them to organise, reorganise, apply, analyse, synthesise and evaluate knowledge and information.	Tasks require students to organise, reorganise, apply, analyse, synthesise and evaluate knowledge and information.	Fishbone Diagram , Bloom's Taxonomy , Force Field Analysis, Bone Diagram , SWOT , Pareto, 42 Grid , 6 Thinking Hats , Venn Diagram , X Chart	Blogging, Web & Wiki Tools Document & Presentation Tools
Metalinguage	Lessons explicitly name and analyse knowledge as a specialist language (metalinguage), and provide frequent commentary on language use and the various contexts of differing language uses.	Tasks require the use of metalinguage, commentary on language use and the various contexts of differing language uses.	Structured Brainstorm , Find-a- Word, WIFLE/WODIL , P3T Bone Diagram , Experts, Lotus , Stay-n- Stray	Image, Video & Audio Tools Data Representation & Manipulation Tools
Substantive Communication	Students are regularly engaged in sustained conversations about the concepts and ideas they are encountering. These conversations can be manifest in oral, written or artistic forms.	Tasks require students to communicate their understanding in an elaborate and substantive fashion. This communication can take oral, written or artistic forms.	Structured Brainstorm , Modified Debates, Affinity Diagram , Find a word, Bone Diagram . Make a movie, Fishbone Diagram , Dioramas, Force Field Analysis	Programming Environments Media Conversion Tools

Quality Teaching - Quality Learning Environment

Element	What does it look like in classrooms?	What does it look like in assessment tasks?	Examples of Teaching and Learning activities	
			Strategies, Tools, Systems, Processes	Learning Technologies
Explicit Quality Criteria	Students are provided with explicit criteria for the quality of work they are to produce and those criteria are a regular reference point for the development and assessment of student work.	Tasks provide explicit criteria for the quality of work students are expected to produce and those criteria are reference points for assessing student work.	QI processes , Check Lists, Negotiated outcomes, Modelling, Self/peer and teacher assessment, Contracts, Feedback, Rubrics, Negotiated Criteria, 3-Way Reports, Capacity Matrix	Hardware Learning Management Systems Communication Tools
Engagement	Most students, most of the time, are seriously engaged in the lesson or assessment activity, rather than going through the motions. Students display sustained interest and attention.	Not necessarily observable in written tasks, but may be observable in performance-based tasks as it would be in the classroom.	Learning/task Centres, Use Media, Cooperative Learning, Think/pair/share , VAKT, Whole Brain Learning, Brain Gym, Habits of Mind, Jig Saw	Organisational Tools Online Collaborative Student Projects Learning Repositories and Open Educational Resources
High Expectations	High expectations of all students are communicated, and conceptual risk taking is encouraged and rewarded.	Tasks demonstrate that high expectations are expected of all students and conceptual risk taking is encouraged and rewarded.	QI processes . Rubrics, Interviews, Criteria, Goal setting, Portfolios, Bloom's Taxonomy	Learning Support Tools

Quality Teaching - Quality Learning Environment

Element	What does it look like in classrooms?	What does it look like in assessment tasks?	Examples of Teaching and Learning activities	
			Strategies, Tools, Systems, Processes	Learning Technologies
Social Support	There is strong positive support for learning and mutual respect among teachers and students and others assisting students' learning. The classroom is free of negative personal comment or put-downs.	Not readily observable in written tasks, but may be observable in performance-based tasks as it would be in the classroom.	PLP's, Stay-n-Stray , Learning Centres, Walk-n-Talk , VAKT, Left & Right Brain, Human Graph, MI, 6 Thinking Hats, Cooperative Learning, Peer Tutoring, Quality Tools , Merit Systems	Hardware Learning Management Systems Communication Tools
Students' Self-Regulation	Students demonstrate autonomy and initiative so that minimal attention to the disciplining and regulation of student behaviour is required.	Not readily observable in most tasks. Observable in tasks that are structured to promote student self-regulation.	7 Habits of Highly Effective Teens, EQ, HBDI, Clear Group Goals, Brain .	Organisational Tools Online Collaborative Student Projects
Student Direction	Students exercise some direction over the selection of activities related to their learning and the means and manner by which these activities will be done.	Tasks are designed so that students exercise some direction over the selection of activities related to their learning and the means and manner by which these tasks will be done.	Cooperative Learning, Inquiry Model , Negotiated Learning, CTJ, MI and Bloom's Taxonomy, Renzuli, Constructivists, FiSH	Learning Repositories & Open Educational Resources Learning Support Tools

Quality Teaching - Significance

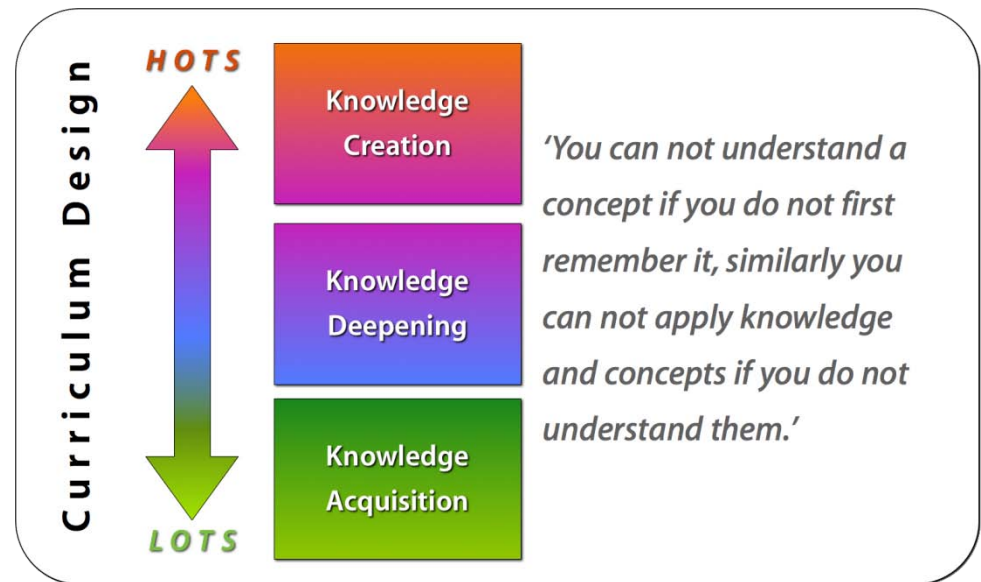
Element	What does it look like in classrooms?	What does it look like in assessment tasks?	Examples of Teaching and Learning activities	
			Strategies, Tools, Systems, Processes	Learning Technologies
Background, Knowledge	Lessons regularly and explicitly build from students' background knowledge, in terms of prior school knowledge as well as other aspects of their personal lives.	Tasks explicitly build from students' background knowledge and require students to demonstrate links between old and new knowledge.	Mind Maps, KWL , Learning Continuum, Inspiration Maps, Retrieval Charts, Capacity Matrix , Bone Diagram , Association Trees, Venn Diagram , Imagineering	Learning Management Systems Blogging, Web and Wiki Tools Document and Presentation Tools
Cultural Knowledge	Lessons regularly incorporate the cultural knowledge of diverse social groupings (such as economic class, gender, ethnicity, race, sexuality, disability, language and religion)	Tasks incorporate the cultural knowledge of diverse social groupings.	Mentoring, Brainstorm , Peer Tutoring, Fishbowl, Cooperative Learning, TMI, Y Chart , Venn Diagram , Graphic Organiser	Image, Video and Audio Tools Communication Tools Data Representation and Manipulation Tools
Knowledge Integration	Lessons regularly demonstrate links between and within subjects and key learning areas.	Tasks require students to build from an understanding of the links between and within subjects and key learning areas.	MI , P3T, 6 Thinking Hats , Concept Maps, Webs, Interrelationship Diagram	Programming Environments

Quality Teaching - Significance

Element	What does it look like in classrooms?	What does it look like in assessment tasks?	Examples of Teaching and Learning activities	
			Strategies, Tools, Systems, Processes	Learning Technologies
Inclusivity	Lessons include and publicly value the participation of all students across the social and cultural backgrounds represented in the classroom.	Tasks require the participation of all students across the social and cultural backgrounds represented in the classroom.	Quality processes , X Chart , HBDI, TMI, 7 Habits of Highly Effective People, Cooperative Learning	Learning Management Systems
Connectedness	Lesson activities rely on the application of school knowledge in real-life contexts or problems, and, provide opportunities for students to share their work with audiences beyond the classroom and school.	Tasks apply school knowledge in real-life contexts or problems, and, provide opportunities for students to share their work with audiences beyond the classroom and school.	Rich Tasks, 5 Whys , Business/School Links, What If , QI Story Boards , Venn Diagram , Walk-n-Talk , Webs, Authentic Assessment Tasks,	Blogging, Web and Wiki Tools Document and Presentation Tools Image, Video and Audio Tools
Narrative	Lessons employ narrative accounts as either (or both) a process or content of lessons to enrich student understanding.	Tasks employ narrative accounts as either (or both) a process or content of the task to enrich student understanding.	Stay-n-Stray , Dictagloss , Walk-n-Talk , Think/Pair/Share	Communication Tools Data Representation and Manipulation Tools Programming Environments

Bloom's Digital Taxonomy Overview

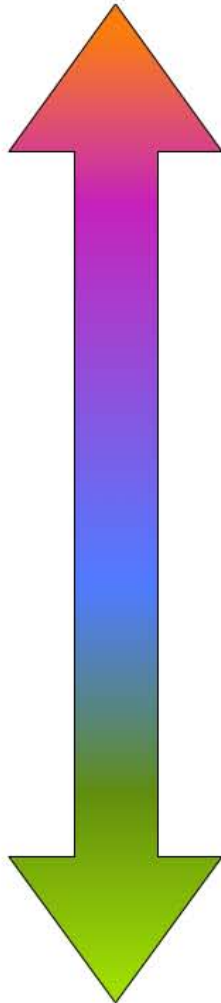
The following is a classroom planner devised from [Bloom's Digital Taxonomy](#) for classroom teachers incorporating examples of learning technologies, quality teaching snapshots and various other processes and activities. Andrew Churches, an educator in New Zealand, created this taxonomy. It is based on Bloom's Taxonomy (1950) and Bloom's Revised Taxonomy (2000). The updated version of Bloom's, Bloom's Digital Taxonomy (2009), takes into account current and emerging technologies and the learning styles and needs of 21st century learners. Further, it reflects the need for our students to work collaboratively and communicate across space and time facilitated by a range of technologies. Previous Bloom's models were based on the traditional classroom paradigm and do not take into account the impact of technology on the classroom and student learning.



The **Bloom's Digital Taxonomy Classroom Planner** contained on the following pages is not about the technologies, processes and activities in isolation but how these can be blended together with quality teaching practices to maximise student outcomes.

Curriculum Design

HOTS



LOTS

Knowledge
Creation

Creating

Evaluating

Knowledge
Deepening

Analysing

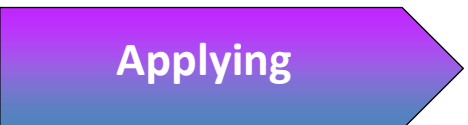
Applying

Knowledge
Acquisition

Understanding

Remembering

Bloom's Digital Taxonomy Planner

Taxonomy	Processes	Activities	Example Teaching & Learning Technologies
 Creating	designing constructing planning producing inventing devising making	programming filming animating blogging mixing re-mixing wiki publishing vodcasting podcasting directing broadcasting	Kahootz podcast digital story telling movie making eBook
 Evaluating	checking hypothesising critiquing experimenting judging testing detecting	blogs reviewing posting moderating collaborating networking re-factoring testing	Moodle LAMS podcast
 Analysing	comparing organising attributing outlining finding structuring integrating deconstructing	mashing linking validating reverse-engineering cracking media clipping	Notebook Excel Webspiration
 Applying	implementing carrying out using executing	running loading playing operating hacking uploading sharing editing	Comic Life graphic program Digital storytelling
 Understanding	interpreting summarising inferring paraphrasing classifying comparing explaining	advanced searches blog journaling Boolean searches twittering categorising tagging commenting annotating	Wikispaces Notebook LAMS
 Remembering	recognising listing describing identifying retrieving naming locating finding	bullet pointing highlighting bookmarking social networking social bookmarking favourites searching googling	Moodle LAMS blogs Webspiration

Knowledge Acquisition >> Remembering

Remembering: Retrieving, recalling or recognising knowledge from memory.
Remembering is when memory is used to produce definitions, facts or lists, or recite or retrieve material

Process verbs	Sample question stems	Potential activities
Tell	What happened after?	Make a list of the main events of a story.
List	How many...?	Make a timeline of events.
Describe	Who was it that...?	Make a facts chart.
Relate	Can you name the ...?	Write a list of information you can remember.
Locate	Describe what happened at...?	List all the animals in the story.
Write	Who spoke to...?	Make a chart showing
Find	Can you tell why...?	Make an acrostic.
State	Find the meaning of ...?	Recite a poem.
Name	What is...?	Construct a Mind Map of what you know in LAMS
	Which is true or false...?	Complete Moodle Quiz
		List what you know about the topic on our blog
		Using Webspiration list the types of...

Collaborating
Moderating
Negotiating
Debating
Commenting
Net meeting
Reviewing
Questioning
Replying
Posting/blogging
Networking
Contributing
Chatting
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Microblogging
Instant Messaging
Texting

QT SNAPSHOT	EARLY YEARS (P-4) Group Activity Read a book and create a timeline of the book on an interactive whiteboard (IWB). <i>(QT = Substantive Communication, Narrative, Students' Self Regulation)</i> Individual Activity Construct a facts chart on a topic using presentation software. <i>(QT= Deep Understanding, Explicit Quality Criteria, Knowledge Integration)</i>	LATER YEARS (9-12) Group Activity Using a predetermined reflection tool chat about the content from the individual activity online using a learning management system. <i>(QT=Problematic Knowledge, Engagement, Narrative)</i> Individual Activity Relate what you know about a topic using learning management software. <i>(QT=Knowledge Integration, Student Direction, Metalanguage)</i>
	MIDDLE YEARS (5-8) Group Activity Describe or list what you have learnt about a topic using mind mapping or presentation software. <i>(QT=Deep Knowledge, Social Support, Inclusivity)</i> Individual Activity Recite a poem and record using music/podcast/audio recording tools. <i>(QT= Deep Understanding, High Expectations, Connectedness)</i>	

Knowledge Acquisition >> Understanding

Understanding: Constructing meaning from different types of function?? be they written or graphic

Process verbs	Sample question stems	Potential activities
Explain	Can you write in your own words...?	Create pictures to show a particular event?
Interpret	Can you write a brief outline of...?	Illustrate the main idea.
Outline	What do you think happened next?	Make a cartoon showing a sequence of events.
Discuss	Who do you think...?	Write and perform a play based on...
Distinguish	What was the main idea?	Retell the story.
Predict	Who was the key character?	Create a picture of part of the story you liked.
Restate	Can you distinguish between...?	Write a summary report of the event.
Translate	What differences exist between...?	Prepare a flowchart to illustrate the sequence.
Compare	Can you provide an example of...?	Make and publish a colouring book.
Describe	Can you provide a definition for...?	Using the wikispace discussion summarise the event Using LAMS chat and scribe predict what will happen when.....

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QT SNAPSHOT	EARLY YEARS (P-4) Group Activity Using presentation software or music/podcast/audio recording software create a story or retell of a popular story. <i>(QT=Metalanguage, High Expectations, Background Knowledge)</i> Individual Activity Use presentation software to illustrate a scene from a writing task. <i>(QT=Deep Knowledge, Student Direction, Narrative)</i>	LATER YEARS (9-12) Group Activity Use an IWB and a digital template from an office tools program to prepare a flow chart to illustrate expected sequences of events. <i>(QT=Deep Knowledge, High Expectations, Background Knowledge)</i> Individual Activity Using a learning management system construct a series of activities to test your cohort's knowledge of a topic. <i>(QT=Metalanguage, Social Support, Connectedness)</i>
	MIDDLE YEARS (5-8) Group Activity Using collaborative software such as a wiki to create a script for a play. <i>(QT=Deep Understanding, Social Support, Connectedness)</i> Individual Activity Using collaborative visual learning software, create a storyboard showing the sequence of scenes in a play. <i>(QT=Problematic Knowledge, Students' Self Regulation, Narrative)</i>	

Knowledge Deepening >> Applying

Applying: Carrying out or using a procedure through executing or implementing. Applying relates and refers to situations where learned material is used through products like models, presentations, interviews and simulations.

Process verbs	Sample question stems	Potential activities
Solve	Do you know of another instance ...?	Construct a model and demonstrate it working.
Show	Could this have happened ...?	Make a diorama to illustrate an event.
Use	Can you group by characteristics ...?	Create a scrapbook record.
Illustrate	Which factors would you change if ...?	Make a paper mache map.
Calculate	What questions would you ask of ...?	Take a collection of photographs.
Construct	Develop a set of instructions about ...	Make a puzzle game using study ideas.
Complete	Is this information useful?	Make a clay model.
Examine		Design a market strategy for a product.
Classify		Paint a mural. Write a textbook about ... for others. Create a Comic Life on the topic. Create digital Photostory that shows the characteristics of ... Use a graphics program to construct a visual interpretation

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QT SNAPSHOT	EARLY YEARS (P-4) Group Activity Using portfolio tool create a group digital portfolio using pages created by small groups applying their knowledge of a given topic. <i>(QT=Substantive Communication, Social Support, Narrative)</i> Individual Activity Develop a set of instructions for other people to complete a task using presentation software. <i>(QT=Deep Knowledge, Explicit Quality Criteria, Knowledge Integration)</i>	LATER YEARS (9-12) Group Activity Using a forum on a learning management system list the main features of the text you have read and respond to other students' entries suggesting refinements or clarification. <i>(QT=Metalanguage, Student Direction, Connectedness)</i> Individual Activity Construct a puzzle or game for a group of younger students to enhance their understanding of a concept using technologies such as a notebook lesson activity toolkit or webpage design program using hyperlinks. <i>(QT=Deep Knowledge, Explicit Quality Criteria, Knowledge Integration)</i>
	MIDDLE YEARS (5-8) Group Activity Design a market strategy for a product of your choice and construct an ad for this product using programming environment (kahootz) or video editing tool. <i>(QT=Deep Understanding, Engagement, Background Knowledge)</i> Individual Activity Construct a digital story using photo editing tools that highlights different elements or characteristics of a person or product. <i>(QT=Problematic Knowledge, High Expectations, Cultural Background)</i>	

Knowledge Deepening >> Analysing

Analysing: Breaking materials into concepts or parts, determining how the parts relate or interrelate to one another or to an overall structure or purpose. Mental actions include differentiating, organising and attributing as well as being able to distinguish between components.

Process verbs	Sample question stems	Potential activities
Analyse	Which events could not have happened? If ...	Design a questionnaire to gather information.
Distinguish	happened, what might the end be? How was	Write a commercial to sell a new product.
Examine	this similar to ...?	Conduct an investigation to produce information.
Compare	What was the underlying theme of ...? What	Make a flowchart to show the critical stages.
Contrast	are other possible outcomes?	Construct a graph to illustrate information.
Investigate	Why did ... changes occur?	Make a family tree to show relationships.
Categorise	Compare ... with ... What must have	Write a biography of a person that you studied.
Identify	happened when ...?	Review a work of art in terms of form etc...
Explain	Can you distinguish between ...?	Using Notebook's categorise tool sort these objects
Separate	What were the motives behind ...?	Create a graph in a spreadsheet.
Advertise	What was the turning point?	Create a flow chart in Webspiration
	What was the problem with ...?	

QT SNAPSHOT	EARLY YEARS (P-4) Group Activity Collate data and construct a graph then examine the results using an IWB and data representation and manipulation tools. <i>(QT=Problematic Knowledge, High Expectations, Knowledge Integration)</i> Individual Activity Develop a family tree of your family using presentation tools and compare with your peers. <i>(QT=Deep Understanding, High Expectations, Background Knowledge)</i>	LATER YEARS (9-12) Group Activity Conduct an investigation into a "crime" or "significant event" taking notes and interviewing witnesses and key people; record, design and publish your investigation; reflect in a television or radio program using moviemaking or voice recording technologies. <i>(QT=Problematic Knowledge, Engagement, Background Knowledge)</i> Individual Activity Examine a significant person and write a biography of that person and publish using digital photostory or movie making software. <i>(QT=Substantive Communication, Social Support, Narrative)</i>
	MIDDLE YEARS (5-8) Group Activity Design a questionnaire to gather information on a chosen topic using an audience response system, distribute and create a graph of the responses. <i>(QT=Deep Knowledge, Social Support, Background Knowledge)</i> Individual Activity Analyse and compare graphing results from group activity and explain your views about the results using a collaborative learning tool. Examine other points of view and offer your suggestions. <i>(QT=Deep Understanding, Explicit Quality Criteria, Knowledge Integration)</i>	

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Knowledge Creation >> Evaluating

Evaluating: Making judgements based on criteria and standards through checking and critiquing

Process verbs	Sample question stems	Potential activities
Judge	Is there a better solution to...?	Prepare a list of criteria for ...?
Select	Judge the value of ...	Conduct a debate about an issue.
Choose	Can you defend your position about ... Do	Publish a booklet/create a web presence about ...
Decide	you think ... is a good or bad thing? How	Form a panel to discuss views.
Justify	would you have handled ...?	Write a submission requesting a change.
Debate	What changes to ... do you recommend? Do	Construct a report on something.
Verify	you believe ...?	Prepare a case to present your viewpoint.
Argue	Are you a ... person?	Discuss your finding in a Moodle forum
Recommend	How would you feel if ...?	Discuss your views in a LAMS chat
Assess	How effective are ...?	Present your views in a podcasts
Discuss	What do you think about ...?	
Rate		
Prioritise		
Determine		

QT SNAPSHOT	EARLY YEARS (P-4) Group Activity Discuss and the list the actions of a character in book. Using Notebook software, students select a character's actions and drag the action to either positive or negative. <i>(QT=Problematic Knowledge, Student Direction, Inclusivity)</i> Individual Activity Using the information created in the group activity students decide if they think the character is good or bad and verify their view using presentation software. <i>(QT=Higher Order Thinking Skills, Social Support, Background Knowledge)</i>	Individual Activity Identify an issue that concerns you at school and collect your evidence to support your argument using photo editing tools and construct a submission to your Principal. Convert document to a pdf and email to the intended recipient. <i>(QT= Higher Order Thinking Skills, Students' Self Regulation, Narrative)</i>
	MIDDLE YEARS (5-8) Group Activity Prepare the arguments for a debate, present your debate in the form of a TV show and record using video editing sharing and hosting tools. <i>(QT=Deep Knowledge, Explicit Quality Criteria, Connectedness)</i>	LATER YEARS (9-12) Group Activity Using a forum on Moodle justify the actions of the main character in a story. <i>(QT=Higher Order Thinking, Student Direction, Inclusivity)</i> Individual Activity Prepare a case to present your viewpoint on a topic and publish using digital capture devices. <i>(QT=Problematic Knowledge, High Expectations, Knowledge Integration)</i>

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Texting

Knowledge Creation >> Creating

Creating: Putting the elements together to form a coherent or functional whole; reorganising elements into a new pattern or structure through generating, planning or producing.

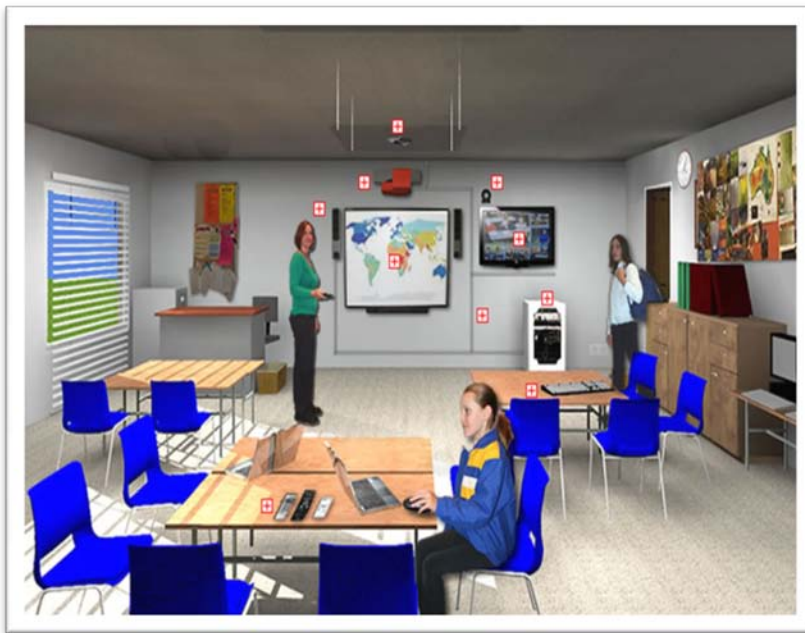
Process verbs	Sample question stems	Potential activities
Create	Can you design a ... to ... ?	Invent a machine to do a special task.
Invent	Compose a song about ...	Design a building to house your study.
Compose	What is a possible solution to ...?	Create a new product and plan its marketing.
Predict	How would you deal with ...?	Write about your feelings in relation to ...
Plan	Devise your own way to ...	Write a TV show, puppet show etc.....
Construct	What would happen if ...?	Design a CD. Book or magazine cover for...
Design	How many ways can you ...?	Make a new language and write something in it.
Imagine	Can you create new uses for ...?	Sell an idea.
Improve	Can you write a new recipe for ...?	Devise a way to ...
Propose	Can you develop a proposal for ...?	Compose a rhythm or put new words to...
Devise		Create a Kahootz animation of your narrative
Formulate		Create a digital Pshotostory of your learning
		Create a podcast

QT SNAPSHOT	EARLY YEARS (P-4) Group Activity Students write their feeling about a particular topic and record their work using music/podcast/audio recording tools. <i>(QT=Substantive Communication, High Expectations, Narrative)</i> Individual Activity Plan and construct a puppet show using a storyboard and then create and publish your show using presentation tool such as Kidpix. <i>(QT=Higher Order Thinking Skills, Student Direction, Knowledge Integration)</i>	LATER YEARS (9-12) Group Activity Compose a trip around the world using real photos and footage of significant icon and events by video editing software and add your class as the main character by superimposing them using blue screen technology. <i>(QT=Higher Order Thinking, Students' Self Regulation, Cultural Knowledge)</i> Individual Activity Examine you school and invent a solution to remove the problem, design and construct a scaled model of your solution and sell your idea by publishing it using a combination of presentation media. <i>(QT=Deep Knowledge, Explicit Quality Criteria, Background Knowledge)</i>
	MIDDLE YEARS (5-8) Group Activity Create an improved version of a well known story by developing a combined storyboard and in smaller groups develop scenes in animation software and combine to make the finished product. <i>(QT=Higher Order Thinking Skills, Social Support, Connectedness)</i> Individual Activity Using presentation software construct the words for a song. Then design and create a backing track for this song using body percussion. Record your lyrics and backing track on a music/podcast/audio recording device. <i>(QT=Deep Understanding, Engagement, Narrative)</i>	

Collaborating
Moderating
Negotiating
Debating
Commenting
Net meeting
Reviewing
Questioning
Replying
Posting/blogging
Networking
Contributing
Chatting
emailing
Microblogging
Instant Messaging
Texting

Technology Directory for the Blended Classroom

The following is a directory of hardware, software and web interactive tools you could use in conjunction with the Bloom's Digital Taxonomy when creating lessons and /or units of work for your students. While this is not an exhaustive list of tools a strong attempt has been made to provide a cross section of current and emerging tools that could be used to support student learning within a blended environment. Please note some of the following tools may not be accessible for students within NSW DET due to Internet filtering restrictions. As new hardware, software and web interactive tools become available this document will be updated accordingly.



Tool	Description	Examples	Educational Application
Hardware			
Learning Devices	Any device in the learning environment that assists students and staff access information, connect to other learning environments and create a product from their learning.	Desktop Laptop Netbook Tablet PC <u>iPod Touch/iPhone/iPod Nano</u> <u>SMART Sento</u> <u>Kindle</u> <u>iPad</u> <u>SMART Table</u> <u>Microsoft Surface</u> Mobile Phone	A school purchases a small lab of iPod touches with appropriate apps installed for lower primary to be used as part of literacy rotations to improve number and letter recognition. A school implements a school wide 1:1 laptop/netbook program for all students. A primary school purchases a SMART table to trial in the stage 2 classroom allowing students to work collaboratively on a number of projects.
Interactive Whiteboard (IWBs)	An IWB is a large interactive display that connects to a computer and projector.	<u>SMART</u> <u>Panaboard</u>	A school purchases and installs IWBs in all classrooms enabling access for all classes to the Internet, rich media resources and resources contained on the school network.
Video Conferencing	Video conferencing allows two or more sites to connect providing synchronous video and voice communication.	<u>Polycom</u> <u>Tanberg</u>	When used in conjunction with other hardware and software, video conferencing provides clusters of schools, particularly those with small cohorts, with the ability to deliver curriculum and participate in other educational opportunities. An educational consultant decides to deliver mandatory training via video conferencing.
Input Devices	Any device used in conjunction with learning devices to enhance the overall learning experience.	<u>Livescribe Pens</u> <u>Graphic Tablets</u> Scanners	Using a livescribe pen a Mathematics teacher in Distance Education and/ or an Access Program is able to create pencasts quickly to demonstrate working mathematically. These pencasts can be emailed or uploaded to a central repository for students to access.
Output Devices	Any device used in conjunction with learning devices to enhance the overall learning experience.	Headsets/Microphones Printers DVD Players	Students in the later years are required to keep a journal in a number of KLAS in order to document and reflect on their learning. Using a headset/microphone these students are able to record an audio journal (podcast) which could be uploaded as a podcast to their learning management system e.g Moodle.

Digital Capture Devices	Any device used in the learning environment which allows the learner and /or teacher to capture photographs, videos and or audio recordings.	FLiP Camera Kodak Zx1 Digital Cameras Video Cameras Document Cameras Digital Microscope	In lower primary a teacher is exploring shapes and colours with his class. The teacher splits the class into small groups and using a FLiP camera and/ or iPod Nano each group is asked to go out into the playground to capture all the shapes and colours they can. On return to the classroom they create a digital story identifying colours and shapes observed.
Learning Management Systems			
Learning Management System Content Management System	A learning management system sometimes called a content management system is a web-based technology or software application used to plan, implement and assess a specific learning process.	Moodle LAMS Studywiz Blackboard Desire2Learn Udutu Lectora Lecture Tools MS Sharepoint Yacapaca HotChalk	A secondary teacher wants a way of sequencing and organising synchronous and asynchronous content for his students in a particular KLA. The teacher uses Moodle to organise content and sequence the topics. The teacher also uses LAMS as an activity throughout the Moodle course to provide new learning experiences and /or reinforce ideas for a particular topic and /or concept. A collaborative project has been organised amongst a cluster of primary schools targeted at upper primary students using COGS as a basis. These teachers are able to use the one Moodle course to design and implement their COGS units. They also have the ability for the students to connect and collaborate within Moodle using the Chat and Wiki tools. The regional literacy consultant uses LAMS to create a short learning sequence for classroom teachers explaining the advantages of various literacy programs such as Reading2Learn and Accelerated Literacy. After reviewing this sequence the consultant is fairly happy with it and shares it with other consultants in other regions for them to use.

<i>Blogging, Web and Wiki Tools</i>			
Blog	A blog is a type of website maintained by an individual or group with regular entries of commentary, descriptions of events or other material such as photographs or videos.	Edublogs Wordpress Blogger TypePad Moodle Blog NSW DET Blog Tool - blogED	As a means of communicating with parents a preschool teacher decides to keep a blog where she shares important information about upcoming events and reminders; and posts information about what their child/ren has/have been doing during the day. The regional technology adviser is particularly interested in emerging technologies and how they can be used in an education setting. He sets up a blog and documents his findings. This blog is then shared with other likeminded educators in the region. In any KLA students could maintain an individual blog to document and reflect on their learning, for example, how they solved a particular problem in mathematics.
Wiki	Wiki, meaning 'fast' in Hawaiian, is a simple website that allows the easy editing of any number of interlinked web pages via a web browser using a simple text editor by numerous editors.	Wikispaces PB Works Wikis Google Groups Google Sites Moodle Wiki Activity LAMS Wiki Tool NSW DET Wiki Tool	Stage 3 students enrolled in Distance Education use a wiki as a collaborative group writing tool. Even though these students might be separated by hundreds of kilometres they are able to log into their secure wiki and complete their section of the group writing activity including commenting on other students work. A group of teachers is interested in Web 2.0 tools. They create a wiki which allows them to upload information and other media about various Web 2.0 tools.
Social Networking Online communities Virtual Worlds	Social Networking is generally an online service which allows people who share common interests to build an online community. Virtual Worlds are accessed via a computer in real time in which the user takes on a specific role, represented onscreen by an avatar.	Ning SecondLife OpenSim Elgg Facebook mySpace Bebo Linkedin Twitter	Teachers in Distance Education Centres and or Access Programs could use the education version of Second Life and or create their own server with OpenSim running to create a virtual world for their students. Within this secure virtual world students would be able to meet in real time to chat, discuss and relay curriculum materials. Groups of teachers with similar educational interests and or regional consultants with a particular focus such as Equity could create a ning to facilitate sharing, discussion and sharing of resources within a secure online environment.

Collaborative Visual Learning	A range of software and Web 2.0 tools exist, which allow learners to create and view content in a visual way. A number of these tools allow learners to collaborate with other learners to create and or review each others work.	Voicethread Glogster Pixton ComicLife	Students starting kindergarten could use VoiceThread.edu to share their thoughts and feelings about starting school using photographs, short videos and or audio. Each student would be able to provide comments on other students project. These could also be shared with parents at home and also with other kindergarten cohorts from around the state.
Social Bookmarking Social Tagging	Social Bookmarking provides Internet users with a method to store, organise, search and manage Internet favourites and bookmarks online. Social Tagging is an online system of collaboratively and individually creating and managing tags for particular content found on the Internet which can be searched and accessed later.	Delicious Diigo Wordle Visuwords CLI CURLS	Classroom teachers could use Delicious to store and manage their Internet favourites and bookmarks in relation to their KLA resources online which then could be shared with other classroom teachers.
Mind Mapping Tools Note Taking Tools Timeline Tools	A number of online tools and software applications exist for students and teachers allowing them to create, manage and organise information more effectively and efficiently.	Inspiration/Kidspiration MyWebspiration Exploratree Bubbl.us MindMeister LAMS Notepad Freemind Mindjet MS One Note ClassTools Mindomo Wisemapping Mind42 Text2MindMap Recall Plus Wisdomap Topicscape Dropmind Dipity	Students would be able to use MyWebspiration to brainstorm their ideas about a topic and then have fellow class members collaborate on their mindmap regardless of their physical location. Students, as they progress through a LAMS sequence, could use their notepad within LAMS to put relevant information they might need at a later date. Students and staff could use MS OneNote to take, manage and organise notes either from classes and or meetings they might attend. Staff and or regional consultants could use Exploratree with other staff to work through a range of processes and activities collaboratively for example a Lotus Diagram.

Audience Response Systems Audience Engagement Tools	These online systems and software applications allow for consultants, classroom teachers and students to engage their audience and/ or gain feedback.	Student Response Network Adobe Captivate Stu's Quiz Boxes Poll Everywhere Zoomerang Survey Monkey Articulate Quiz Egg WuFoo Lecture Tools Studystack ClassTools ESL Video	Regional consultants would be able to use Zoomerang to gain feedback from workshops they have conducted. Classroom teachers could use the Student Response Network throughout their lessons for students to submit answers to multiple choice questions posed and/ or short text responses.
Sourcing Information Web Browsers	There are numerous places online that students and staff are able to access information utilising a range of web browsers, search engines and other Web 2.0 tools. With this, however, is an increasing need to educate students and school communities about online safety and also applicable Internet research skills.	Wikipedia Internet Explorer Firefox Google Chrome Spezify Toobla Wolfram Alpha Noodle Tools Citation Machine CAP Internet Research Skills	Students could use a range of search engines to conduct low level research for assignments and assessments as needed. Teachers could use available resources such as the CAP Internet Research Skills site to teach explicit information skills to students. This would be applicable to all year levels.
Aggregators	An aggregator is an online tool or piece of software that allows you to aggregate or collect updates from various websites, blogs and news sources.	Bloglines Netvibes Google Alerts iGoogle WebChops	Classroom teachers could use an aggregator to collate information from their professional learning networks (PLNs) online e.g. blogs, nings and twitter posts.

<i>Document and Presentation Tools</i>			
Presentation Tools / Sharing	Any software application and or web based application that allows the user to present, organise and share information.	Adobe Presenter MS PowerPoint Adobe Presentations Online Prezi Slideshare	Students in lower primary with support could create a simple digital portfolio using MS PowerPoint and Adobe Presenter. This activity could be adjusted to suit all stages of learning. Older students could also use Adobe Acrobat Pro to create a hyperlinked PDF portfolio containing work samples and reflections on learning.
Office Tools	These tools refer to any software application and/ or web based application that allows the user to complete Word, Spreadsheet, Presentations and Database functions as required.	Microsoft Office/Live Workspace Open Office Adobe Buzzword Adobe Tables Online Google Docs Adobe Acrobat Pro Etherpad Revizr Backboard Bullzip PDF Printer	Students in all stages of learning access Microsoft Office applications for a range of lower order and higher order tasks such as Microsoft Word to complete an essay for English, Microsoft Excel to construct simple graphs and Microsoft PowerPoint to create presentations. A teacher has created an information overview in Microsoft Word and would like to upload this to Moodle and have it accessed by students. This teacher could use Adobe Pro and or Bullzip PDF printer to convert this file from a .doc to .pdf and then upload to Moodle as a resource for the students.
Online Storage Cloud Computing	Online Storage refers to data and or files being stored online which can be accessed, managed and organised via a web based application. Cloud Computing refers generally to a web based application that allows you to complete basic computing functions via the Internet.	NSW DET eBackpack Moodle Assignment Upload LAMs Submit File Activity Mobileme Amazon Simple Storage Scribid Drop.io Dropbox Yousendit	Students in upper secondary have been completing an assignment through Moodle and have been asked to submit their assessment task through the Moodle Assignment upload tool. The teacher then can access this task either online and/ or download it to his/her computer to provide student feedback.
Screen Capture Tools	Applications or web based tools that allow the user to capture their computer screens either as a single screenshot or video. A number of these tools also allow the user to annotate their screen capture using comments and or audio recordings.	Adobe Captivate Camtasia Studio SMART IWB Recorder Jing SnagIt Screenr Screen Toast	A secondary mathematics teacher uses an IWB and SMART IWB Recorder when explaining key concepts to the whole class. This teacher can store these short recordings at a location which can be accessed by their students for revision purposes e.g. school network drives, class wiki and or Moodle course.

Music/Podcast/Audio Recording	Online tools or software applications that allow the user to listen, record, edit and publish audio files including voice and music tracks.	Audacity Soundbooth iTunes Podcasts GarageBand Mixcraft Podomatic Podcast Producer	Students record an interview capturing weekly school news from other students using Audacity. They then create a podcast and upload it to their school website. Students create backing tracks using GarageBand to complement their digital stories and or movie they have made. Staff could use iTunes Podcasts to listen to appropriate podcasts related to their professional interests.
Movie Editing/Sharing/Hosting	Range of software or online tools allowing the user to view, capture, edit and publish movie files.	Adobe Premiere Elements iMovie MS Movie Maker Final Cut Express/Pro Xtranormal Animoto YouTube TeacherTube WatchKnow TeacherTV Vimeo CLI Learntcast EduBlogs TV Machinima Academic Earth John Locker Research Channel SnagFilms SchoolWax History.Com Totlol Arkive Zuitube	Classroom teachers who knew they were going to be absent from class could create a short movie using their laptop webcam explaining to their class what the instructions for the lesson are. This movie could be shown by the replacement teacher on the class IWB or embedded within a class wiki or Moodle course. Teachers could access a range of video hosting sites such as YouTube to explore resources that could be used in the classroom to support student learning. These movies could be displayed on a class IWB and or embedded into a LMS such as LAMS or a class blog. A school has decided to have a boys' literacy education project with the aim of improving literacy outcomes and engagement in the classroom. They have decided to run a Machinima project which is a form of film making using computer or internet games. Machinima is devised from the words machine and cinema. This project would involve students scripting a small film on a particular topic, and then, using a screen capture tool, would capture a small section of a game. Then they would use movie editing software to script and sequence their movie overlaying audio or voice track/s as appropriate.

Photo Editing/Sharing/Hosting	Tools that allow the user to view, capture, edit and publish image files.	CAP Digital Story Telling Adobe Photoshop Adobe Photoshop Elements Paint MS PhotoStory Flickr Picasa Google Images Picnik Animoto	Students with diverse learning needs could create a Digital Story using either Animoto or MS PhotoStory to provide a narrative of the person they admire most. They could source images from different websites and /or bring digital images to school. Then using photo editing software like Adobe Photoshop Elements could resize, recolour and crop their images accordingly. Then these images would be sequenced and scripted within Animoto or MS PhotoSory using a recorded voice explanation overlaid on their story. Schools, consultants or classroom teachers could use Animoto to create a quick and simple photo slideshow which could be shown at presentation night, school assemblies and/ or conferences.
Animation	Animation is the rapid sequence of 2D or 3D images using online tools and or software application.	Adobe Flash Kahootz PivotStick	Students in stage 5 Information Software Technology, as part of the optional Animation elective, could learn how to use Adobe Flash and create a solution to a client's requirement. Students in the middle years as part of peer tutoring program could create social stories using Kahootz for students in the lower primary years.
Communication Tools			
Instant Messaging	Synchronous real time communication occurring between two or more people sharing simple text messages or multimedia elements such as photos, video or audio.	Skype Etherpad Googlewave Moodle Chat Activity LAMS Chat Activity	Teachers and /or consultants who are facilitating units of work within Moodle/LAMS could utilise the chat function to allow students and participants to engage in real time conversation on a set topic.
Email	Abbreviation for electronic mail sent from one composer to another or a group using an email client via the internet and or computer client.	MS Outlook Gmail	Email can be used by all personnel within the education sector for numerous reasons including distribution of information, simple form of distributing learning content to students and routine communication between all personnel.

Web Conferencing	A range of tools used to conduct live meetings and or professional learning via the internet.	Bridgit Adobe Connect Elluminate Webex Converitlive PalBee	Teachers delivering lessons either in Distance Education Centres and /or Access Programs could use Bridgit to share their, or their students', desktops throughout the course of a lesson to share or demonstrate a particular topic.
Micro Blogging	Is a shortened form of blogging which allows the user to send brief text updates and or multimedia content such as photographs, video and or audio recordings.	Edmodo Twitter Posterous Yammer Cirip	Edmodo could be used by upper primary students to facilitate learning on a particular topic and introduce them to the etiquette of online communication. Teachers interested in various aspects of education could use Twitter to follow other teachers with similar interests therefore sharing links and resources.
Organisational Tools			
Student/Staff Organisational Tools	A number of tools currently exist which assist students and staff with organisational tasks.	Google Alerts Google Calendar MS Sharepoint School Intranet Base Camp MS One Note Evernote Trackstar Soshiku Markbook Rubistar RCampus Outlook Calendar/Tasks	Students and staff can use Google Calendar to set up reminders for important events like playground duty, assignment due dates and staff meetings. Google Calendar can be set to send a reminder SMS to a mobile phone. Similarly, this can be done on Outlook. Teachers could use Evernote when searching for classroom resources on a particular topic to keep them in one central location. Students could use MS OneNote to create and manage classroom notes.

<i>Data Representation and Manipulation Tools</i>			
Data Representation and Manipulation Tools	Software and online tools exist, which allow learners to represent and manipulate data from a wide range of sources. The ability for students to manipulate and represent data will be a crucial skill if they are to make the successful transition to further education, training and or employment.	MS Excel InspireData Google Earth Google Docs Google Maps	As part of compulsory Field Work in Stage 5 Geography the teacher has decided students will explore climate change in their local community. As pre work students need to record and represent local weather activity for a period of one month and then compare and contrast weather activity with records kept from 30 years ago. Students will use InspireData to collect, collate and present their findings.
<i>Programming Environments</i>			
Programming Environments	A range of programming environments exist online and as software for students to create and fashion a range of products including animations, widgets, applications and to demonstrate their learning.	Scratch Kahootz Adobe Flash Greenfoot LogoWorld Apple iPhone SDK Game Salad Game Maker BeeBots Lego Robotics - MindStorms Alice	In the later years a number of students are interested in computer programming and take Software Design and Development. The teacher downloads the Apple iPhone SDK (developer kit) and the students start developing their own iPod touch and iPhone apps. A lower primary teacher is looking for a novel way of teaching letter recognition and getting students to spell their own names. The teacher using a large alphabet sheet gets students to program BeeBots to locate letters and spell their name on these sheets when asked.

Online Collaborative Student Projects

Online Collaborative Student Projects	Online collaborative student projects utilise a range of existing technologies incorporating video conferencing, interactive whiteboards, desktop collaboration software and other online collaborative technologies. The activities conducted throughout these projects can be synchronous or asynchronous. With the developments in technology, classes around the world can connect, communicate and collaborate on various projects. Further, for rural students these technologies have allowed small cohorts of students to connect, which provides them with curriculum enhancement and important social interaction through connected learning.	Virtual Excursions (Connections) NSW DET Connected Classrooms Flat Classrooms OzProjects PlaceSpotting Be Very Afraid Project CAP Collie Projects CAP Middle Years Projects	A number of small one -teacher schools in rural NSW have decided they need to improve talking and listening skills in their lower primary students. However, due to small cohort numbers they cannot achieve their outcomes satisfactorily. They decide to initiate a program whereby once a week these students connect using their video conferencing and interactive whiteboard equipment to have a “what’s news session”. The students are able to see and hear the other students and share pictures, movies and other artefacts as they would if delivering news to their own class. Through technology this has increased these students’ cohort size. A high school teacher teaching Geography is completing a unit of work on environmental issues. When she gets to the part where the students start exploring the impact of humans on water quality, the teacher decides to use the school’s video conferencing equipment to connect her class through Connections to the Great Barrier Reef for a virtual excursion. A stage 3 teacher would like to provide her students with a cultural experience with students from another country. They are currently completing work on Indonesia. This teacher makes contact with a teacher in Indonesia and they set up a wiki. Through the wiki students from this class and the class in Indonesia are able to connect and communicate sharing information about their country, their culture and lifestyles.
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<i>Learning Repositories and Open Educational Resources (OER)</i>			
Learning Repositories and Learning Objects	A learning repository is an online place where resources such as learning objects are stored centrally. Items may be found by browsing or searching databases by keyword. A learning object is usually a digital and or web based resource that can be used and reused to support learning.	TALE ALEC Learning Federation CLI LRR LAMS Community	A teacher has commenced programming for the upcoming year and needs to find a range of resources to be used in the classroom. A starting point for this teacher could be to search the mentioned learning repositories for learning objects such as a LAMS sequence in the required KLA. Then this content could be downloaded to be accessed by the students either offline or online when required.
Open Educational Resources (OER)	OER are educational materials and resources offered freely and openly for anyone to use, and, under creative commons licenses, to re-mix, improve and redistribute. Open educational resources include learning content e.g. full courses, learning tools and implementation resources.	iTunesU iTunes Podcast Directory Hippocampus MIT OpenCourseWare Creative Commons Search	The school executive would like to further their understanding of working in and leading teams however have spent their allocated professional learning budget. A solution could be to visit the MIT OpenCourseWare and download the Leading Teams course which contains all lecture notes, activities and media content. The school executive could then complete at a time convenient to them. A LOTE teacher is looking for revision material for his students. After looking in iTunesU and the iTunes Podcast directory he discovers a range of podcasts and vodcasts which will assist students with their revision and extend students as necessary.

<i>Media Conversion Tools</i>			
Video, Photo and Audio Converter	Increasingly as teachers prepare materials for students in an online format the need to convert and capture various audio, photo and video from various places has increased. Video, photo and audio converter and capture tools allow teachers to do this and range from software installed on a computer to online tools on the internet.	Adobe Media Encoder Quick Time Pro Zamzar MediaConverter KeepVid Kick YouTube Vixy SaveTube TubeCaption MS Resize Picture	A student has been asked by his teacher to upload a digital story to a Moodle that students had been asked to create for an assessment task. He created his digital story in MS PhotoStory, which produces a WMV file extension. To upload to Moodle he would need to use Adobe Media Encoder to convert this digital story from WMV to FLV. A class project for the term is a collaborative wiki. Both students and the classroom teacher need to resize pictures before inserting them on their wiki page. They use MS Resize Picture to do this. A teacher, while preparing an interactive whiteboard (IWB) lesson, finds a movie on YouTube, which she would like to add to her lesson. The teacher could use KeepVid to download the movie from YouTube and then insert into the IWB lesson.
<i>Learning Support Tools</i>			
Learning Support Tools	Any piece of hardware, software and or web 2.0 tools that assists students with diverse learning needs either in the mainstream classroom and or special school setting.	Clicker5 ClaroRead5 EduApps Wordahead Writing Fix Weboword Vozme Visual Dictionary Ghotit Grammar Ninja Boardmaker One More Story 2Simple Software Lingro Mingoville Babelewith.me Maths Dictionary for Kids Zac Browser	A classroom teacher uses Boardmaker to create a visual daily timetable for students. A student who is visually impaired uses ClaroRead5 while researching an assessment task to have the information read to him from the Internet. A student who is intellectually impaired uses 2Simple Software to construct a simple timeline of her life. An ESL student uses Lingro to assist with translation and language development whilst learning English.

Professional Learning Pathways for Blended Learning

The following table details of professional learning activities for students, staff and school communities available or in development in different regions. Contact your regional consultants for information about the courses or materials in your area.

A number of these sessions can be modified to suit the context of the participants including content and time. Further it is anticipated throughout 2010 a number of these workshops will become accredited with the NSW Institute of Teachers.

Knowledge Acquisition New mindsets	The 21 st Century Classroom – An Introduction to Blended Learning	
	Understanding Web 2.0	
	Blended Learning Methodology - Introducing Blooms Taxonomy	
	Leading 21 st Century Schools in a Digital World	
	Being safe in an Online World	
	Mapping Student and Staff Proficiencies in a Blended Learning Environment	
Knowledge Deepening New skills & tools	Learning Management Systems – Moodle and LAMS	Collaborative Online Workspaces (COWs) – Wikis, Nings and Google Groups
	Blogs	Podcasting
	Interactive Whiteboards (IWBs)	2d & 3D Animation – Kahootz, Comic Life and Animation
	Mobile Learning – Using mobile devices in the classroom	Web 2.0 Tools
	Using Technology to Support Students with Diverse Learning Needs	Classroom Resources Online – Open Educational Resources (OER) and Creative Commons Resources
	Virtual Excursions to Enhance the Curriculum	Using your Connected Classroom
	Social Networking in your Classroom	Smart and Sassy – Technology for SASS staff and community members
	Digital Story Telling	Movie Making
Knowledge Creation New skills & tools in action	Blended Learning in your KLA and or the Primary Classroom	
	Leading Blended Learning	
	Online Teacher Practicum using Blended Learning	
	Facilitating Inter School Projects using the Blended Learning Environment	

Glossary

Asynchronous learning is a student-centred teaching method that uses online learning resources to facilitate information sharing outside the constraints of time and place among a network of people. ([Wikipedia](#))

Blended Learning is a student- centred, flexible, self- paced, multimodal approach to learning.

Collaborative Technologies are online tools that enable groups of people, bound by a common purpose to create and collaborate regardless of time and geographical differences.

Course management systems allow educators to select any appropriate digital resources or objects and sequence these together in a logical flow to form a lesson. This makes it easier for teachers to target specific learning outcomes and to assemble varied activities that will support those outcomes.

Teachers can also choose to couple multiple lessons together to form a course, which may support many weeks of student learning. Course Management Systems (CMS) have the ability to facilitate additional functional benefits over traditional

paper- based learning. These include workflow management, on-line assessment and student collaboration, which allow students and teachers the ability to interact in both synchronous (same time on-line) and asynchronous (not at the same time) modes.

[LAMS](#) is a tool for designing, managing and delivering online collaborative learning activities. It provides teachers with a highly intuitive visual authoring environment for creating sequences of learning activities. These activities can include a range of individual tasks, small group work and whole class activities based on both content and collaboration. LAMS can be used as a stand -alone system or in combination with other learning management systems (LMS) such as [MOODLE](#), [Sakai](#), .LRN, WebCT and BlackBoard.'

Learning Design is the process of thinking and designing relevant, meaningful, engaging and contextual learning experiences.

Learning Management System (LMS) provides teachers with an internet based framework in which to situate subject materials (text, videos, images, links) and a variety of tools

(forums, chats, polls etc) with which to manage communication and interaction with and among students.

Learning object is a resource primarily developed by the Learning Federation and CLI in NSW. It is a discrete item designed primarily to achieve a single learning objective..

MOODLE is a Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). It is a free web application that educators can use to create effective online learning sites.

Multimodality (Theory of) communication that occurs through different but simultaneous modes: language, print, images, graphics, movement, gesture, texture, music, sound. The theory emerged from attempts to conceptualise changed learning & literacy practices [visual literacy, technoliteracy, e-literacy, digital/silicon literacy, multiliteracies.

Personal or Professional Learning Network (PLN) is a learning network either online or traditional face- to- face, which involves an individual's interests, either professional or personal, and which allows them to accomplish their goals.

Synchronous learning refers to a group of people learning the same things at the same time.

Unit of work is a sequenced set of learning activities based on NSW syllabus requirements, designed to achieve a variety of learning outcomes.

Universal Design for Learning (UDL) is a framework for designing curricula that enable all individuals to gain knowledge, skills, and enthusiasm for learning. UDL provides rich supports for learning and reduces barriers to the curriculum while maintaining high achievement standards for all. (<http://www.cast.org/index.html>)

Videoconferencing is a set of interactive telecommunication technologies, which allows two or more locations to interact via two-way video and audio transmissions simultaneously. It has also been called 'visual collaboration'.

Resources

Walker, D. (2008) *How many penguins does it take to sink an iceberg? – The challenges and opportunities of web 2.0 in education.*
<http://www.scribd.com/doc/8912304/How-Many-Penguins-Does-It-Take-to-Sink-an-Iceberg>

Lee, M. & Gaffney, M. (2009) *Leading a Digital School – Principles and Practice*, ACER Press.

Churches, A. *Bloom's Digital Taxonomy* - <http://edorigami.wikispaces.com/>

Web 2.0 in Education - <http://web2educationuk.wetpaint.com>

Challenge Based Learning Resources - <http://ali.apple.com/cbl/>

21st Century Skills - <http://www.21stcenturyskills.org/>

Go2Web2.0 – Tools and Applications - <http://www.go2web20.net/>

Beyond Chalk - <http://beyondchalk.com/>

Whole School ICT Planning -
http://www.wazmac.com/teaching_learning/school_planning/index.htm

CAP Tools and Strategies - <http://www.cap.nsw.edu.au/QI/TOOLS/index.htm>

NSW DET Quality Teaching Resources -
<https://www.det.nsw.edu.au/proflearn/areas/qt/>

Digital and Web 2.0 Tools meet Quality Teaching - <http://hccweb2.org/pip/wp-content/uploads/2009/04/digital-and-web-2-presentation-links.pdf>

Digital Tools - <http://hccweb2.org/pip/>

International Society for Technology in Education Student Standards -
<http://www.iste.org/AM/Template.cfm?Section=NETS>

CAP Technology Learning Guide -
<http://www.cap.nsw.edu.au/techGuide/TechGuide.htm>

International Association for K-12 Online Learning (iNACOL) -
<http://www.inacol.org/>

Teaching for Understanding - <http://learnweb.harvard.edu/ALPS/tfu/index.cfm>

Mid-Continent Research for Education and Learning (McREL) -
<http://www.mcrel.org/>

Creative Commons Resources for Schools -
<http://www.curriculumsupport.education.nsw.gov.au/schoollibraries/assets/pdf/CreatCommforSchools.pdf>

Regional Support and Professional Learning Contacts

For further information, support and professional learning on Blended Learning please feel free to contact one the following CAP consultants in your area.



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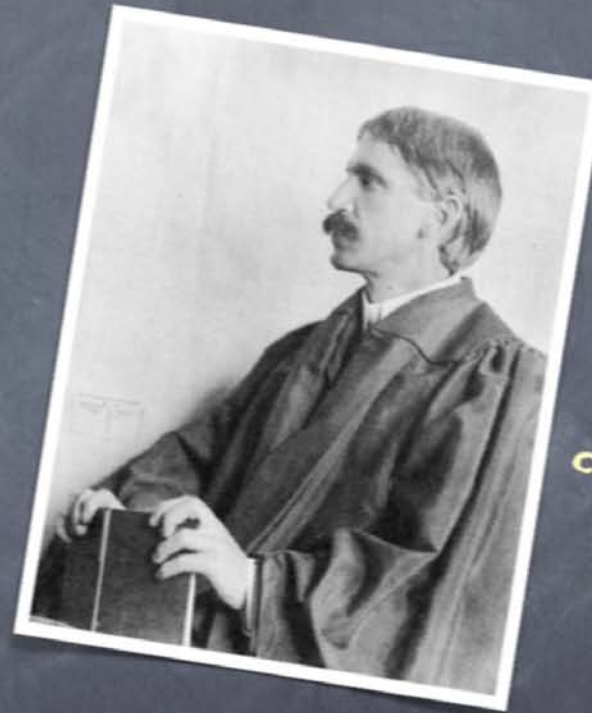
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Reflection



If we teach today's students
as we taught yesterday's,
we rob them of tomorrow.
John Dewey (1859 - 1952)



How do you
critically evaluate
your practice?