Bloom's Digital

TAXONOMY

*It's not about the tools,
it's using the tools
to facilitate learning.*

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Bloom's Digital Taxonomy

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Synopsis:

Bloom's Taxonomy and Bloom's Revised Taxonomy [2] are key tools for teachers and instructional designers. Benjamin Bloom published the original taxonomy in the 1950's and Lorin Anderson in 2000 [2]. Since the most recent publication of the taxonomy there have been many changes and development that must be addressed.

So, this is an update to Bloom's Revised Taxonomy [2] to account for the new behaviours, actions and learning opportunities emerging as technology advances and becomes more ubiquitous. Bloom's Revised Taxonomy [2] accounts for many of the traditional classroom practices but does not account for the new technologies and the processes and actions associated with them, nor does it do justice to the "digital children"[8], or as Marc Prensky describes them the "Digital Natives"[7].

The Original taxonomy and the revised taxonomy by Anderson and Krathwohl [2] are both focused within the cognitive domain. As a classroom practitioner, these are useful but do not address the activities undertaken in the classroom. This Digital Taxonomy is not restricted to the cognitive domain rather it contains cognitive elements as well as methods and tooling. These are the elements that as a practitioner I would use in my classroom practice. Like the previous taxonomies, its is the quality of the action or process that defines the cognitive level, rather than the action or process alone.

While Bloom's in its many forms, does represent the learning process, it does not indicate that the learners must start at the lowest taxonomic level and work up. Rather, the learning process can be initiated at any point, and the lower taxonomic levels will be encompassed within the scaffolded learning task.

An increasing influence on learning is the impact of collaboration in its various forms. These are often facilitated by digital media and are increasingly a feature of our digital classrooms.

This taxonomy is not about the tools and technologies, these are just the medium, instead it is about using these tools to achieve, recall, understanding, application, analysis, evaluation and creativity.

Have our classrooms changed that much?

Introduction and Background:

Bloom's Taxonomy

In the 1956, Benjamin Bloom, an educational psychologist working at the University of Chicago, developed his taxonomy of Educational Objectives. His taxonomy of learning objectives has become a key tool in structuring and understanding the learning process.

He proposed that learning fitted into one of three psychological domains (see below illustration 1):
- the **Cognitive** domain – processing information, knowledge and mental skills
- the **Affective** domain – Attitudes and feelings
- the **Psychomotor** domain – manipulative, manual or physical skills
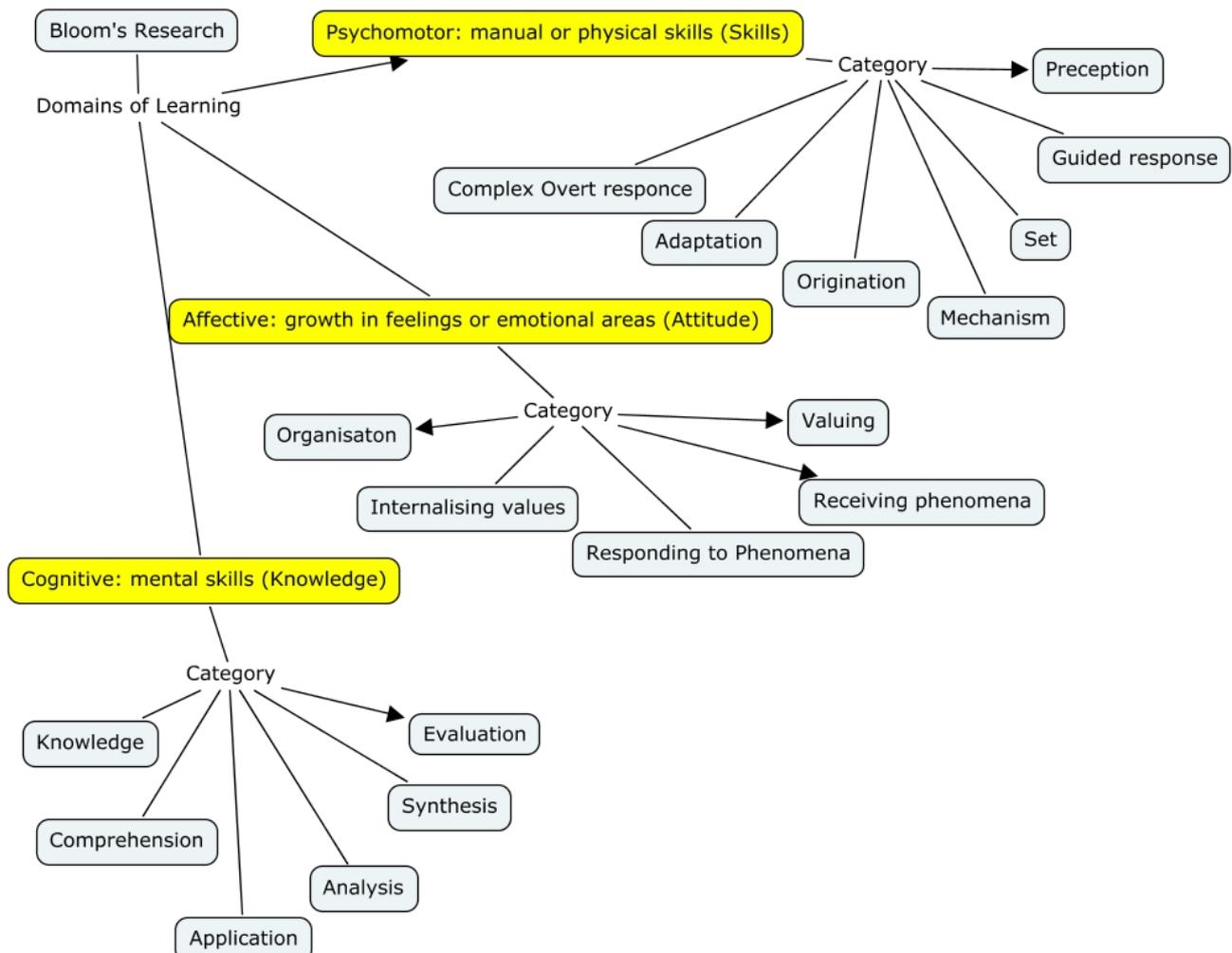
Illustration 1: Bloom's three psychological domains

Benjamin Bloom is best know for, **Bloom's Taxonomy** which examines looks at the cognitive domain. This domain categorises and orders thinking skills and objectives. His taxonomy follows the thinking process.

Simply; You can not understand a concept if you do not first remember it, similarly you can not apply knowledge and concepts if you do not understand them. It is a continuum from Lower Order Thinking Skills (LOTS) to Higher Order Thinking Skills (HOTS). Bloom describe each category as a noun. They are arranged below in increasing order, from lower order to higher order.

Lower Order Thinking Skills (LOTS)
- Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation

Higher Order Thinking Skills (HOTS)

Bloom's Revised Taxonomy

In the 1990's, a former student of Bloom, Lorin Anderson with David Krathwohl, revised Bloom's Taxonomy and published Bloom's Revised Taxonomy in 2001 [2].
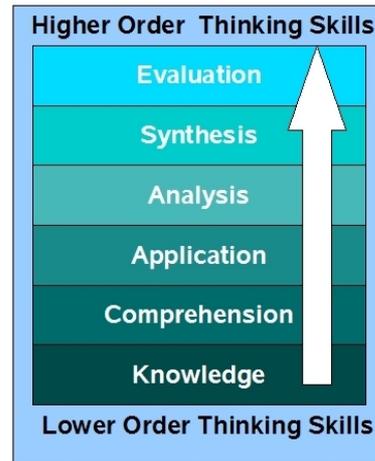
Drawing 1: Bloom's Taxonomy

Drawing by A Churches

Key to this is the use of verbs rather than nouns for each of the categories and a rearrangement of the sequence within the taxonomy. They are arranged below in increasing order, from lower order to higher order.

Lower Order Thinking Skills (LOTS)
- Remembering
- Understanding
- Applying
- Analysing
- Evaluating (Revised position)
- Creating (Revised position)

Higher Order Thinking Skills (HOTS)

Anderson and Krathwohl considered creativity to be higher within the cognitive domain than evaluation.
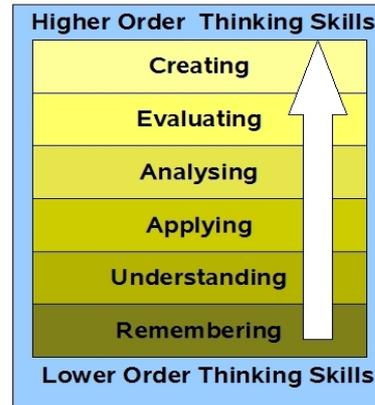
Drawing 2: Bloom's Revised Taxonomy

Drawing by A Churches

Bloom's Revised Taxonomy Sub Categories

One of the key revisions in the Revised Bloom's Taxonomy whas the change to Verbs for the actions describing each taxonomic level.

Lower Order Thinking Skills (LOTS)

- **Remembering** - *Recognising, listing, describing, identifying, retrieving, naming, locating, finding*
- **Understanding** - *Interpreting, Summarising, inferring, paraphrasing, classifying, comparing, explaining, exemplifying*
- **Applying** - *Implementing, carrying out, using, executing*
- **Analysing** - *Comparing, organising, deconstructing, Attributing, outlining, finding, structuring, integrating*
- **Evaluating** - *Checking, hypothesising, critiquing, Experimenting, judging, testing, Detecting, Monitoring*
- **Creating** - *designing, constructing, planning, producing, inventing, devising, making*

Higher Order Thinking Skills (HOTS)

These verbs describe many of the activities, actions, processes and objectives we undertake in our daily classroom practice. They do not address the newer objectives, processes and actions presented by the emergence and integration of Information and Communication Technologies (ICT) into the live of ourselves and our students; into our classrooms and increasingly into almost every activity we undertake.

To address this deficit we must again revise the taxonomy and digitise it, hence **Bloom's Digital Taxonomy.**

Bloom's as a learning process.

Bloom's in its various forms represents the process of learning. It has been simplified in some case like the three story intellect (Oliver Wendell Holmes and Art Costa), but it still essentially represents how we learn.

Before we can **understand** a concept we have to **remember** it

Before we can **apply** the concept we must **understand** it

Before we **analyse** it we must be able to **apply** it

Before we can **evaluate** its impact we must have **analysed** it

Before we can **create** we must have **remembered, understood, applied, analysed,** and **evaluated**.

Some people may argue about that you do not require some of the stages for each and every task, action or process; some too may argue about the necessity to reach the creation level for all activities. This is the choice of the individual.

> **Is it important where you start? Must I start with remembering?**
> I don't think it is. The learning can start at any point, but inherent in that learning is going to be the prior elements and stages.

Bloom's Digital Taxonomy

Bloom's revised digital taxonomy map

Bloom's Digital Taxonomy

Key Terms

Remembering	Verbs
Understanding	Verbs
Applying	Verbs
Analysing	Verbs
Evaluating	Verbs
Creating	Verbs

HOTS
Higher Order Thinking Skills

Designing, constructing, planning, producing, inventing, devising, making, programming, filming, animating, blogging, video blogging, mixing, re-mixing, wiki-ing, publishing, videocasting, podcasting, directing, broadcasting

Checking, hypothesising, critiquing, Experimenting, judging, testing, Detecting, Monitoring, blog commenting, reviewing, posting, moderating, collaborating, networking, refactoring, testing.

Comparing, organising, deconstructing Attributing, outlining, finding, structuring, integrating, mashing, linking, validating, reverse engineering, cracking, media clipping

Implementing, carrying out, using, executing, running, loading, playing operating, hacking, uploading, sharing, editing

Interpreting, Summarising, inferring, paraphrasing, classifying, comparing, explaining, exemplifying, advanced searches, Boolean searches, blog journalling, twittering, catergorising, tagging, commenting, annotating subscribing.

Recognising, Listing, Describing, Identifying, Retrieving, Naming, Locating, Finding, bullet pointing, highlighting bookmarking, social networking, social bookmarking, favouriting/local bookmarking, searching, googling.

LOTS
Lower Order Thinking Skills

COMMUNICATION SPECTRUM

Collaborating
Moderating
Negotiating
Debating
Commenting
Net meeting
Skyping
video conferencing
Reviewing
Questioning
Replying
Posting & Blogging
Networking
Contributing
Chatting
e-mailing
Twittering/Microblogging
Instant messaging
Texting

Bloom's Digital Taxonomy and Collaboration.

In Drawing 3 (Page 6) , Collaboration is included as a separate element as well as some elements being shared. Collaboration can take many forms (see above) and value of the collaboration can vary hugely. This is often independent of the mechanism used to collaborate. Also collaboration is not an integral part of the learning process for the individual, you don't have to collaborate to learn, but often your learning is enhance by doing so. Collaboration is a 21st Century skill of increasing importance and one that is used throughout the learning process. In some forms it is an element of Bloom's and in others its is just a mechanism which can be use to facilitate higher order thinking and learning.

Collaboration is not a 21st Century Skill, it is a 21st Century Essential.

In a recent blog post from the official google blog, Google identified the following as key traits or abilities in 21st Century Employees:

"... **communication skills**. Marshalling and understanding the available evidence isn't useful unless you can effectively communicate your conclusions."
"... **team players**. Virtually every project at Google is run by a small team. People need to work well together and perform up to the team's expectations. " [9]

Source: http://googleblog.blogspot.com/2008/07/our-googley-advice-to-students-major-in.html

If we look at UNESCO's publication "The four pillars of Education, Learning: The Treasure within" Collaboration is a key element of each of the four pillars.
- Learning to know
- Learning to do
- Learning to live together
- Learning to be

(http://www.unesco.org/delors/fourpil.htm) [10]

So to prepare our students, our teaching should also model collaboration. A vast array of collaborative tools are available; wikis, classroom blogs, collaborative document tools,social networks, learning management systems - Many are available at no cost. If you have not yet tried them, look at:
- wikis – wet paint and wiki spaces
- Classroom blogs – edublogs, classroomblogmeister, blogger
- Collaborative document tools – Google documents, zoho documents, adobe Buzzword
- Social Networks – ning
- learning managements systems – Moodle, Blackboard, Web CT, First Class.

These tools are enablers of collaboration, and therefore enablers of 21st century teaching and learning. [11]
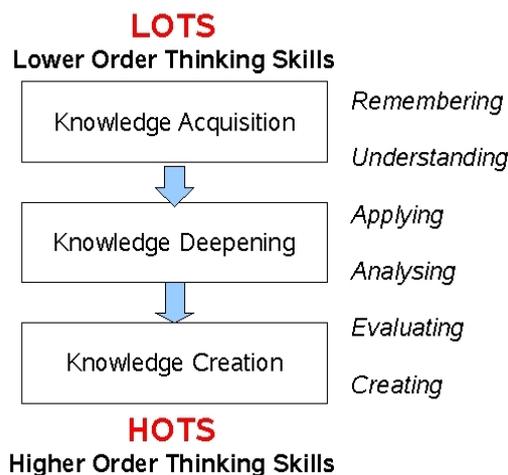
Is knowledge or content important?

The answer to this question is of course YES. While a goal we often hear is for our students to create knowledge, we must scaffold and support this constructivist process. The knowledge we give them forms the foundation of their learning cycle or process. The process was aptly described in a recent presentation by Michael Stevenson VP Global Education from Cisco on Education 3.0 [12].

Knowledge Acquisition

Knowledge Deepening

Knowledge Creation
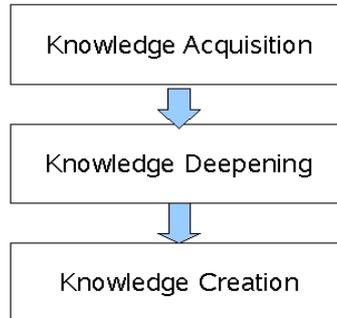
We need to teach knowledge or content in context with the tasks and activities the students are undertaking. Our students respond well to real world problems. Our delivery of knowledge should scaffold the learning process and provide a foundation for activities. As we know from the learning pyramid content or concept delivered without context or other activity has a low retention rate.

Thinking skills

Thinking Skills are key. While much of the knowledge we teach may be obsolete within a few years, thinking skills once acquired will remain with our students for their entire lives. Industrial age education has had a focus on Lower Order Thinking Skills. In Bloom's taxonomy the lower order thinking skills are the remembering and understanding aspects. 21st Century pedagogy and learning focuses on moving students from Lower Order Thinking Skills (LOTS) to Higher Order Thinking Skills (HOTS).

LOTS
Lower Order Thinking Skills

Knowledge Acquisition — *Remembering* / *Understanding*

Knowledge Deepening — *Applying* / *Analysing*

Knowledge Creation — *Evaluating* / *Creating*
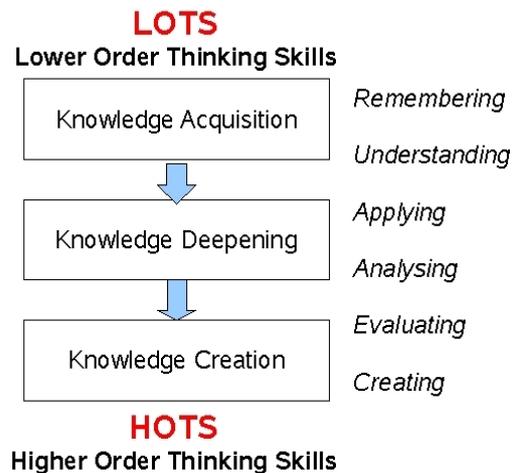
HOTS
Higher Order Thinking Skills

The 21st Century Teacher scaffolds the learning of students, building on a basis of knowledge recall and comprehension to use and apply skills; to analyse and evaluate process, outcomes and consequences, and to make, create and innovate. [11]

Remembering

While the recall of knowledge is the lowest of the taxonomic levels it is crucial to learning. Remembering does not necessarily have to occur as a distinct activity for example the rote learning of facts and figures. Remembering or recall is reinforced by application in higher level activities.

The following are some of the key terms for this aspect of the Taxonomy.
- Recognising
- Listing
- Describing
- Identifying
- Retrieving
- Naming
- Locating
- Finding

LOTS
Lower Order Thinking Skills

| Knowledge Acquisition |
| Knowledge Deepening |
| Knowledge Creation |

Remembering

Understanding

Applying

Analysing

Evaluating

Creating

HOTS
Higher Order Thinking Skills

Anderson and Krathwohl's taxonomy – Remembering

1. **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.

Key to this element of the taxonomy in a digital medium is the retrieval of material. The growth in knowledge and information means that it is impossible and impractical for the student (or teacher) to try to remember and maintain all of the current relevant knowledge for their learning.

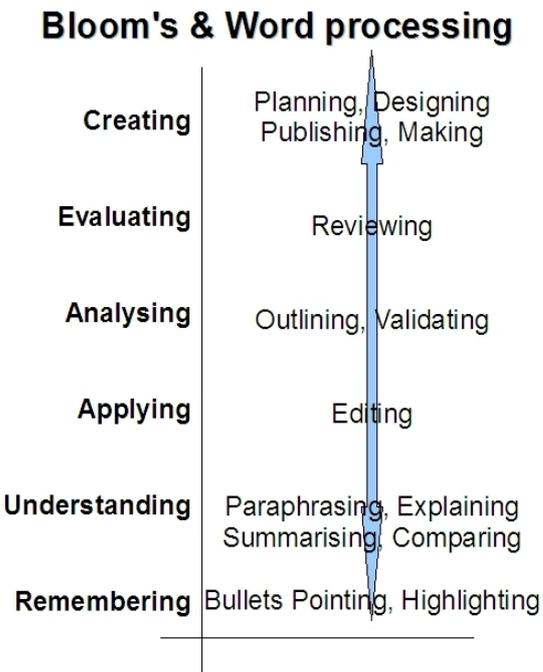The digital additions and their justifications are as follows:
- **Bullet pointing** - This is analogous with listing but in a digital format.
- **Highlighting** – The highlighter is a key tool in productivity suites like Microsoft Office or open Office.org. By encouraging students to pick out and highlight key words and phrases we reinforce recall and memory.
- **Bookmarking or favouriting** – the process is where the students mark for later use web sites, resources and files. Students can then organise these.
- **Social networking** – this is where people develop networks of friends and associates. It forges and creates links between different people. Like social bookmarks (see below) a social network can form a key element of collaborating and networking
- **Social bookmarking** – this is an online version of local bookmarking or favourites, It is more advanced because you can draw on others bookmarks and tags. While higher order thinking skills like, collaborating and sharing, can and do make use of these skills, this is its simplest form - a simple list of sites saved to an online format rather than locally to the machine. In its more advanced forms Social bookmarking displays understanding. *See the starter sheet on delicious.*
- **Searching or "googling"** - Search engines are now key elements of students research. At its simplest for (here) student are just entering a key word or phrase

into the basic entry pane of the search engine. This skill does not refine the search beyond the key word or term.

Remembering and Digital Activities

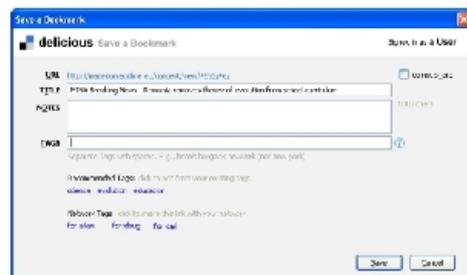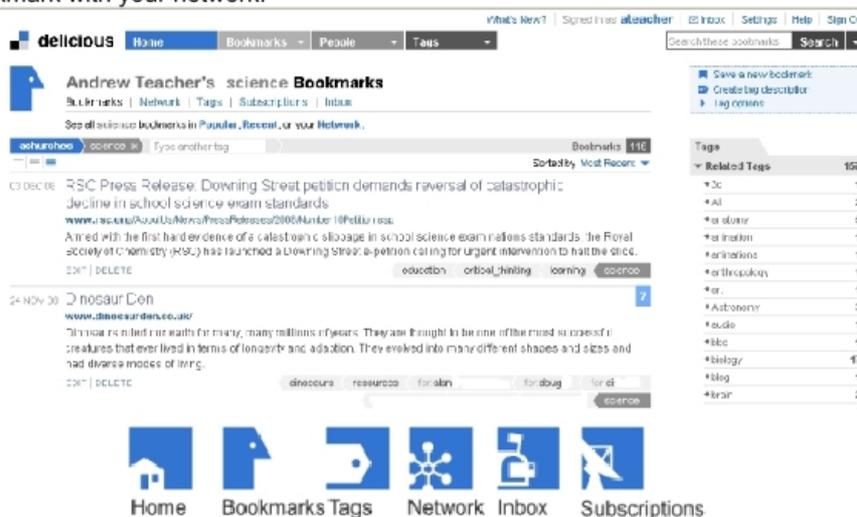| Remembering*	Possible Activities
Recalling specific information (Recall or recognition of specific information). **Recognising, Listing, Describing, Identifying, Retrieving, Naming, Recitation, Locating/Finding, Bullet pointing, Highlighting, Bookmarking, Social networking, Social bookmarking, Favouriting/local bookmarking, Searching, Googling.** 	**Recitation** (Word Processing, Mind map, flashcards, presentation tools) **Quiz/Test** (Online tools, Word Processing (*local* – Word, Staroffice, Open Office or *online* – Google Documents, Zoho Documents, Thinkfree etc.), Cue sheets) **Flashcards** (Moodle, Hot potatoes, scorm objects) **Definition** (Word Processing – bullets and lists, (local – Word, Staroffice, Open Office or online – Google Documents, Zoho Documents, Thinkfree) simple Mind maps, wiki, Moodle Glossary, Online services like Ask.com, Cloze exercises,) **Fact** (Word Processing – *bullets and lists*, Mind maps, internet, discussion boards, email) **Worksheet/book** (Word Processing, Mind map, Web, clozed activities) **Label** (Word Processing, graphics tools) **List** (Word Processing – *bullets and lists*, Mind map, Web publishing – *personal web page, blog journal*) **Reproduction** (Word Processing – *note writing & dictation*, web publishing personal web page, blog journal, graphics tools, Chatrooms, email, discussion boards) **Bookmarking** internet browsers using favourites and bookmarks, web 2.0 tools del.icio.us **Social Networking** - facebook, myspaces, bebo, twitter, diigo, Digg.com **Basic Searches** - search engines, (google, excite, ask, yahoo, metacrawler etc.) library catalogue, Clearinghouses*

Starter Sheet - Delicious

Delicious
Social Bookmarking
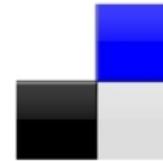
Sensory Learning: Read/Write learner.
Bloom's Digital Taxonomy: Remembering - Social Bookmarking.

Delicious is a online, web 2.0 tool that enables the teacher or student to save URL's (Universal Resource Locator) or web addresses to a personal account. The service is free and requires the user to register. Adding extensions to your browsers (Firefox & Internet Explorer) adds buttons to the toolbars that allow you to quickly bookmark websites. You can then organise the bookmarks, adding tags to make them easy to sort and search, adding notes and sharing them with your network.
This tool allows teachers and students to save URL's in a portable format that can be reached from any browser and to collaborate, sharing these with their network.

Process: 1. Create an account (Free). 2. Install browser extensions to add buttons to toolbar. 3. Bookmark sites. 4. Add key information like Tags, Notes etc. Share the bookmark with your network.

Home Bookmarks Tags Network Inbox Subscriptions

URL
http://delicious.com
or
http://del.icio.us

Alternatives:
Saving bookmarks locally in your browser's bookmarks or favourites

Tag the selected site with Keywords notes and share it with your network.

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* A clearinghouse is a website that collects and distributes information.

Delicious
Social Bookmarking
In the Classroom.
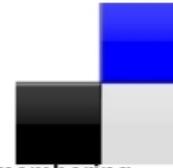
Social Networking tools like **Delicious** are brilliant tools not only for **remembering** URLs or web locations but also for **collaboration**. They are better than favourites stored locally on a computer as they are accessable from any computer with an internet connection simply by logging into your delicious account.

Students and staff alike should use the **keywords** and **notes** to make retrieval of saved location easier. The more detail and accurate the keywords, the easier it is to organise and search for resources.

For example, *the student who is searching for tigers will quickly encounter many pages with the key word tigers. If they save the URLs and only add the keyword "tiger" it will be hard to sort effectively through the reosurces.*

However, if the student uses other key words like anatomy, habitat, conservation they will be able to refine their search of their bookmarks to locate the best sites they have previously found.

Collaboration.

Delicious is a brilliant tool for **collaboration**. The students and teachers all create a delicious account. The teacher also creates a **class account**.

The students and teacher **share the their delicious account names** and add each other to their **networks**. They also **add the class account to the network**.

Now when the students (or teachers) are bookmarking sites, they add to the **TAGS field network tags**. The **network tags** are their peers accounts and the class account.

When they **TAG** a site to a member of their network (using **Network Tags**) the new bookmark appears in their **INBOX** waiting for them to save the tag or delete it.

The teacher can **moderate** the URL's submitted by the students, by **saving or deleting the bookmarks**. The teacher can also see the level of **understanding** in the students selection from the **notes and tags**. The students and teachers can now **share and collaborate** on their research and learning.
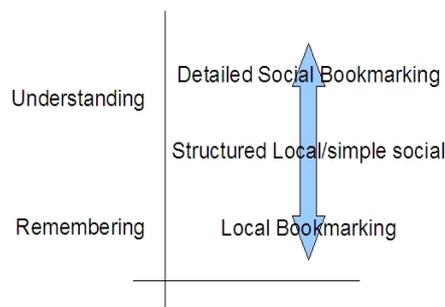
Bookmarking and Social Bookmarking Rubric

Bloom's Taxonomic Level: **Remembering**
                                                Understanding

Bloom's and Bookmarking

Applying

Understanding   Detailed Social Bookmarking

                            Structured Local/simple social

Remembering   Local Bookmarking

| Key Words: |
|---|
| Recognising, Identifying, Retrieving, Naming, Locating, Finding, Bookmarking, Social networking, Social bookmarking, Favouriting/local bookmarking |

Introduction:

This is a rubric for the Bookmarking, Favouriting and Social Bookmarking. This is examining the process of recording and remembering key sites and URL's. The activity is in its simplest form at **Remembering** level but as the students add detail, explanations and structure it advances into **Understanding**.

Level	Bookmarking/Social Bookmarking/Favoriting
1	The user adds a site to Bookmarks Toolbar or Favorites(Internet Explorer)/Bookmarks(Firefox) or adds URL to social bookmarking site. The user does not add tags or comments. The locally stored bookmarks lack structure or organisation.
2	The user adds a site to the favorites (Internet Explorer) or Bookmarks (Firefox). The bookmarks are organised into folders, folders are appropriately named. Or the user adds the URL to social bookmarking site. The user sometimes adds either tags (keywords) or comments/notes. The resources are added irrelevant of there value or validity.
3	The user adds URL to a social bookmarking site. The student adds comments or Tags. Tags are mostly well constructed and suitable keywords. There is some duplication of tags e.g. singular and plural keywords. There is some limited filtering on basis of validity (attempts validation). The comments or notes are simple. The user shares the bookmark with all members of their network.
4	The user adds URL to a social bookmarking site. The student adds detailed comments or appropriate keyword Tags. The comments essentially summaries the resource. The comments are appropriate and useful. There is little duplication of tags. The sites are bookmarked on the basis of validity (validates). The Student shares the bookmark with appropriate members of their network.

Exemplars:

Level 1

The user adds a site to Bookmarks Toolbar or Favorites (Internet Explorer) or Bookmarks (Firefox) or adds URL to social bookmarking site. The user does not add tags or comments. The locally stored bookmarks lack structure or organisation.
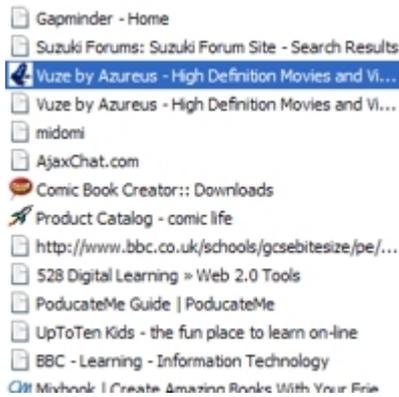
Illustration 2: FireFox - Bookmarks - Unstructured – level 1.

Illustration 2: FireFox - Bookmarks toolbar - Unstructured - level 1

Level 2

The user adds a site to the favorites (Internet Explorer) or Bookmarks (Firefox). The bookmarks are organised into folders, folders are appropriately named. Or the user adds the URL to social bookmarking site. The user sometimes adds either tags (keywords) or comments/notes. The resources are added irrelevant of there value or validity.
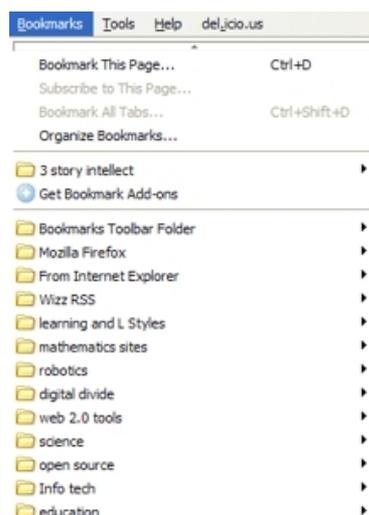
Illustration 3: Firefox - Bookmarks - Structured Folders appropriately named - Level 2.

Level 3

The user adds URL to a social bookmarking site. The student adds comments or Tags. Tags are mostly well constructed and suitable keywords. There is some duplication of tags e.g. singular and plural keywords. There is some limited filtering on basis of validity (attempts validation). The comments or notes are simple. The user shares the bookmark with all members of their network.

Illustration 4: Del.icio.us Bookmarks - Comments or Tags, some duplication of tags - Level 3.

Level 4

The user adds URL to a social bookmarking site. The student adds detailed comments or appropriate keyword Tags. The comments essentially summaries the resource. The comments are appropriate and useful. There is little duplication of tags. The sites are bookmarked on the basis of validity (validates). The Student shares the bookmark with appropriate members of their network.

Illustration 5: Del.icio.us Bookmarks - Detailed Comments and Appropriate Tags, No duplication of tags - Level 4.

Understanding

Understanding builds relationships and links knowledge. Students understand the processes and concepts and are able to explain or describe these. They can summarise and rephrase these into their own words.

There is a clear difference between remembering, the recall of facts and knowledge in its various forms like listing, bullet points, highlighting etc., and understanding, constructing meaning. One only has to look at the young child who can count from 1 to 10 but can not tell you how many fingers you are holding up. Or the student who can recite for you the first 20 elements of the periodic table in sequence but can not tell you about each or relate their position in the table to the number of electrons in the outer shell and from there explain their behaviour. Both of these are examples of recall without understanding. Understanding is building relationships and constructing meaning.

The following are some of the key terms for this aspect of the Taxonomy.
- Interpreting
- Summarising
- Inferring
- Paraphrasing
- Classifying
- Comparing
- Explaining
- Exemplifying

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Anderson and Krathwohl's taxonomy – Understanding

2. **Understanding:** Constructing meaning from different types of function be they written or graphic.

</div>

The digital additions and their justifications are as follows:
- **Advanced and Boolean Searching** - This is a progression from the previous category. Students require a greater depth of understanding to be able to create, modify and refine searches to suit their search needs (see starter sheet for advanced search and Boolean searches).
- **Blog Journalling** – This is the simplest of the uses for a blog, simply a student "talks" "writes" or "type" a daily or task specific journal. This shows a basic understanding of the activity report upon. The blog can be used to develop higher level thinking when used for discussion and collaboration.
- **Categorising** & **Tagging** – digital classification - organising and classify files, web sites and materials using folders, using Delicious and other similar tools beyond simple bookmarking. This can be organising, structuring and attributing online data, meta-tagging web pages etc. Students need to be able understand the content of the pages to be able to tag it
- **Commenting and annotating** – a variety of tools exist that allow the user to comment and annotate on web pages, pdf files, Social bookmark entries, and other documents. The user is developing understanding by simply commenting on the pages. This is analogous with writing notes on hand outs, but is potentially more powerful as you can link and index these.

- **Subscribing** – Subscription takes bookmarking in its various forms and simple reading one level further. The act of subscription by itself does not show or develop understanding but often the process of reading and revisiting the subscribe feeds leads to greater understanding.

> ## Key Terms - Understanding:
>
> Interpreting, Summarising, Inferring, Paraphrasing, Classifying, Comparing, Explaining, Exemplifying, Advanced searches, Boolean searches, Blog journalling, Twittering, Categorising and tagging, Commenting, Annotating, Subscribing

## *Understanding and Digital Activities*

Understanding	Possible activities
Explaining/defining ideas or concepts (Understanding of given information). **Interpreting, Exemplifying, Summarising, Inferring, Paraphrasing, Classifying, Comparing, Explaining, Advanced searches, Boolean searches, Blog journalling, Twittering, Categorising and tagging, Commenting, Annotating, Subscribing** 	**Summary** (Word Processing, Mind map, web publishing, Simple DTP products – *blog journals & simple page construction collaborative documents*, wiki) **Collection** (Word Processing, Mind map, web publishing – *blog journals & simple page construction collaborative documents*, wiki) **Explanation** (Word Processing, Mind map, web publishing, simple DTP Products – *blog journals & simple page construction collaborative documents*, wiki) **Show and tell** (Word Processing, presentation – *online & desktop based*, graphics, audio tools - *audacity sound recorder & podcasting tools*, video tools, Mind map) **List** (Word Processing, Mind map) **Label** (Word Processing, Mind map, Graphics, online tools - ajaxdraw) **Outline** (Word Processing, Mind map) **Advanced and boolean searches** - advanced search features - google etc. **Blog journalling** - bloglines, blogger etc. **Diary/Journal** (blogging, Myspaces, Bebo, facebook, bloglines, blogger, ning) **Categorising and tagging** - Delicious etc. **Tagging, comments annotating** - -noticeboards, discussion boards, threaded discussions, adobe acrobat reader, blog readers, firefox, zotero **Subscribing** – RSS aggregators e.g. bloglines, blogger etc., firefox extensions

Using Mind mapping for understanding and beyond.

Mind mapping technique are powerful tools for student learning. They can be used in a wide variety of different subjects and curriculum areas, in collaborative or individual settings.

Over time there have been a number of different templates and models developed to facilitate analysis, understanding, to build relationships and plan.

Simple Flowchart
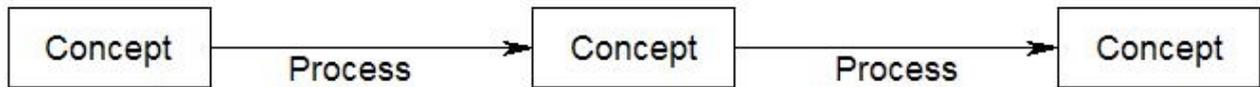
Simple process flowcharts are an easy graphical way of displaying a process.
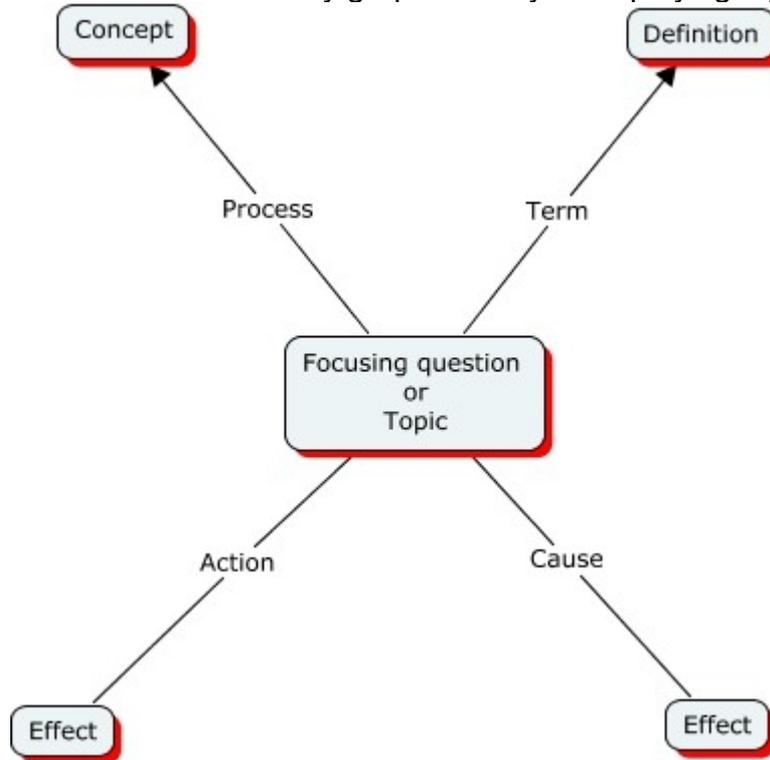
Concept maps, based around a focusing question or term can be used to map "cause and effect" term and definition and process & outcome. These techniques help to structure understanding by developing meaning.

Venn diagrams (See right) can be used to display or infer relationships by highlighting similar and different aspects of concepts.

More complicated **Venn Diagrams** allow user to compare multiple sets of data
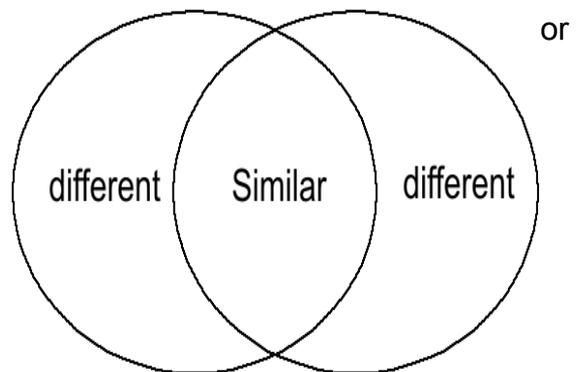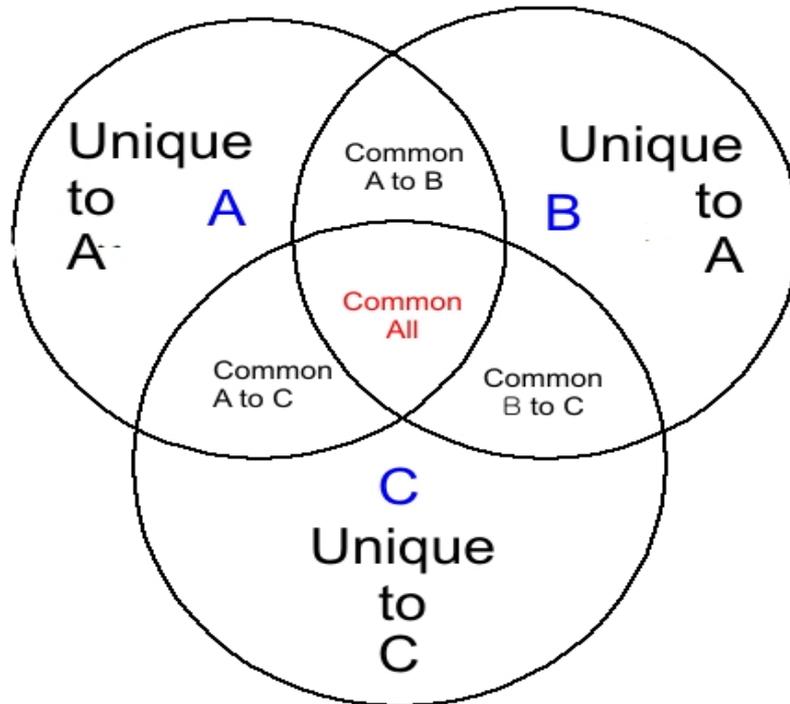

Mind maps and other graphical organisers can be used as tools for planning, analysis and evaluation.
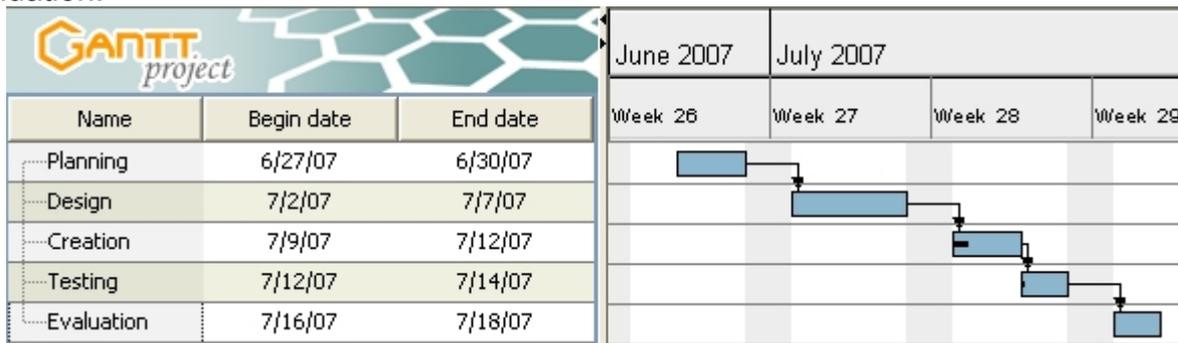
This is an example of a graphical organiser, a **Gantt Chart** being used to plan a project. The project is a follow the basic design cycle of planning, design, development, testing and inherent in that phase redesign and re-development and of course evaluation.

The **Six Question Approach** to a topic or concept can also be structured in a visual medium using a simple mind map.
This map ask the questions;

- What?
- When?
- Where?
- How?
- Why?
- Who?
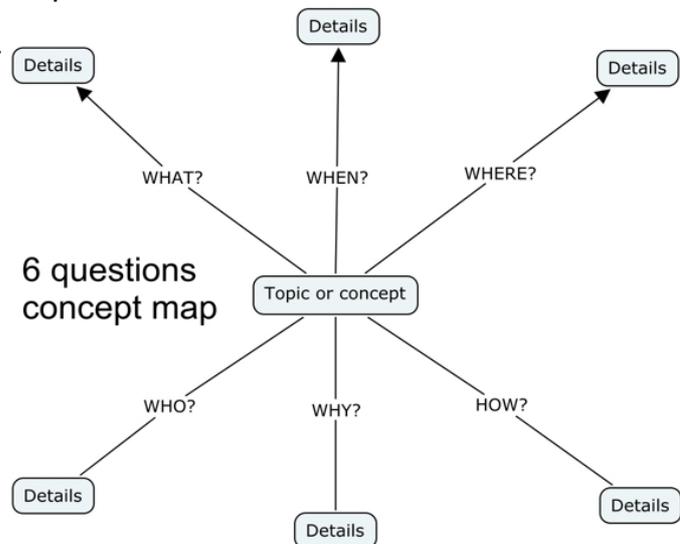
Starter Sheet – Mindmeister

Mindmeister
Collaborative *Online* Mind Mapping

Sensory Learning: Visual learner.
Bloom's Digital Taxonomy: Understanding - explaining, inferring, comparing, interpreting.

Mind mapping is a powerful technique for constructing meaning and relationships. Whether its called brain storming, mind mapping or graphically organising, it is a common classroom learning strategy. Mindmeister is a classical style mind mapping tool that allows the users to create and structure maps with multiple nodes. Further, it allows the user to collaborate with a group of peers by invitation. The end product can be printed or exported in a variety of offline formats.

Process: 1. Create an account (Free option). 2. Create a mind map. 3. Invite people to collaborate or share. 4. Print or export to offline format.
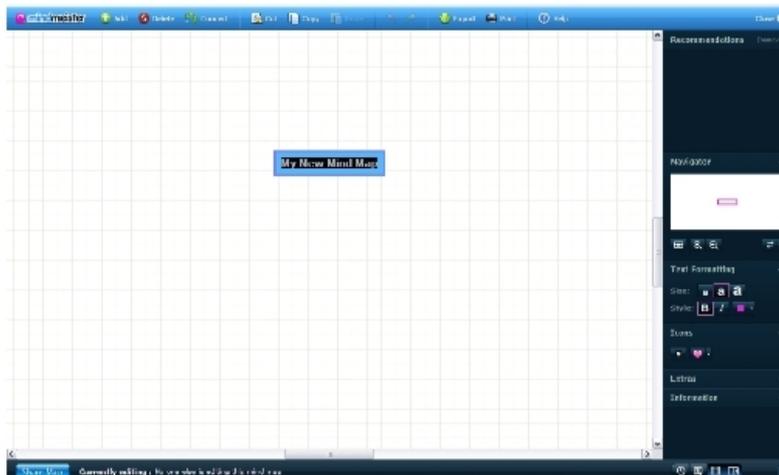
The Mindmeister Workspace is simple to use with common tools found on the top tool bar and editing tools in the right hand pane.

URL
http://www.mindmeister.com

It is easy and straight forward to add and edit child nodes from the main concept or idea.

Alternatives:
Online alternatives to Mindmeister are similar tools like **Mindomo** which like Mindmeister has a free basic option and a subscription based premium tool.
www.mindomo.com
Freemind, the open source mind mapping tool, is an excellent and powerfull offline alternative or companion product as Mindmeister will export mind maps in the Freemind format using the **.mm** file extension

Produced by Andrew Churches
All Rights Reserved 2008

Mindmeister
In the Classroom

As a classroom technique **mind mapping is a standard**, it can be used to organise stduent ideas in a **collaborative** format or individually. It can be applied across the curriculum in an endless variety of settings. There are many **different styles of mind or concept maps** depending on the task at hand. **Simple concept maps** allow the students to develop ideas and provide details and explanations. **Venn diagrams** show similarities and differences illustrating relationships, **herring bone diagrams** explore advantages and disadvantages or cause and effect etc.

6 questions concept map
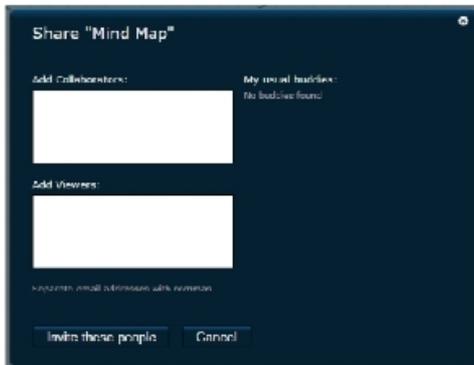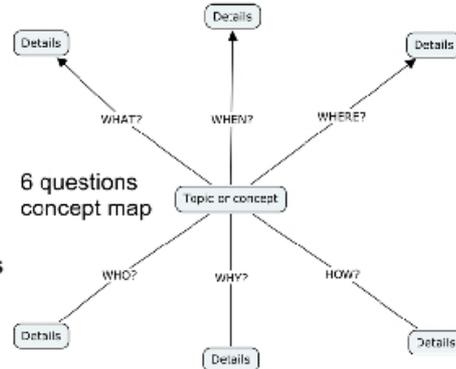
In Mathematics, the students are starting to investigate **statistics**. They are divided into groups and must **collaboratively** undertake an analysis of some aspect of the class statistically. Each group is asked to start a **shared map**, inviting their team mates and their teacher to join (See Left).

They clearly define the focusing question and then look at different data sets to collect making notes as they do this on the type of data, units of measurement etc (See Below).

Class Statistics Focusing Questions – What information can we collect from our class?
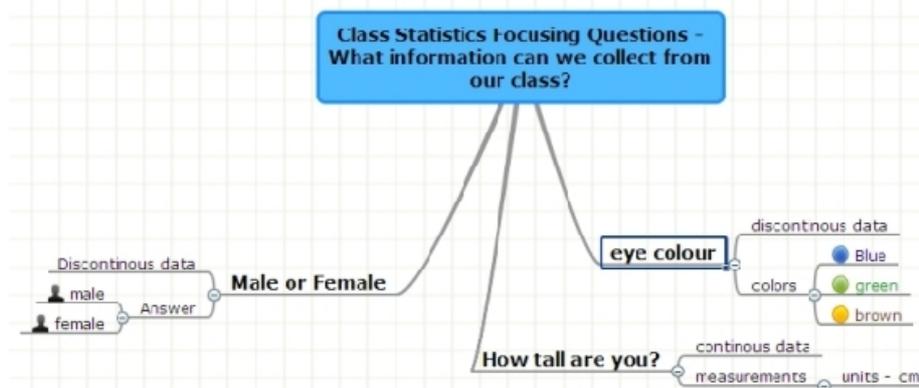
The students quickly organise their mind map, adding suitable icons (See Left) to illustrate their child nodes or points.
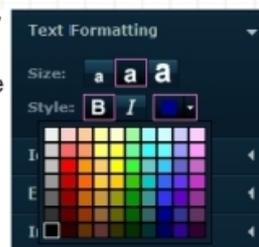
Text is easily formatted using the basic tools of **font weight** (Bold or Normal), **font size** and **color**. Students are quickly able to **highlight** and add **emphasis** to key points or nodes.

Google Search

Fast and Efficent access.

Sensory Learning: Read/Write learner.

Bloom's Digital Taxonomy: Remembering basic search

Understanding - Advanced and Boolean Search.

Starter Sheet - Tools for Teachers

While there are other search engines Google has become the default tool of choice. This powerful search engine allows the user to search for **images or pages**. In its basic form, the user enters a **keyword** and a search is returned. However, the **Advanced search** option allows you to quickly refine the search using **Boolean Logic (And, Or, Not) fields** as well as defining **date ranges, file formats , language preferences** etc

Process: 1. Open Browser and goto Google . 2. Select Advanced Search. 3. Enter keywords. 4.Refine search and bookmark suitable results.

Google
New Zealand

Google Search   I'm Feeling Lucky

Search: ⦿ the web ○ pages from New Zealand

Advanced Search
Preferences
Language Tools

Going to http://www.google.com will redirect you to your National Google Site. Select the **Advanced Search** option

Applying

Understanding — Advanced & Boolean Search

Basic Search & Googling

Remembering
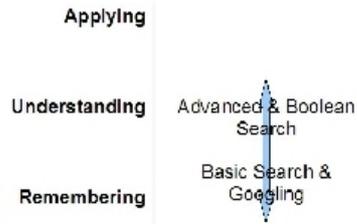
Searching covers several taxonomic levels.

Google Advanced Search   Advanced Search Tips About Google
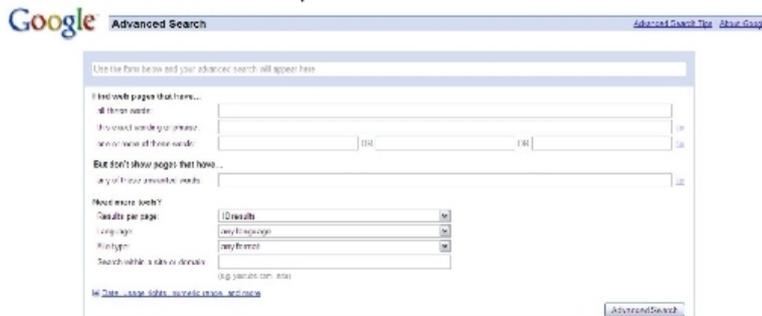
The **Advanced search options** (See Above) allow you to quickly refine the search and make the result managable and specific. The students must has developed a level of **understanding** of the topic to be able to refine and modify the search.

URL
http://www.google.com

Alternatives:

Some of the alternative search engines are:

www.ask.com
www.live.com
www.yahoo.com

Google Search
In the Classroom

The Central African Republic of Rwanda has been ravaged by genocide, poverty and disease. The students in the **Humanities/Social Studies** class are researching the impact of this crisis on the people of Rwanda.

The initial search using the Keyword Rwanda produced over 70 million pages with the word Rwanda in the text or images. (See Left) Students use the **Advanced Search to refine the request.**

The student adds in a new **key phrase** in the **"exact words" field**. This is now a **boolean search** for Rwanda **AND** Humanitarian Crisis. (See Right) This refine the results ro 120,000.(see below)

Adding in further advanced criteria like **limiting dates, selecting language** etc refines the search further. (see below)

Result = Rwanda + Humanitarian Crisis

Specifying the **keywords, limiting dates and selecting Languages, domains** etc will reduce the number of **Hits** to manageable levels. Students who successfully refine searches are developing an understanding of not only the process of searching but also the research topic.

Advanced Searching Rubric

Bloom's Taxonomic Level: Understanding

| Applying |
| Understanding | Advanced & Boolean Search |
| Remembering | Basic Search & Googling |

Key Words:

classifying, comparing, advanced searches, boolean searches, categorising and tagging

Introduction:

This is a rubric for the using advanced and boolean searches. This search requires an understanding of the keywords, boolean logic, advanced search features, structuring and refining searches and suitable search engines. Students need to refine the search to produce usable results and then validate these.

	Advanced searching	**Boolean Searching**
1	The students select a search engine to use for the search. The student uses the basic search page by Enters keyword(s) and executing the search	The student can select a search engine to use for the search. They enters keyword(s). The keywords are mostly appropriate. The student can executes the search
2	The students select a search engine to use for the search. The student uses the basic search page by entering appropriate keywords and speech marks for phrases. The user executes the search. The student can navigate through the result pages. The student can recognises features of search engine like sponsored links.	The students can select a search engine to use for the search. They enters multiple appropriate keywords without refinement and use speech marks for phrases. The students executes the search. The student can navigate through the result pages
3	The student can select a suitable search engine to use for the search. They uses the Advanced search page and options. The student can refine the search using some of the features of the Advance search. This may include: Domain, country, language, file type, location in page. The student can enters appropriate keyword(s) and executes the search. The students can modify the keywords or terms to refine the search. They can navigate through the result pages. They have an understanding of the weighting system used by the search engine. They can recognises features of search engine like sponsored links.	The students can select a suitable search engine to use for the search. They enters multiple appropriate keywords with boolean refinements "**and or not"** The students can modify the keywords, search operators, phrases or terms to refine the search. The users can modifies simple search engine settings to enhance the search. The students executes the search and navigate through the result pages. Understands the weighting system used by the search engine.
4	The students select a suitable search engine to use for the search and can justify their selection. They can uses the Advanced search page and options. The user can refines the search using most of the features of the advance search This may include: Domain, country, language, file type, location in page. The student can justify the refinements. The students uses exact match, phrase and exclude fields , they enters appropriate keyword(s) & executes the search. They modify the keywords or terms to refine the search. They can navigate through the result pages and understands the weighting system used by the specific search engine. They recognises features of search engine like sponsored links.	The students can select a suitable search engine to use for the search and can justify their selection. They enters multiple appropriate keywords with boolean refinements "**and or not"** or use operator symbols like **+** and **-** The students can modify the keywords, search operators, phrases or terms to refine the search. The users can modifies simple search engine settings to enhance the search. The student can justify the refinements. The students executes the search and navigate through the result pages. Understands the weighting system used by the search engine.

Exemplar

Advanced Searching

Level 1
Criteria:
The students select a search engine to use for the search. The student uses the basic search page by Enters keyword(s) and executing the search

Note: Huge search return> 1 billion pages

Level 2
Criteria:
The students select a search engine to use for the search. The student uses the basic search page by entering appropriate keywords and speech marks for phrases. The user executes the search. The student can navigate through the result pages. The student can recognises features of search engine like sponsored links.

Note: Large search return> 1 million pages, also sponsored link.

Level 3
Criteria:
The student can select a suitable search engine to use for the search. They uses the Advanced search page and options. The student can refine the search using some of the features of the Advance search. This may include: Domain, country, language, file type, location in page. The student can enters appropriate keyword(s) and executes the search. The students can modify the keywords or terms to refine the search. They can navigate through the result pages. They have an understanding of the weighting system used by the search engine. They can recognises features of search engine like sponsored links.

Note: Uses the advanced search page – uses the refinements within this page to reduce search. Search result below is 300,000+ pages.

Level 4
Criteria:
The students select a suitable search engine to use for the search and can justify their selection. They can uses the Advanced search page and options. The user can refines the search using most of the features of the advance search This may include: Domain, country, language, file type, location in page. The student can justify the refinements. The students uses exact match, phrase and exclude fields , they enters appropriate keyword(s) & executes the search. They modify the keywords or terms to refine the search. They can navigate through the result pages and understands the weighting system used by the specific search engine. They recognises features of search engine like sponsored links.

Notes: uses the **Advanced search** options to refine and modify the search. This includes **date ranges** or **country of origin, language** and **file format**; as well as keyword exclusion and inclusion fields. Also note the change in the results per page. The Im**age Advance search** allows the users to specify the **image size** and **file format**

Boolean Searches explained

Boolean Searches

Boolean searches are named after the British born Mathematician **George Boole**. Boolean Logic establishes the relationships between keywords in a search. Boolean logic has three operators:
- AND
- OR
- NOT
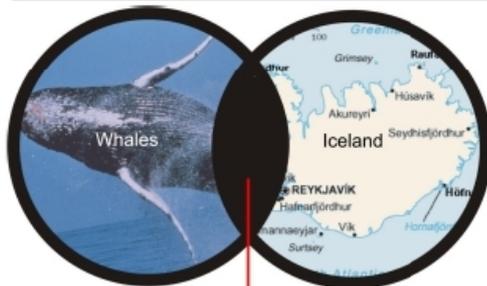
iceland whales

Search keywords Iceland AND Whales
This search will give you all pages with both the keyword Iceland or Whales contained in the page or metadata.

This is the **basic search** that most people use on search engines like Google. This is search will find any page that has the words **Iceland and Whales** in the page. The search engines usually look for **words** within the body of the page or in the **Metadata** in the head of the page.
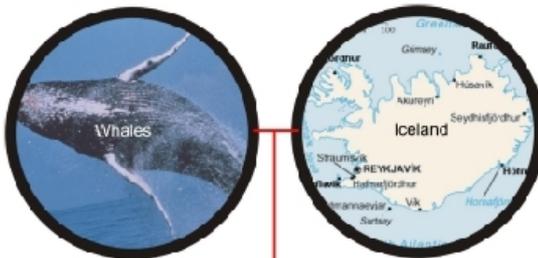
iceland OR whales

Search keywords Iceland or Whales
This search will give you all pages with either the keyword Iceland or Whales contained in the page or metadata

This search will produce many hits as it looks for pages with **either of the two keywords** within the body of the page or in the Metadata in the head. The results will include:
- pages with "Whales"
- pages with "Iceland"
- pages containing both "whales" and "Iceland"

This style of **Boolean search** is useful when you have related topics or where there are several names for the same topic. e.g. German Shephard Dogs and Alsatian.
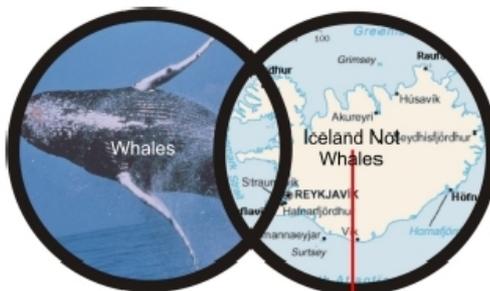
iceland -whales

Search keywords Iceland NOT Whales
This search will give you all pages with the keyword Iceland but not the keyword Whales contained in the page or metadata.

The "**Not**" search is a **powerful filtering tool** that allows the searcher to eliminate pages quickly and easily. It is particularly useful when combined with other search terms. e.g. "Iceland" and "whaling" or "Whales" not "Fishing"

Blog Journalling Rubric

Bloom's Taxonomic Level: **Understanding**

Blogging and Bloom's

Creating — Original Blog

Evaluating — Blog Moderating

Blog Commenting

Analysing — Media clipping

Applying

Understanding — Blog Journaling

Remembering

Key Words:

Interpreting, summarising, inferring, comparing, explaining, exemplifying, blog journalling, commenting

Introduction:

This is a rubric for the Blog journalling. This is examining the process of recording and reporting events and process using blogging tools. Blog journalling here, is used as a form of reflective practice for class activities and learning rather than for personal journalling. There are many other applications for the use of blogs in the classroom and learning environments.

	Blogging	**Understanding**	**Timeliness**
1	The entry or entries have poor spelling and contain grammatical errors, they are short, typically 1 to 2 sentences. They lacks structure and or flow. The entry appear to be hastily written often using in informal language or text style abbreviations.	These simple entries lacks insight, depth or are superficial. The entries are short and are frequently irrelevant to the events. events. They do not express opinion clearly and show. little understanding.	The entries are irregular. Events are not journalled as they occur.
2	Some of the entries have poor spelling and contain grammatical errors. The entries have some structure. But the entries does not have consistent flow or show linkage/ cohesion between entries. The blog entry may contain a link or image.	The blog journal posts show some insight, depth & are connected with events, topic or activity. Entries are typically short and may contain some irrelevant material. There are some personal comments or opinions which may be on task. The posts shows some understanding of the topic.	The entries have some timeliness with most key events being journalled. Some comments are replied to.
3	There are few spelling and grammatical errors. The journal entries have structure. The posts flow and have linkage/cohesion between the entries The journal posts contains appropriate links or images. These are referred to within the text.	The posts show insight & depth. The content of posts are connected with events, topic or activity. These journal entries may contain some irrelevant material but are for the most part on task. The student's personal opinion is expressed in an appropriate style & these entries shows a good depth of understanding.	Most events are journalled as they happen. Most comments are replied to in a timely manner. The reply shows understanding
4	The spelling and grammatical errors are rare. The journal entries have structure and are formatted to enhance readability. The entries flows and have linkage/cohesion between posts. The posts contains appropriate links or images, with the image sources being acknowledged. The images and links are referred to within the text.	The blog journal posts show insight, depth & understanding. They are connected with events, topic or activity. Entries are relevant with links to supporting material. The student's personal opinion is expressed in an appropriate style & is clearly related to the topic, activity or process. The posts and opinions shows a high level of understanding & they relates events, learning activities & processes to the purpose of the activity and outcomes.	All events are journalled these are regular & timely. Comments are replied to in a timely manner. The replies show a depth of understanding & relate to the comments

Exemplars:

This is a blog entry about a class trip to the local zoo. The trip was arranged to support a science unit of work on conservation. The trip took place on 19th November. Students are Middle Years students (year 8)

Level 1

Zoo
```
24 November 2007
Went to the Zoo. Coool trip. Charles tripped ova LOL. All the
girlz laff @ him - shame! Love da geraffe and the tiga
```

This entry is superficial and shows limited understanding of the purpose of the trip. Blog writing or authoring is at Level 1. Spelling and grammatical errors. Lacks structure and flow. This entry has not reached an acceptable level for understanding.

Level 2

Science Zoo Trip
```
20 November 2007
The zoo trip was fun and the teachers were really nice to take us
their. We saw lotz of animals. I liked the tiger but they are
endangered in the wild in Africa. Our group took some cool fotos
with the class camera. My favourite is the one with Charles
falling over. Here is one of the Giraffe. The giraffe is amazin.
Its neck is so long it can reach leaves high in trees.
```
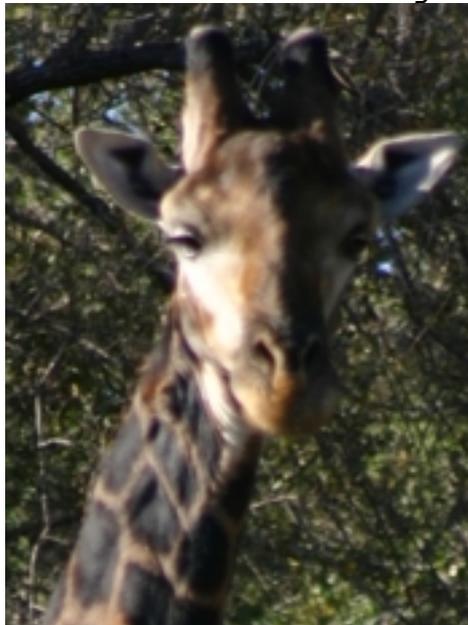

This entry is related to the purpose of the trip, it is more timely but does contain errors – spelling, grammatical and factual. The student has included an image. Authoring at level 2. This entry shows a limited level for understanding.

Level 3

The Conservation Trip to the Zoo

19th November 2007.

Today's trip to the Zoo was really enjoyable. The [Auckland Zoo](#) has lots of animals from many places. The tiger was my favourite. They are such a beautiful animal but are endangered in the wild through out India and Asia. I can't believe people kill them for medicence or fur coats.

The Giraffe is such a cool animal, it can eat leaves high in trees that other animals can reach. Giraffes are not endangered but there homes are being reduced as land is used or farms. I found some info on giraffes at [www.animalplanet.com/animal/1256dt675738hjsu3n4978493jdjgh2jjdsd3dnu3.asp](#)

This is a better entry, focused on the purpose of the trip. The student has included links to research but just inserted the link rather than formatting this. The student has linked issues to the animals they saw. The post is relevant and timely. Blog writing or authoring is at level 3. The entry is structured, with links (the links are raw and need processing) and images, few errors. This entry has reached an acceptable level for understanding.

Level 4

Conservation Trip to Auckland Zoo

19th November 2007

The Science class went on a trip to Auckland Zoo as part of our conservation unit. The teacher gave us a workbook to work through and asked us to look at the endangered animals. Tigers are endangered throughout the world. Tigers are hunted and poached for their fur and for use in medicences. There are several species of Tigers like the Siberian Tiger, the Sumatrun Tiger. I found some information about Tigers at Animal Planet - Tigers

Giraffe - class photo

Giraffes are amazing. They are so well adapted to their Niche. Their neck has the same number of bones as our but is so long. This lets them eats leaves high in trees. This is a huge help for them as they don't have to compete with other animals for food. Animal Planet - Giraffe.

The trip was really cool. It was nice to get out of the classroom, but it was very useful to see the animals we have been learning about. I still wonder if it is fair to keep animals in zoos. Wild animals should be in the wild, but I guess the wild is shrinking. We need to take responsibility for this. I would like to help. I might join the WWF rangers on the WWF web site.

Mr T's Blog entry on the trip is really good and the photos are really good, even the one of Charles.

This entry is well structured and shows insight and understanding. The student has included relevant and appropriate links, the entry is well structured and flows. The student offers personal opinion which shows depth of understanding and insight. The post is relevant and timely. Blog writing or authoring is at level 4. The entry is structured, with processed links and images, few errors.
This entry shows an good level of understanding.

Starter Sheet - Wikispaces

Wikispaces
Create simple web pages that groups edit together.

wikispaces

Sensory Learning: Visual and Read/Write learner.
Bloom's Digital Taxonomy: Creating - digital publishing and **Applying** - editing

Wikispaces is a hosting site for wiki's. The site requires the user to register to create a wiki. Basic wikis are free but have advertising, however registered educational wikis are advertising free. Wikispaces wikis can be protected (only members can edit them), private (only members can see and edit them) or open. Membership can be open, by invitation or on request. Once created wiki's can support a variety of media and allow collaboration between classes, schools and groups around the planet. This tool faciliates collaboration and sharing and enables the development of shared resources in a controllable environment.

Process: 1. Register as a user (Free). 2. Create a wiki. 3. Set permissions and rights to enable sharing and collaboration. 4. Add content and develop pages. 5. Invite members by email.

Wikispaces wiki's are easily customisable and support a variety of media.

Editing is simple with basic formating and hyperlinking tools & simple but powerful widgets

The wikispaces wiki's are managed from a powerful but simple set of tools showing permissions to traffic.

URL
http://www.wikispaces.com

Alternatives:
Wetpaint wikis provides an excellent alternative to wikispaces. These are also full featured wiki available for free @
http://www.wetpaint.com

Produced by Andrew Churches
All Rights Reserved 2008

Wikispaces

In the Classroom.

Wiki's by there very nature are **collaborative spaces**. This example is a collaborative space between four schools. The four schools are in four different countries.

- Australia
- Austria
- New Zealand
- Qatar

The students are sharing a collaborative resource for an element of the students assessment.

The **basic structure** of the wiki was **constructed by the teachers**. The teachers constructed the pages to a **standard format** covering the different elements of the assessment. In this case the pages covered technologies involved in the assessment including: Social and ethical issues, future developments, emerging technologies and the impact of these; identifying describing and proposing solutions to problems.

N&Q INVESTMENTS
HL ITGS Casestudy 2009

Welcome to The ITGS (Information Technology in a Global Society) HL (Higher Level) Case study Wiki

About this space

This page is a collaborative space. It is accessable to anyone but to be able to edit the space you must be a member of the space. Teachers are invited to become organisers of the space and they in turn can invite their

To **protect the integrity of the wiki** and to manage write access to the wiki, this wiki is set up as a **protected space**.

As a protected space **only member of the wiki can create content**. The space is **visible to the public** to view the content. **Members are by invitation** of the organisers. This allows the teacher to manage the membership of the wiki and moderate the material.

Wiki Permissions

	Level	Description
○	Public	Everyone - including anonymous visitors - can view and edit pages ☐ Allow message posts from non-members.
⦿	Protected	Everyone can view pages, only members of this wiki can edit pages ☐ Allow message posts from non-members.
○	Private	Only members of this wiki can view and edit pages

Base rules of behaviour were outline at the start of the project and the students made use of the discussions forums to negotiate content, discuss validity of sources, the value of wikipedia etc. Teachers intervened in these discussions rarely.

http://casestudy-itgs.wikispaces.com

Wiki Editing Rubric

Bloom's Taxonomic Level: **Understanding – Content authoring**
Applying – Wiki editing

Key Words - Understanding:

Interpreting, Summarising, inferring, comparing, explaining, exemplifying, blog journalling, commenting

Key Words – Applying:

 Implementing, carrying out, using, executing, operating, uploading, sharing, editing

Introduction:

This is a rubric for the Wiki editing. This is examining the process of showing understanding by developing content via paraphrasing and authoring material on a related topic in a wiki environment. The Authoring component shows application as the student edits the wiki to a suitable standard, making use of the features of the wiki tool and basic principles of design – consistency, repetition, flow, readability.

	Wiki Authoring (Applying)	**Content (Understanding)**
1	Poor spelling and grammatical errors. Text entered with no enhancements. Lacks structure or flow.	Simple page which lacks insight, depth or is superficial. Entry is short and frequently irrelevant to the topic. Most sections are of content are cut and paste or show superficial rewriting. Language used is not representative of the students language. Shows little understanding.
2	Some spelling and grammatical errors. Text entered with limited enhancements. Simple text enhancements are used. The wiki pages has limited structure or flow. The page may contain links or images. Student has a mostly consistent approach to design	Simple page which shows some depth or level of understanding. Entry are short and for the most part relevant to the topic. Some sections of content are cut and paste or show superficial rewriting. The page shows some understanding. The page attempts to address the learning objectives. Information sources are mentioned.
3	Few spelling and grammatical errors. Text is enhanced. The text has structure and the entry flows. Content is arranged in a logical order. The entry contains a appropriate links, files or images. Headings are added using the heading styles. Student has a consistent approach to design	The page shows the student has read and understood the page the page is rewritten by the student. The content has relevant links or images and the links or images may be referred to. The page address the learning objectives. Information sources are acknowledge.
4	Spelling and grammatical errors are rare. The wiki page has structure and is formatted and enhanced to increase readability. Contains a appropriate links, files or images. Image sources are acknowledged and include captions. Images and links are referred to within the text. Headings are added using the heading styles. Wiki features like embedding media, horizontal rules and a table of content are included. Student has a consistent appropriate approach to design and layout.	The page show insight, depth and understanding. The content, links, files, media and images are relevant and connected to the topic. The content is obviously written by the student and the student has shown a good depth of understanding and knowledge. The page clearly address the learning objectives. Information sources are acknowledge in a suitable format.

Starter Sheet – Buzzword

Buzzword
Online Word Processing

ADOBE BUZZWORD BETA

Sensory Learning: Read/Write learner.
Bloom's Digital Taxonomy: Remembering - bullet pointing and highlighting
Understanding - explaining, summarising, comparing

Buzzword is a collaborative online word processor developed by Adobe. This product allows you to **create and share documents** between a **group of collaborators**. The **Author** of the document sets the rights of the collaborators who amy be **Co-Authors**, **Reviewers** etc. Existing documents can be imported in a variety of formats including **Microsoft's Document Formats** and **Open Document Formats**.

Process: 1. Register to create an account (Free). 2. Upload documents or create online. 3. Share by email invitation and set roles 4. Edit and print or exporting to offline format.
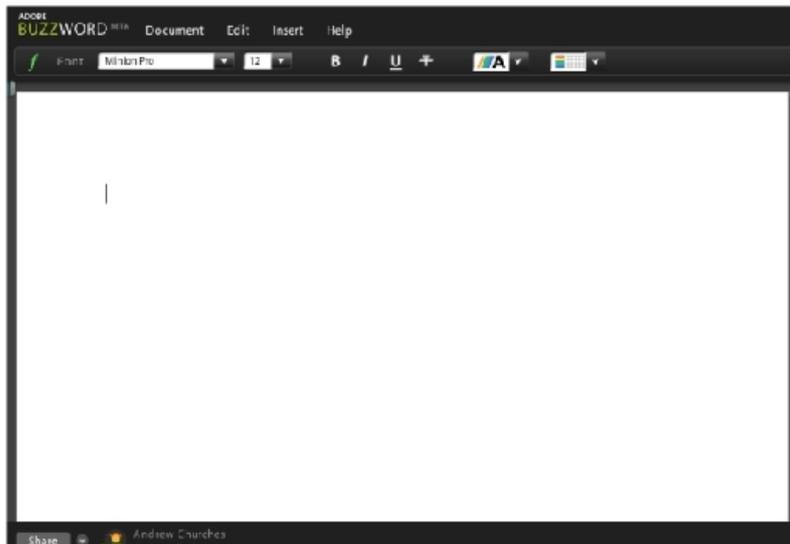
Buzzword's has a wide range of tools and functions available in a ribbon style interface.

Welcome to Buzzword

Your email:
Password:
Sign In
Remember me on this computer
Forgot your password? Request a new one.

Buzzword requires you to register so that your log in is secure. A registration confirmation email will be sent to your email address.

URL
http://www.buzzword.com

Alternatives:
Google Documents provides a free online alternative to buzzword. The interface is simpler but also has a spreadsheet and presentation tool.
Offline alternatives are also numerous, but the stand out is the open source free tool Open Office 3.0 which can be downloaded from Openoffice.org

Buzzword
In the Classroom.

ADOBE
BUZZWORD BETA

Buzzword can be used in any situation where a word processor could be used, but it has a several distrinct advantages over offline or installed word processing applications (See Right).

Because of it is an online application, the documents can be access from any computer regardless of its operating system that has **internet access** and the **flash player** installed.

The **collaborative** nature of the documents means that groups of students can collaborate on the same document. Rather than students having to combine documents or email sections to each other they can **collaborate on a single document, tracking the changes and contributions of the collaborators** using the **history** function.

Bloom's & Word processing

Creating	Planning, Designing Publishing, Making
Evaluating	Reviewing
Analysing	Outlining, Validating
Applying	Editing
Understanding	Paraphrasing, Explaining Summarising, Comparing
Remembering	Bullets Pointing, Highlighting

In Science, the teacher builds a **simple experiment template** (See Left) on buzzword. The template includes the basic elements of an experimental write up:

- Aim
- Hypothesis
- Equipment
- Method
- Results
- Conclusion and Discussion

Science Experiment: TITLE

Aim:

Hypothesis:

Equipment:

The teacher then invites the students to **participate** and **collaborate**.The teacher assigns the students **different roles** like a **Co-Author** (See above). The invitations to participate are sent via email to the students.

History
Yesterday 1:37 PM - Andrew
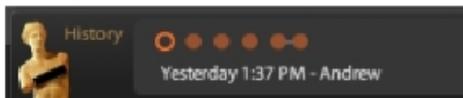
The teacher can check on the progress of the group and who has made contributions by checking the **history function** (see left) and looking at the changes that the student has made in their **edit**.

ADOBE BUZZWORD BETA   Document   Edit   Insert   Help
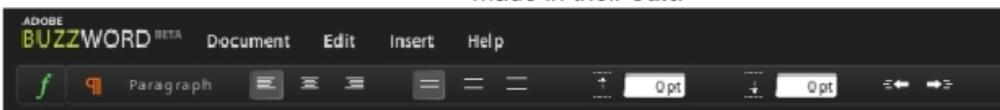
The students edit the experiment using the **standard formating tools**, structuring the doucument as required. The completed experiment is either printed, marked online or sent to the teacher. The **teacher** can **edit and make comments on the document** as the students develop the product, providing **instant and appropriate feedback**.

Applying

The following are some of the key terms for this aspect of the Taxonomy.
- Carrying out
- Using
- Executing
- Implementing
- Showing
- Exhibiting

<div style="background-color: yellow;">

Anderson and Krathwohl's taxonomy – Applying

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

</div>

The digital additions and their justifications are as follows:
- **Running and operating** - This the action of initiating a program. This is operating and manipulating hardware and applications to obtain a basic goal or objective.
- **Playing** – The increasing emergence of games as a mode of education leads to the inclusion of this term in the list. Students who successfully play or operate a game are showing understanding of process and task and application of skills.
- **Uploading and Sharing** - uploading materials to websites and the sharing of materials via sites like flickr etc. This is a simple form of collaboration, a higher order thinking skill.
- **Hacking** – hacking in its simpler forms is applying a simple set of rules to achieve a goal or objective.
- **Editing** – With most media's, editing is a process or a procedure that the editor employs

<div style="background-color: gray;">

Key Terms - Applying:

Implementing, carrying out, using, executing, running, loading, playing, operating, hacking, uploading, sharing, editing

</div>

Applying and Digital Activities

Applying	Possible activities
Using information, concepts and ideas in another familiar situation (Using strategies, concepts, principles and theories in new situations). **Implementing, carrying out, using, executing, doing, running, loading, playing, operating, hacking, uploading, sharing, editing.** **Bloom's & Desktop Publishing** Creating — Planning, Designing Publishing, Making, Digital Publishing Evaluating Analysing Applying — Editing, Sharing Understanding — Explaining, Summarising Remembering	**Illustration** (Corel, inkscape, GIMP, Paint, online tools, Comic creation tools - *comic life, historic tale construction kit, hyper comic*) **Simulation** (Floor map, graphic tools, google sketchup*,* Crocodile software simulating science experiments, Global conflict - Palestine) **Sculpture or Demonstration** (Presentation, graphics, screen capture, audio and video conferencing) **Presentation** - impress, Simple DTP product, powerpoint, google presentation, Zoho presentation, skype, interactive whiteboard collaboration using etools, audio and video conferencing **Interview** (Word Processing, mind mapper, podcast, vodcast, audacity, sound recorder, collaboration using etools, skype) **Performance** (Podcast, vodcast, film, audio and video conferencing, VoIP, audio recording, speech, Powerpoint Show, collaboration using etools) **Editing** - video and sound tools, Wiki editing, Simple DTP product. Developing a shared document **Playing** - mmorpg's online games, simulations like Global Conflicts Palestine

A screenshot from Global Conflicts – Palestine. This is an 3D interactive game or simulation produced by serious games. Source: http://www.seriousgames.dk/img/golden.jpg

Starter Sheet - Googlemaps and Streetview

GoogleMaps

Google Maps

View maps and get directions.

Sensory Learning: Visual and Kinesthetic learner.
Bloom's Digital Taxonomy: Applying - carrying out, using, executing, running, operating, sharing, editing.

Google maps combines street maps and satellite imagery in an exciting and captivating way. This is a free tool available without registration, though to get the best from it this is recommended. The tool allows you to toggle between map, satellite or hybrid views. You can zoom down into the map by double clicking on the image and navigate maps by mouse or using the navigation tool. A recent addition is the **streetview** feature. This street level viewer allows you to travel virtually down roads looking at a cleverly compiled compelation of stills images which give a 270° view of the location. This tool brings maps to life and enables virtual field trips.

| Map | **Satellite** | Terrain |

Google maps navigation tool
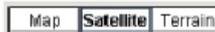
Process: 1. Create an account (optional). 2. Enter location into search field. 3. Zoom and navigate using mouse or navigation tools, change views between satellite and map views. 4. Share by email or embedded link.

URL
http://maps.google.com

Alternatives:
Microsoft Live's Multimap is an online alternative to google maps available at http://www.multimap.com. (Free)
Google earth is a powerful consumer level GIS (Geographical Information System) tool that can be downloaded. Once installed, it connects to Google to provide an engaging learning experience. (Free)

Streetview enables virtual field trips to over 8 countries. Navigate by clicking the arrows or using the mouse.

GoogleMaps
In the Classroom

Streetview, which is Googlemaps visualisation tool, has captured street level images in seven different countries, including
- USA
- Australia
- France
- Italy
- Japan
- New Zealand
- Spain

This present great opportunities for **Virtual Field Trips** for students of **Humanities and Languages**.

Visiting France

Key to learning a language, is developing an undertanding of the culture of the country.

Google Maps view of France. Double clicking on the map will zoom in. Note the **street view tool** available as the yellow person in the navigation tool.
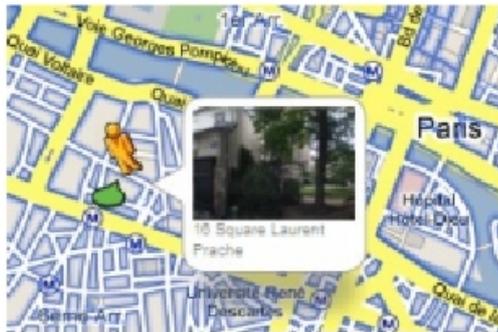
Selecting Google Maps and zooming in on Paris will allow you to find street names as zoom in. Clicking on the **streetview "person"** will enable **street level images**. You can then navigate around the map by **dragging and dropping** the "person" on the location you wany. You will get a small **preview window** showing you the view at the location (See Left).
Areas mapped with streetview appear with a blue highlight.

Use **Google maps** and **Streetvie**w to visit the Eiffel Tower or the Arc de Triumph; to walk the Avenue des Champ-Elysees or stroll the banks of the River Seine.

Split screen view of **Google maps** and **Streetview**. Looking down the Avenue d'Iena towards the Arc de Triumph.
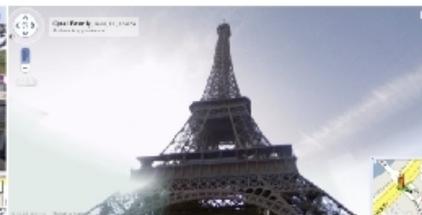
Streetview allows you a **270° range of view**. Here looking up from the base of the Eiffel Tower.

Google maps & Streetview Rubric

Bloom's Taxonomic Level:　　　**Applying**

Key Terms:

Implementing, carrying out, using, executing, running, loading, playing, operating, hacking, uploading, sharing, editing

Introduction:

This is a rubric for applying knowledge and skills through the use of Google maps and Streetview. Students reaching the highest levels of this rubric will have searched and located key locations, annotated these using hotspots; they will have shared these hotspots and maps with their peers.

	Applying, Editing and Sharing using Googlemaps and Streetview
1	The student has difficulty moving between the different views and maps styles. They zoom into and out of images and maps. They use some of location tools including moving the map, streetview and search fields They use some of the navigation tools including the onscreen tools and mouse gestures to pan, pivot, zoom and move. They have little understanding of global location and scale
2	The student moves between the different views and maps styles. They zoom into and out of images and maps. They navigate using the various tools including moving the map, streetview hover/preview and search fields They use some of the navigation tools including the onscreen tools and mouse gestures to pan, pivot, zoom and move They have some understanding of global location and scale
3	The student moves between the different views and maps styles, they select suitable view for the task at hand. They show some understanding of image resolution and zoom levels to resolve image, map and satellite image quality. They navigate and search using the various tools including streetview hover/preview, search fields, bookmarks and hotspots, embedded image, links and videos. They use the navigation tools including the onscreen tools and mouse gestures to pan, pivot, zoom and move They add hotspots and bookmarks. They collaborate using some tools like email, embedding links and hotspots. They have an understanding of global location and scale that they use to locate sites.
4	The student moves with ease between the different views and maps styles, they select the most suitable view for the task at hand. They apply their understanding of image resolution and zoom levels to resolve image, map and satellite image quality. They navigate and search effectively using the various tools including streetview hover/preview search fields, bookmarks and hotspots, embedded image, links and videos. They use the navigation tools including the onscreen tools and mouse gestures to pan, pivot, zoom and move effectively. They add hotspots and bookmarks containing appropriate and detailed information. They collaborate using appropriate measures including email, embedding links, bookmarks and hotspots. They apply their understanding of global location and scale to quickly locate and refine searches.

Collaboration using online collaboration environments

Bloom's Taxonomic Level: **Applying**

Key Terms - Applying:

Implementing, carrying out, using, executing, running, loading, playing, operating, hacking, uploading, sharing, editing

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Introduction:

This is a rubric for Collaborating. Students are using electronic tools for sharing, editing and uploading materials. The tools would include products like elluminate. The rubric looks at the appropriate use of the tool to facilitate the discussion. The rubric does not look at the content or understanding specifically. There are three major areas or aspects of use. These are preparation for the collaboration session, the use of collaboration and communication features.

	Collaborating using eTools
1	The student makes little appropriate use of the Collaboration features of the tool the tools are often distracting or inappropriate. The student has done little preparation of material. The student used some communication features of the tool like "hands up", emotions, applause, microphone or chat etc. The use of these tools may be inappropriate. The user interrupts or over rides other conversations and adds comments that are not related to the topic or discussion. The user shows little confidence in their use of the tool.
2	The student makes some limited use of the Collaboration features of the tool like screen shots and captures, websites, chat, voice, presentations, recording, video and file upload/sharing. The use of these features is mostly appropriate. The student has prepared some material. The student has sourced information from a few different information sources (web based, presentation tools, text, voice, video etc.) to share and use. The student uses most of the communication features of the tool like "hands up", applause, microphone etc., in an appropriate manner. The user shows some confidence in their use of the tool.
3	The student makes appropriate use most of the different Collaboration features of the tool to enhance and facilitate discussion, this would include (where appropriate) screen shots and captures, websites, chat, voice, presentations, recording, video and file upload/sharing. The student has prepared the material. The student has sourced information from a several different information sources (web based, presentation tools, text, voice, video etc.) to share and use. The student is appropriate in the use of communication features of the tool like "hands up", applause, microphone etc. The user is confidence in their use of the tool.
4	The student makes full and appropriate use of the different Collaboration features of the tool to enhance and facilitate discussion, this would include (where appropriate) screen shots and captures, websites, chat, voice, presentations, recording, video and file upload/sharing. The student has fully prepared the material and the student has sourced information from a variety of different information sources (web based, presentation tools, text, voice, video etc.) to share and use. The student has considered the abilities of the other users and the potential limitations of their connections so the content is available to all. The student is appropriate in their use of communication features of the tool like "hands up", applause, microphone etc. The uses of these features enhance conversation and facilitates sharing. The user shows confidence in their use of the tool and supports other in their usage.

	Preparation	Collaboration Features	Communication features
1	The student has done little preparation of material.	The student makes little appropriate use of the Collaboration features of the tool the tools are often distracting or inappropriate.	The student used some communication features of the tool like "hands up", emotions, applause, microphone or chat etc. The use of these tools may be inappropriate. The user interrupts or over rides other conversations and adds comments that are not related to the topic or discussion. The user shows little confidence in their use of the tool.
2	The student has prepared some material. The student has sourced information from a few different information sources (web based, presentation tools, text, voice, video etc.) to share and use.	The student makes some limited use of the Collaboration features of the tool like screen shots and captures, websites, chat, voice, presentations, recording, video and file upload/sharing. The use of these features is mostly appropriate.	The student uses most of the communication features of the tool like "hands up", applause, microphone etc., in an appropriate manner. The user shows some confidence in their use of the tool.
3	The student has prepared material for the collaboration session. The student has sourced information from a several different information sources (web based, presentation tools, text, voice, video etc.) to share and use.	The student makes appropriate use most of the different Collaboration features of the tool to enhance and facilitate discussion, this would include (where appropriate) screen shots and captures, websites, chat, voice, presentations, recording, video and file upload/sharing.	The student is appropriate in the use of communication features of the tool like "hands up", applause, microphone etc. The user is confidence in their use of the tool.
4	The student has fully prepared material for the collaboration session. The student has sourced information from a variety of different information sources (web based, presentation tools, text, voice, video etc.) to share and use.	The student makes full and appropriate use of the different Collaboration features of the tool to enhance and facilitate discussion, this would include (where appropriate) screen shots and captures, websites, chat, voice, presentations, recording, video and file upload/sharing.	The student has considered the abilities of the other users and the potential limitations of their connections so the content is available to all. The student is appropriate in their use of communication features of the tool like "hands up", applause, microphone etc. The uses of these features enhance conversation and facilitates sharing. The user shows confidence in their use of the tool and supports other in their usage.

Collaborative Editing using an Online Word Processor

Bloom's Taxonomic Level: **Applying.**

Key Terms:

carrying out, using, uploading, sharing, editing

Bloom's & Word processing

Creating	Planning, Designing Publishing, Making
Evaluating	Reviewing
Analysing	Outlining, Validating
Applying	Editing
Understanding	Paraphrasing, Explaining Summarising, Comparing
Remembering	Bullets Pointing, Highlighting
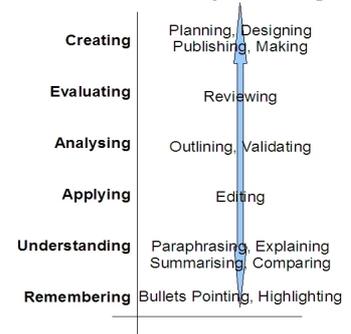
Introduction:

This is a rubric for students collaborating on a shared document using an online word processing tool like Buzzword, Google Documents or Zoho Documents. The two aspects examined here are the technical use of the tool and the collaborative aspect of sharing and co-operation.

Level	Collaborative Editing using an Online Word Processor
1	The student uses some of the tools and features of the product. Their editing lacks care and attention to detail. There are issues with formatting and structure of the document. Comments and reviews are random and unrelated to the section or purpose of the document. The student makes a limited contribution. The student makes little attempt to supports and encourages their peers. Comments are often inappropriate or disruptive. The students roles and tasks are unclear or poorly defines, unbalanced or inequitable. The students work independently and do not often monitor these tasks. The students contributions are irregular and show a lack of preparation and planning.
2	The student uses many of the tools and features of the product. Their editing sometimes lacks care and attention to detail. There are issues with formatting and structure of the document. Comments and reviews are often random and or unrelated to the section they are attached to. The student makes a contribution. The student attempts to supports and encourages their peers. The student establish roles and tasks, but these are unbalanced or inequitable. The student work independently and do not often monitor these tasks. The students contributions are irregular and or show a lack of preparation and planning.
3	The student makes appropriate use of most of the tools and features of the product. Their editing shows some care. Comments and reviews are structured and generally relate to the section of the document. The student makes an equitable contribution. The student supports and encourages their peers using appropriate comments. The student establishes the purpose of the document, their roles and tasks, these are mostly equitable. The students monitor these tasks in an appropriate manner. The student completes their own tasks and encourages other students in completing their tasks. The students contributions are regular and show some preparation and planning.
4	The student makes full and appropriate use of the tools and features of the product. Their editing shows attention to detail and care. Comments and reviews are appropriately structured and relate specifically to the section of the document. The student makes an equitable contribution. The student supports and encourages their peers using appropriate and supportive comments. The students clearly and fairly establish the purpose of the document, their roles and tasks. The students monitor these tasks in an appropriate and supportive manner. The student actions their own tasks and supports other students in completing their task. The students contributions are regular and show preparation and planning.

Skype (Audio/Video Conferencing) Rubric

Bloom's Taxonomic Level: Applying

Key Terms - Applying:

Implementing, carrying out, using, executing, running, loading, playing, operating, hacking, uploading, sharing, editing

Bloom's Taxonomic Level: Evaluating

Key Words:

Checking, critiquing, judging, reviewing, posting, moderating, reflecting, Validating.

Introduction:

This is a rubric for audio and Audio/visual conferencing using tools like skype ©. This rubric is looking at two taxonomic levels Applying for the planning, preparation and communication aspects and Evaluating for the reflection.
Key to a successful conference are the aspects of **planning** and **communication**. Planning encompasses the technical aspects – checking connection, preparing tools etc. and the content/management aspects – setting up schedules, agenda, key elements rules etc. The communication aspect looks at audio and visual communication in its various aspects and the efficiency with which these are used. It also looks at apply the rules, schedule and plan previously prepared. **Reflection** is crucial to improving the process and learning from the process and content of the conference. So this aspect covers not only personal involvement but also minutes, notes and recordings.

	Preparation and Planning	**Communication**	**Reflection**
1	Little preparation is evident. The conference lacks structure. Little consideration for availability/time zones etc. are evident	Communication is poor, hard to understand, of task and inarticulate. Use and selection of language does not aid communication. There is little evidence of rules or etiquette, structure or planning.	There is little or no reflection.
2	Some connections are tested prior to the event. A schedule has been communicated. Some goals for the conference are outlined. Some key questions are prepared. Rules and etiquette guidelines are outlined.	Rules and etiquette guidelines are stated. Most communication is clear (speech, visual and written) and mainly on task. The language used is mostly appropriate and all parties will understand (Spoken and written). Slang, regional language and colloquialisms are used. Speech is mostly clear, there are issues with pace and pitch. Volume of speech varies. Most rules and etiquette guidelines are followed. There is some interruption and speaking over people. Some notes are taken these are of a poor quality.	Here is some limited reflection on the conference. Reflection is general and unstructured, Reflection may be of a personal nature Minutes and notes are distributed. Some areas of Improvement are identified.

	Preparation and Planning	**Communication**	**Reflection**
3	User has selected some suitable tools and installed these for use in the conference. (Blackboards, recorder etc.). Connections are tested prior to the event. A schedule has been communicated. Goals for the conference are outlined. A plan and some key questions are prepared. Some resources and links are prepared in advance. Rules and etiquette guidelines are defined.	Rules and etiquette guidelines are stated and mostly adhered to. Most communication is clear and articulate (speech, visual and written) and mostly on task. The language used is mostly appropriate and all parties will understand (Spoken and written). Speech is Mostly clear, appropriately paced and pitched. Rules and etiquette guidelines stated are mostly followed. Some notes and or recording are taken.	Parties reflect on the conference. Reflection is completed without put downs, sarcasm or comments of a personal nature. Reflection and review examined appropriately the some following: ***Preparation, Goals, Key questions, Process, Communications, conversations, Rules and etiquette*** Where appropriate suitable resources, minutes and notes are distributed. Some areas of Improvement are identified and actioned.
4	User has selected suitable tools, installed and tested these for use in the conference. (Blackboards, recorder etc.). Connections are tested prior to the event. A schedule has been communicated and agreed to by all parties. Clear goals for the conference are agreed to by all parties. A plan and key questions are prepared and approved. Suitable resources and links are prepared in advance. Rules and etiquette guidelines are clearly defined.	Rules and etiquette guidelines are clearly defined and adhered to. All communication is clear and articulate (speech, visual and written) and on task. Users select and use appropriate language that all parties will understand (Spoken and written). Speech is clear, appropriately paced and pitched. Suitable standards of etiquette are applied regarding interrupting, turns to speak, use of slang and abbreviation, use of cameras and prepared materials. Goals and plan of conference are clearly communicated and adhered to. Suitable notes and or recording are taken.	All parties reflect critically on the conference. Reflection is completed without put downs, sarcasm or comments of a personal nature. Reflection and review examined appropriately the following: ***Preparation, Goals, Key questions, Process, Communications, conversations, Rules and etiquette*** Where appropriate suitable resources, minutes and notes are developed and distributed. Improvements are identified and actioned.

Interactive Whiteboard Rubric

Bloom's Taxonomic Level: **Applying**

Key Terms:

Implementing, carrying out, using, executing, running, loading, playing, operating, hacking, uploading, sharing, editing

Introduction:

This rubric is based on a rubric supplied by Juliette Major of Education Services, Catholic Education Office of Canberra and Goulburn. The Rubric looks at students use of interactive whiteboards from two aspects, Control and Interaction. Control examines how the student uses the interactive whiteboard and the various software features. The Interaction element looks at the development of the resource or notebook and the level of interactivity within it.

Level	Control	Interaction
1	The user cannot click on the IWB using stylus or hand. Experiences difficulty opening programs on the computer connected to the IWB using the stylus, hand or wireless mouse and keyboard.	The user displays no confidence in using the IWB. They don't know how to use the software that accompanies the IWB.
2	The user can click on the IWB using stylus or hand. Can open programs on the computer connected to the IWB using the stylus, hand or wireless mouse and keyboard.	The user displays confidence in using the IWB. They don't know how to use the software that accompanies the IWB. The user can open websites and software on the computer connected to the IWB.
3	The user can click on the IWB using stylus or hand. Can manipulate programs on the computer connected to the IWB using the stylus, hand or wireless mouse and keyboard. Can enter text using stylus, finger or on-screen keyboard and navigate to these features. Can format text via the IWB.	The user displays confidence in using the IWB. They demonstrate how to use the software that accompanies the IWB and the functions for each tool. The user can open websites and software on the computer connected to the IWB as well as opens and manipulates new resources using IWB-specific software. This would include modify size, position, lock or unlock status; adding hyperlinks
4	The user can click on the IWB using stylus or hand. They can manipulate programs on the computer connected to the IWB using the stylus, hand or wireless mouse and keyboard and teaches others to do so. They can enter text using stylus, finger or on-screen keyboard and navigate with confidence to these features. They can format text using the IWB, including text recognition, spelling as well as text enhancements with ease.	The user displays confidence in using the IWB. They demonstrate competently how to use the software that accompanies the IWB and the functions for each tool and is able to teach others. The user creates new resources using IWB-specific software as the lesson progresses. This would include modify size, position, lock or unlock status; adding and modifying hyperlinks and actions. They appropriately selects advanced features to highlight and enhance the learning process.

Analysing

The following are some of the key terms for this aspect of the Taxonomy.

- Comparing
- Organising
- Deconstructing
- Attributing
- Outlining
- Finding,
- Structuring
- Integrating

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Anderson and Krathwohl's taxonomy – Analysing

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

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The digital additions and their justifications are as follows:

- **Mashing** - mash ups are the integration of several data sources into a single resource. Mashing data currently is a complex process but as more options and sites evolve this will become an increasingly easy and accessible means of analysis.
- **Linking** – this is establishing and building links within and outside of documents and web pages.
- **Reverse-engineering** - this is analogous with deconstruction. It is also related to cracking often with out the negative implications associated with this.
- **Cracking** – cracking requires the cracker to understand and operate the application or system being cracked, analyse its strengths and weaknesses and then exploit these.

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Key Terms - Analysing:

Comparing, Organising, Deconstructing, Attributing, Outlining, Finding, Structuring, Integrating, Mashing, Linking, Reverse-engineering, Cracking, Media clipping and Mind-mapping.

</div>

Analysing and Digital Activities

Analysing	Possible activities
Breaking information into parts/components to explore/develop/construct understandings and relationships (Breaking information down into its component elements). **Comparing, organising, deconstructing, attributing, outlining, structuring, integrating**, m**ashing, linking, reverse-engineering, cracking, mind-mapping.**	**Survey** (Web based tools – *survey monkey, embedded polls and votes, social networking tools etc.*, Word Processing, Spreadsheet, email, discussion boards, cellphones and texting) **Database** (relational; databases using MySQL and Access, Flat file database using Spreadsheet, wikis, Geographical information systems or GIS - *Google earth, Google Maps, Flickr, Arcview/explorer*) **Abstract** (Word Processing, web publishing) **Relationship mind maps** - Herring or fish bone mind maps, SWOT Analysis, PMI, Venn, 6 Questions - *Inspiration, kidspiration, smart ideas, Cmap, Mindmapper, freemind Online tools -* **Report** (Word Processing, DTP, spreadsheet, presentation, web publishing – web page or blog entry, **Graph** (Spreadsheet, digitizer, online graphing tools) **Spreadsheet** (Calc, excel, online spreadsheet tools) **Checklist** (Word Processing, survey tools, online polls, Spreadsheet) **Chart** (Spreadsheet, digitizer, mind mapping tools online tools - www.gliffy.com)

Starter Sheet – Google Forms

Google Forms
Collect and analyse online.

Sensory Learning: Visual and read/write learner.
Bloom's Digital Taxonomy: analysing - organise, compare, structure.

Starter Sheet - Tools for Teachers

Google Forms is an extension on Google Documents. The users sets up a **form (a question sheet)** which is essentially a series of questions that are **published on the web** for people to answer. The results are compile into a **spreadsheet** within the forms owners **google documents account**. The questions are varied in type and include **papagraph, scale, multiple choice or list selection**. Data can be **processed** using the tools available in Google Spreadsheet.

Process: 1. Create an account (Required & Free). 2. Create a form. 3. Plan and add questions selecting question type, help text etc. 4. Share by embedding or email. 5. Process collated data in spreadsheet.

The basic form is simple to work through and the URL of the published form is available on the bottom of the form.

URL
http://docs.google.com
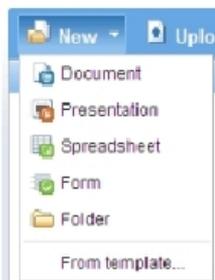
To create a Form, open your google documents and select Form from the **New** drop down menu.

Alternatives:
Survey Monkey is a online alternative to using Google forms. Membership is **free** for the **basic version** (which is limited to 100 responses and has limited analysis and export tools). The product is simple to use, clean and straight forward.
www.surveymonkey.com

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Google Forms
In the Classroom.

As a classroom tool, Google forms allows the stduents and teachers to **create, collate and process data** in a simple and straight forward manner.
The students start by **identifying the purpose** of their survey and then **planning** their questions. There are a variety of questions available to them (See right).
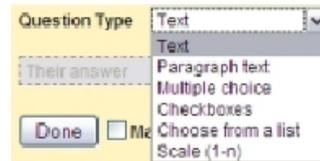
In **Information Technology**, this tool is used to survey the student community about Music and Software Piracy. The student wishes this to be an anonymous survey, so only collects data about the respondents gender.
They **title** the survey and add general information about the **purpose** of the survey.

As questions are **added to the form** the corresponding Spreadsheet is **updated**. The questions are added to the **column headers**. **The timestamp column** is added automatically to the spreadsheet. As the form is submitted the **date and time** of the submission is added and the **form updated**.

The student's survey is **structured and published to the web** using the **URL** located at the bottom of the Form. This address can be **emailed or embedded** into pages.
The student has used a variety of question types to collate the information (See Left) this includes **list** and **Multiple choice** as well as **scale**.

The submitted responses are **collated** in the spreadsheet which is generated with the form. **Numerical data** can be **processed into charts** using the spreadsheets tools (See right). The **processed and analysed data** is used to **evaluate** the scale of the piracy issue within the school community.
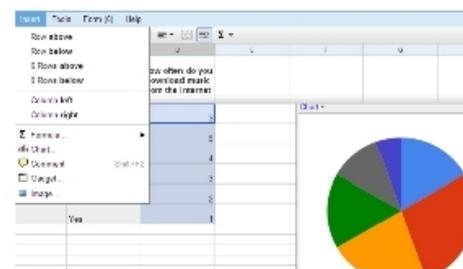
Data Analysis Rubric

Bloom's Taxonomic Level: **Analysing**

Key Terms - Analysing:

Comparing, organising, deconstructing, attributing, outlining, finding, structuring, integrating, mashing, linking, reverse-engineering, cracking and mind-mapping.

Introduction:

This is a rubric for data processing, manipulation, presentation and analysis. The rubric is designed for students taking raw data and suitably entering this into a spreadsheet (data processing). The processed data is then manipulated to add value using features like sort, filter, formula and equations. The manipulated data is presented in a suitable format or formats to enable analysis. Students are able to select suitable charts for the data types and suitably label tables, titles, axes, labels and keys. Students can then make accurate analysis of the data and trends, with an awareness of errors and inaccuracies.

	Data processing, manipulation, presentation and analysis
1	The students attempt to arrange data into fields. Most of the Fields are named. The data entered has some inaccuracies. The students show little understanding of data types and the students make no attempt to manipulate data or any manipulation is fundamentally flawed. The students are inconsistent and inappropriate in their use labels, highlights, font weight and underline. The students select inappropriate visual methods of presenting data. They make no attempt to analyse data or draw conclusions or the analysis is they attempt is flawed. The students are unaware of errors or inaccuracies. There is no attempt to link the processed data to prior knowledge.
2	The students arrange data into named fields. The data entered into the fields has some inaccuracies. The students have some understanding data types – continuous and discontinuous numerical or alphanumeric etc. They can manipulate data with use of formula or equations or sort or filter. There are some errors are present in data manipulation. The students make some appropriate use of labels, highlights, font weight and underline. They select visual methods of presenting data, some presentation methods are suitable for the type of data and purpose of presentation and audience. The students have attempted to identify trends and to draw conclusions from the data, but there are inaccuracies in analysis. The students have little awareness of errors or inaccuracies. The students attempt to make some links to prior knowledge.
3	The students arrange data into appropriately named fields.The data entered is mostly accurately. The students recognise data types – continuous and discontinuous, numerical alphanumerical etc – most of the time. They manipulate data using formula or equations and use the filter and sort features appropriately. This data manipulation makes analysis possible . Some errors are present in data manipulation. Students appropriately use labels, highlights, font weight and underline this enhances understanding and analysis.. Students select visual methods of presenting data. The presentation methods are mostly suitable for the type of data and purpose of presentation and audience. The presentation shows trends. The students identify trends and relationships & are able to draw conclusions from the data. There are few inaccuracies in analysis. They recognise some of the errors and inaccuracies in the processed, manipulated and presented data. Students are able to make some links to prior knowledge.
4	The students arrange data into appropriately named fields. Data is entered accurately. The students recognise data types. They can appropriately manipulate data using suitable formula or equations & advanced filter and sort features. This data manipulation makes analysis possible. There are no errors within the data manipulation. The students appropriately and consistently use labels, highlights, font weight and underline, this enhances understanding and analysis. Students can select suitable visual methods of presenting data. These are detailed, well labeled and structured. These presentation methods are suitable for the type of data & purpose of presentation and audience. The presentation suitably, clearly & accurately shows trends and relationships. They correctly identify trends & is able to draw suitable accurate conclusions from the data. Students can recognise errors & inaccuracies in the processed, manipulated, presented their data & analysis. They are able to relate presented data to other knowledge.

	Data Processing	Data manipulation	Data Presentation	Data Analysis
1	Students attempt to arrange data into fields. Most Fields are named. Data entered has some inaccuracies. Students show little understanding of data types.	Students make no attempt to manipulate data or manipulation is fundamentally flawed.	Students inconsistently and inappropriately make use labels, highlights, font weight and underline. Students select inappropriate visual methods of presenting data.	Students make no attempt to analyse data or draw conclusions or the analysis is fundamentally flawed. Students make no attempt to links to prior knowledge.
2	Students arrange data into fields. Fields are named. Data entered has some inaccuracies Students have some understanding data types – continuous and discontinuous.	Students can manipulate data with use of formula or equations or sort or filter. Some errors are present in data manipulation	Students use labels, highlights, font weight and underline. Students select visual methods of presenting data. Some presentation methods are suitable for the type of data and purpose of presentation and audience.	Students attempts to identify trends to draw conclusions from the data. There are inaccuracies in analysis Students attempt to make some links to prior knowledge.
3	Students arrange data into fields. Fields are appropriately named. Data entered is mostly accurately. Students recognise data types – continuous and discontinuous – most of the time.	Students can manipulate data using formula or equations. Students can use the filter and sort features. The data manipulation makes analysis possible . Some errors are present in data manipulation.	Students appropriately use labels, highlights, font weight and underline. Students select visual methods of presenting data. The presentation methods are mostly suitable for the type of data and purpose of presentation and audience. The presentation shows trends.	Students identify trends and are able to draw conclusions from the data. There are few inaccuracies in analysis. Students can recognise some errors and inaccuracies in the processed, manipulated and presented data. Students are able to make some links to prior knowledge.
4	Students arrange data into suitable fields. Fields are appropriately named. Data is entered accurately. Students recognise data types – continuous and discontinuous	Students can appropriately manipulate data using suitable formula or equations. Students can appropriately use the filter and sort features. The data manipulation makes analysis possible .	Students appropriately and consistently use labels, highlights, font weight and underline. Students can select suitable visual methods of presenting data. The presentation methods are suitable for the type of data and purpose of presentation and audience. The presentation suitably and accurately shows trends.	Students correctly identify trends and is able to draw suitable accurate conclusions from the data. Students can recognise errors and inaccuracies in the processed, manipulated and presented data and their analysis. Students are able to relate presented data to other knowledge.

Evaluating

The following are some of the key terms for this aspect of the Taxonomy.

- Checking
- Hypothesising
- Critiquing
- Experimenting
- Judging
- Testing
- Detecting
- Monitoring

Anderson and Krathwohl's taxonomy – Evaluating

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

The digital additions and their justifications are as follows:

- **Blog/vlog commenting and reflecting** - Constructive criticism and reflective practice are often facilitated by the use of blogs and video blogs. Student commenting and replying to postings have to evaluate the material in context and reply to this.
- **Posting** – posting comments to blogs, discussion boards, threaded discussions. These are increasingly common elements of students daily practice. Good postings like good comments are not simple one line answers rather they structured and constructed to evaluate the topic or concept.
- **Moderating** – This is high level evaluation, the moderator must be able to evaluate a posting or comment from a variety of perspectives, assessing its worth, value and appropriateness.
- **Collaborating and networking** – Collaboration is an increasing feature of education. In a world increasingly focused on communication, collaboration, leading to collective intelligence is a key aspect. Effective collaboration involves evaluating the strengths and abilities of the the participants and evaluating the contribution they make. Networking is a feature of collaboration, contacting and communicating with relevant person via a network of associates.
- **Testing (Alpha and Beta)** – Testing of applications, processes and procedures is a key element in the development of any tool. To be an effective tester you must have the ability of analyse the purpose of the tool or process, what its correct function should be and what its current function is.
- **Validating** – With the wealth of information available to students combined with the lack of authentication of data, students of today and tomorrow must be able to validate the veracity of their information sources. To do this they must be able to analyse and evaluate the data sources and make judgements based on these.

Key Terms - Evaluating:

Checking, Hypothesising, Critiquing, Experimenting, Judging, Testing, Detecting, Monitoring, (Blog/vlog) commenting, Reviewing, Posting, Moderating, Collaborating, Networking, Reflecting, (Alpha & beta) testing, validating.

Evaluating and Digital Activities

Evaluating	Possible Activities
Justifying a decision, solution, answer or course of action (Judge/evaluate/analyse the value of ideas, concepts, materials and methods by developing/constructing and applying standards and criteria). **Checking, Hypothesising, Critiquing, Experimenting, Judging, Testing, Detecting, Monitoring (Blog/vlog), commenting, reviewing, posting, moderating, collaborating, networking, reflecting, (Alpha & beta) testing.**	**Debate** (Word Processing, sound recorder, podcasting or vodcasting, Mind mapping - *inspiration, free mind*, Chatrooms, IM, email, Discussion boards, video and Phone conferencing [skype, IM] Collaboration tools - elluminate etc.) **Panel** (Word Processing, chatrooms, IM, email, Discussion boards, Video and phone conferencing, Collaboration tools - elluminate etc.)) **Report** (Word Processing or web published – *Report, blog entry, wiki entry, web page*, DTP, Presentation, Camera) **Evaluation** (Word Processing or web published –*report blog entry, wiki entry, web page*,, DTP, Mind Map Presentation, camera,) I**nvestigation** (Internet, Online tools, camera, Word Processing, GIS[*Google earth, Google Maps, Flickr* Arcview/explorer*]*) **Verdict** (Word Processing etc.) **Conclusion** (Word Processing, DTP, Presentation) **Persuasive speech** (Word Processing, Sound recorder, reason!able -argument software, Mind map - presentation mode) **Commenting, moderating reviewing posting** - discussion boards, forums, blog, wiki's, twitter, threaded discussions, bulletin boards, chatrooms **Collaborating:** discussion boards, forums, blog, wiki's, twitter, threaded discussions, bulletin boards, chatrooms, video conferencing, chatrooms, instant messaging, txt and pxt messaging, video messaging audio conferencing **Networking** - social networking tools, audio and video conferencing, email threads, telecommunications, instant messaging, live classrooms - *elluminate* etc.

Validating Information Rubric

Bloom's Taxonomic Level: **Evaluating**

Key Words:
Checking, critiquing, judging, reviewing, posting, moderating, reflecting, Validating.

Introduction:

This is a rubric for validating information sources. This is the process of referencing and authenticating data from multiple valid sources. With the emergence of Web 2.0 Technologies anyone can publish anything in formats that appear valid. Key elements of validating the information is reporting the information source, accessing multiple information sources and information type, creating linkage between the information sources and making decisions on the validity of information based on this process.

		Validating Information	**Referencing & Bibliography**
1		Information is **gathered** from a single source or from undisclosed sources. There has been no attempt to evaluate the **accuracy** of the information. Information is taken at face value.	No bibliography is provided.
2		Information is **gathered** from several sources. The information is gathered from a single information type. There is limited **linkage** of information to validate. The student makes no or limited **judgements** on the validity of the information.	Students provide the URL of the websites visited or title of the printed resource. There is an attempt to **organise** the bibliography entries.
3		Information is **gathered** from several sources (3-4) and information types (2-3). There is **linkage** of information to validate the accuracy of the material. Several of the information sources are regarded as of **high validity** for example government and education websites, encyclopaedia, professional journals, primary information sources etc. The student makes some **judgements** on the validity of the information.	Students provide the some of the key information for both electronic and printed media. This would include **some** of the following: URL of the websites visited, title, Author, Publisher and or Date of publication. Students attempt to use a **recognised bibliography** format such as APA or MPA. Bibliography entries show some **organisation** and there is some referencing throughout the document.
4		Information is **gathered** from many sources (4 or more) and information types (3 or more). There is **linkage** of information to validate the accuracy of the material. Most of the information sources are regarded as of **high validity** for example government and education websites, encyclopaedia, professional journals, primary information sources etc. The student makes valid and supported **judgements** on the validity and accuracy of the information.	Students provide the key information for both electronic and printed media. This would include **most** of the following: URL of the websites visited, title, Author, Publisher and or Date of publication/last modification, ISBN Number, Journal title etc. Students use a **recognised bibliography** format such as APA or MPA. Bibliography entries are suitably **organised** and referenced throughout the document.

Threaded Discussion Rubric

Bloom's Taxonomic Level: Understanding & Evaluating

Key Words: Understanding

Interpreting, Summarising, inferring, comparing, explaining, exemplifying, discussing, commenting

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Key Terms - Evaluating:

Checking, critiquing, judging, testing, commenting, reviewing, posting,reflecting.

Introduction:

This is a rubric for a Threaded Discussion. The rubric is in two parts, the first is for understanding and the second part for evaluating. This is examining the process of replying to a post and discussing using asynchronous threaded discussion tool. This rubric is working against two levels. The simplest format is construction and understanding. This is where material is posted and the students are asked via a focusing or guiding question to display there understanding.

	Reply construction	Understanding
1	Poor spelling and grammatical errors. Short 1 or 2 sentences. Lacks structure or flow. Written in informal language, abbreviations or txt.	Simple reply or comment which lacks insight, depth or is superficial. The entry is short and frequently irrelevant to the key question, original post or concept. Does not express opinion clearly. Shows little understanding.
2	Some poor spelling and grammatical errors. Has some structure, but the entry does not flow. May contain a link or image. The reply contains several sentences. The text construction is mainly formal containing few abbreviations or txt style language.	Simple reply or comment showing some insight, depth and are connected with original post, question, topic or concept. The replies are short and may contain some irrelevant material. Some personal comments or opinions these may not be on task. Shows some understanding.
3	Few spelling and grammatical errors. Has structure and the entry flows. Contains a appropriate links, uploaded files or images. These are referred to within the text. Refers to other posts. The reply contains sentences or paragraphs.	Replies show insight, depth and are connected with thread, topic or post. Entries may contain some irrelevant material. Personal opinion is expressed in an appropriate style. Shows a good depth of understanding.
4	Spelling and grammatical errors are rare. The reply has structure and is formatted to enhance readability. Contains a appropriate links, uploaded files or images. Sources are acknowledged. Images and links are referred to within the text. Refers to other posts and builds on these.	Replies show insight, depth and understanding. They are connected with thread, topic or post. Entries are relevant with links to supporting material. Personal opinion is expressed in an appropriate style and is clearly related to the thread or post. The reply or post shows a high level of understanding, it shows a depth of understanding in matters relating to and surrounding the original post.

The Evaluation component looks at the reflection and evaluation of other posts, constructing and proposing arguments and questions that relate to the thread and shows the student is evaluating the underlying concepts of the threaded discussion. Evaluation would contain some or most of the following elements, ranging from simple to complex.

Simple	Description	Complex
	<--Refers to posts and thread-->	
	<--Enhances the discussion-->	
	<--Clear and concise-->	
	<--Adds own opinion based on thread-->	
	<--Develops an argument (supportive or opposed)-->	
	<--Develops suitable questions-->	
	<--Critiques other posts-->	
	<--Answers questions and defends stance or position.-->	

Evaluating

	Reference	Clarity	Argument	Critique	Questioning
1	Student does not refer to other posts or the referred posts are irrelevant, inappropriate or unrelated to the thread. The post may be a repeat of prior posts.	The student post shows a lack of clarity on their opinion.	Contains no relevant questions and does not formulate an argument.	Student does not provide any critique of other posts or comments.	The student does not pose any questions.
2	Student does refer to other posts. The reply post is mainly related to the thread.	The post add to the discussion in a limited way. The poster expresses their opinion in a limited mode.	The student has developed a limited argument, using appropriate language. The argument is unsupported.	The student provides a simple critique of posts in an appropriate manner.	The student states simple questions which are related to the topic. Student answer some of the questions posted by their peers
3	Student refers to other posts. The reply post is related to the thread.	The post add to the discussion. The poster expresses their opinion clearly.	The student has developed an argument using appropriate language. The argument is supported by facts, opinions and related materials.	The student is judging other posts on there merits. The student provides a critique of posts in an appropriate manner.	The student structures appropriate questions which are related to the topic and previous posts. The student answers the questions posted by their peers, provides a limited defence of position or stance
4	Student refers to other posts. The reply post is related to the thread.	The post enhances the discussion and is expressed in clear and concise opinion.	The student has developed the argument using appropriate language. This is clearly and appropriately supported by facts, opinions and related materials including links.	The student is judging other posts on their merits. The student provides a detailed critique of posts in an appropriate manner.	The student structures appropriate focusing or challenging questions related to the topic and previous posts. The student answers the questions posted by their peers with depth and shows a high degree of understanding. Can defend his or her position of stance on a topic.

Creating

The following are some of the key terms for this aspect of the Taxonomy.
- Designing
- Constructing
- Planning
- Producing
- Inventing
- Devising
- Making

The digital additions and their justifications are as follows:
- **Programming** - Whether it is creating their own applications, programming macros or developing games or multimedia applications within structured environments, students are routinely creating their own programs to suit their needs and goals
- **Filming, animating, videocasting, podcasting, mixing and remixing** – these relate to the increasing trend to using and availability of multimedia and multimedia editing tools. Students frequently capture, create, mix and remix content to produce unique products.
- **Directing and producing** – to directing or producing a product, performance or production is a highly creative process. It requires the student to have vision, understand the components and meld these into a coherent product.
- **Publishing** – whether via the web or from home computers, publishing in text, media or digital formats is increasing. Again this requires a huge overview of not only the content being published, but the process and product. Related to this concept are also **Video blogging** – the production of video blogs, **blogging** and also **wiki-ing** - creating, adding to and modify content in wikis. Creating or **building Mash ups** would also fit here
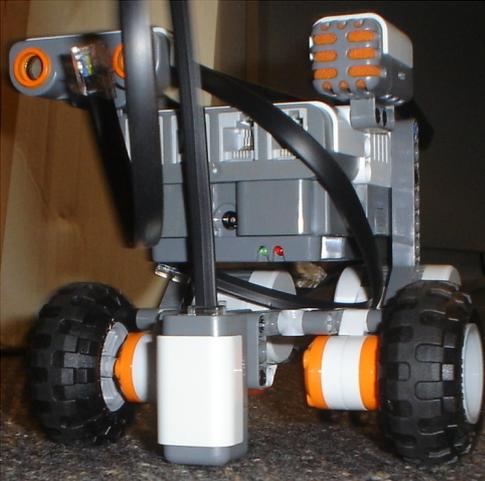
Key Terms - Creating:

Designing, Constructing, Planning, Inventing, Devising, Making, Programming, Filming, Animating, Blogging, Video blogging, Mixing, Remixing, Wiki-ing, Publishing, Videocasting, Podcasting, Directing/producing, Building or compiling mash-ups
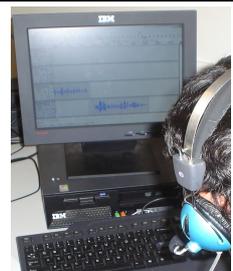
Podcasting using Audacity

Creating and Digital Activities

Creating	Possible Activities
Generating/creating new ideas, products, or ways of viewing things (Putting together/combining ideas, concepts or elements to develop/ construct/build an original idea or engage/stimulate in creative thinking). **Designing, Constructing, Planning, Producing, Inventing, Devising, Making, Building,** P**rogramming, Filming, Animating, Blogging, Video Blogging, Mixing, Remixing, Wiki-ing, Publishing, Videocasting, Podcasting, Directing/producing** *Lego © NXT Robot, easy to program, adaptable and flexible, a great tool for creativity*	**Film** (Movie maker, Pinnacle Studio, Adobe premier elements Online tools www.jumpcut.com, www.eyespot.com, www.pinnacleshare.com, www.cuts.com, www.animoto.com, www.dvolver.com) **Presentation** (presentation tools - Powerpoint, Impress, Zoho presentation tool, Photostory, Google present. Comic creation tools – comic life, hypercomic, online tools) **Story** (Word Processing or web published – mixbooks etc., DTP, Presentation, podcasting, photostory, voicethread, Comic creation tools – comic life, historic tale construction kit, Animations – www.dvolver.com) **Programming** Visual Studio.net (& Express the free version) Lego Mindstorms & Robolab, Scratch, Alice, Game maker **Project** (Word Processing, Ganttproject for Gantt charts and PERT Charts, Openproj for gantt, Pert and critical pathways) calendars, flow charts [inspiration, freemind, C-Map , smartideas], mind maps) **Blogging video blogging** - Blogging tool, blogger, wordpress, edublogs, classroom blogmiester, bloglines **Vodcast, podcast videocasting screen casting** - voicethread, blogging tool, skype, collaboration and classroom tools – elluminate, live classroom **Plan**(Inspiration, Cmap, free mind, Word Processing, Calendar) **New game** (Gamemaker, RPGmaker) **Model** (Sketchup, Blender, Maya3d PLE, autocad) **Song** (finale notepad, Word Processing, Sound recorder, Audacity, podcasting, recording narration in presentations [photostory 3, powerpoint, impress] Online tools **Media product** (DTP, Movie maker, Corel, GIMP, Paint.net, Tuxpaint, Alice, Flash, Podcasting - **Advertisement** (DTP, Corel, GIMP, Paint.net, Tuxpaint, Movie maker, Alice, Flash, Podcasting) **Painting** (Corel, Paint, GIMP, Paint.net, Tuxpaint online tools - http://www.picnik.com http://www.ajaxwrite.com/)

Starter Sheet – Animoto
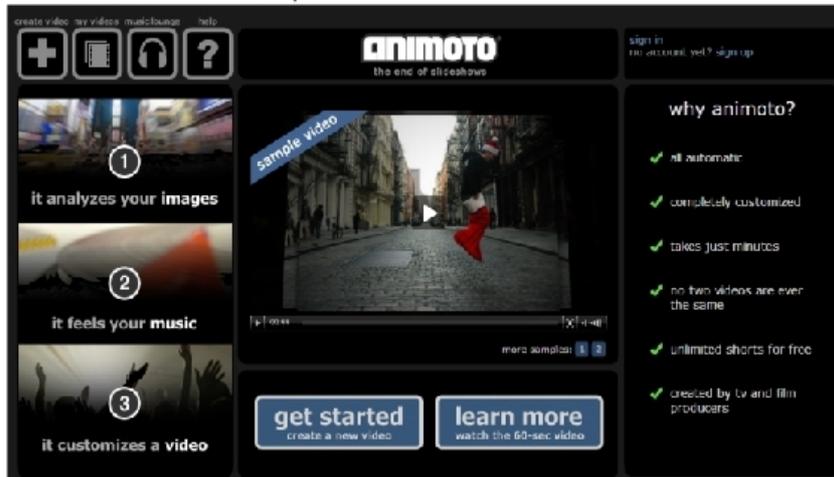
Animoto
the end of slideshows

Sensory Learning: Visual and Kinesthetic learners.
Bloom's Digital Taxonomy: Applying - editing
Creating - producing, directing, constructing

Animoto is a **free** (registration required) site that allows you to create **short** (30 seconds for free) high quality video clips from **stills images** and **uploaded** or **selected music**. The user selects the **sequence of image**s and **adds the text**. The user can **spotlight images** and the website does the rest with professional style transitions between images. The process is **simple, enjoyable and fun**. This is a tool with a high degree of engagement and a good standard of product as an end point.

Process: 1. Register to create an account (Free). 2. Upload images or access online photosharing resources. 3. Upload music or access online resources 4. Edit sequence and text. 5. Produce video and publish.

Animoto's simple interface and straightforward process make this an easy application for students of all ages.

Animoto allows you to access your online images from photosharing sites. The process is straight forward and once set up allows you easy access.

URL http://www.animoto.com

Alternatives:
Online alternatives to Animoto include tools like voice thread, though this is limited in the transition and animation area, but has excellent voice recording. Tools like Jumpcut, an online video product tool could produce similar results and has more potential as it supports video, but lacks the ease of use.

Animoto
In the Classroom.

Animoto can be used in many situations and subject areas. Its simple straightforward interface makes it suitable for a variety of year levels.

In Humanities, the students have been **studying poverty**. They are shocked by the plight of children their own age who live in 3rd World Countries or ones torn apart by conflict and war. They visit websites showing the conditions of families in the refugee camps in Dafur and the Congo.

The students are asked to **collate image**s that show the plight of the children. Using animoto they are to produce a **30 second video**, that **using images, text** and **music**, send a message about poverty.

The students locate images and **upload** these to Animoto. The website accepts **JPG and GIF format** images. Once these are uploaded the students **sequence** these as they are to appear in the video clip.

Images are manipulated using the **image tools** (see above). Some images are selected to be **spotlighted**. Once the images are **sequenced** the music is selected.
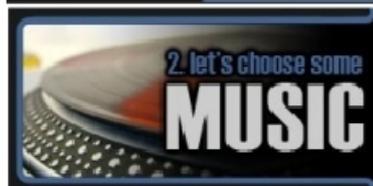
Music can be uploaded or accessed from online resources. There are a wide variety of genre that the students can access. "Top 40" music can be purchased.

Once the images and music are arranged, the students **"Finalize the video"** giving it a **title**, a detailed **description** and the **producer's name**. They then create the video. The compiled video can be **emailed** as a link, **embedded** into blogs etc, **downloaded** (full length version) or **uploaded to Youtube**.
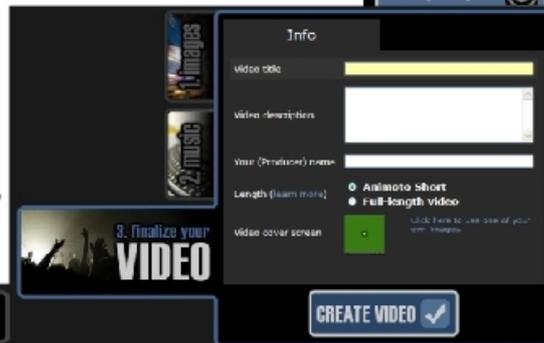
Starter Sheet – Voice Thread

Voicethread
Conversations around Audio and Images

voicethread

Sensory Learning: Visual and Auditory learner.
Bloom's Digital Taxonomy: Creating - Mixing, remixing, digital publishing.

Voicethread is an online web 2.0 tool that allows the user (registration required) to upload or select online/offline images, documents and videos, then add narration and vocal commentry to create a audio/visual presentation or product. These can then be shared with other users, embedded in webpages or exported for offline viewing. Offline exporting is a paid service. This is a tool for student presentations and publications, in an audio/visual medium.

Process: 1. Create an account (Free). 2. Upload images or select from online source. 3. Add comment (voice and text). 4. Share by embedding, email invitation or exporting to offline format.
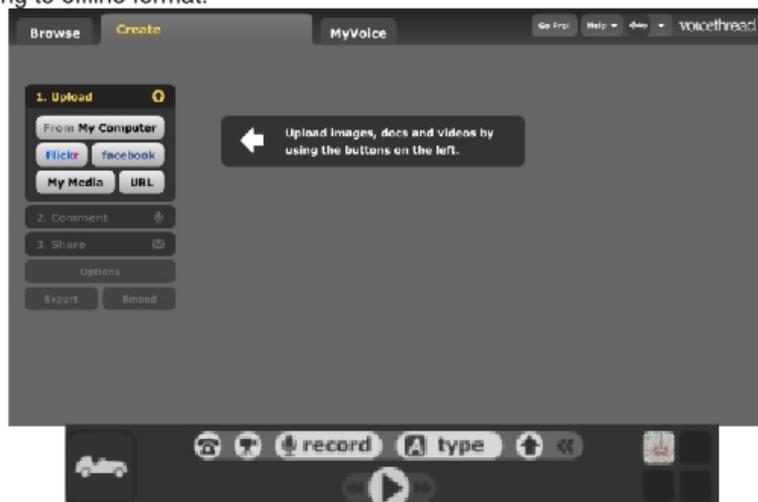
Record a comment or add text.

Upload images from a variety of sources.

URL
http://voicethread.com

Alternatives:
Microsoft Photostory is a free offline alternative to voice thread. Download and install, add images, music, narration and commentry then produce as a WMV format movie. It is limited in the distribution of the product. Enhanced podcasts (either containing documents or "vodcasts") are also alternatives.

Voicethread

In the Classroom.

As a classroom tool, Voicethread enables the **visual** and **auditory learner** and can be used in any curriculum area.

Students ot teachers need to **access images** either by taking their own or by accessing images from the internet and obtaining permission to use these. From here they **upload** them to the site or enter the images URL (Universal Resource Locator). The user **add their commentry and narration** (see right) and make the voicethread available by sharing, embedding or emailing the URL.

Access teaching resources online.

In science, this tool can be used to achieve a wide variety of **educational outcomes**. Students can use Voicethread to **present** experiments, **report** back on research and assignments, **describe** observations, explain reports, **create and evaluate** etc.

For the teacher, this can be a great tool for **delivering content** and **revising lessons**. For the students, teachers **presenting, describing and explaining** using this tool allows them to have the **familiarity of the teachers** explanations linked with **anywhere anytime access** to the resources. Students can **stop and replay** the explanation and view the resources as often as they need to develop understanding.

A **quick search** on Voicethread using the **keyword** "Science" quickly reveals a broad selection of resources **shared** on the site. The use of comments allows the students (and teachers) to receive feedback on their Voicethreads.

Searching for resources using keywords like Science.
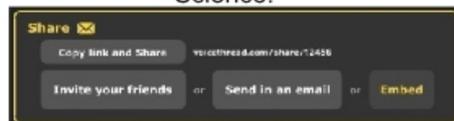
Sharing your student's work by embedding the URL in a webpage or emailing the address.

Podcasting Rubric - Creating

Bloom's Taxonomic Level: **Creating**

Key Words:

designing, constructing, planning, producing, making, mixing, remixing, publishing, podcasting, producing

Introduction:

Podcasting is a creative process involving several different components. A successful podcast must be planned and scripted. It requires care and preparation to record and construct. Constructing the cast requires high quality speech, care and effort. (This task does not include uploading or posting the casts to websites as often schools restrict this.) Enhanced podcasts (like those produced using Voicethread) contain images, text and Voice.

	Planning	Developing Content	Constructing
1	There is little evidence of planning. A script is not developed or is weak.	Much of the content is directly copied. There is little or no original content. The content is inappropriate or inaccurate. Copy written materials are used without permission.	The podcast shows little care or effort. The quality of the production is poor i.e. high or low sound levels, background noise, hiss, sibilance, poor cuts and fades long periods of silence, unbalanced etc. The speech lacks fluency, is punctuated by pauses, hums etc. The speed of delivery is too slow or rushed. Music or sound effects are of not of an acceptable quality or are inappropriate.
2	A simple plan is created that covers some of the major points of the development process. A script is developed.	Some of the content is directly copied. The copied material is acknowledge appropriately. There is some original content Copy written materials are used and permission has been sort for its use. Some of the content is inappropriate or inaccurate.	The podcast shows some care and effort is taken. The quality of the production is acceptable with some issues regarding quality i.e. high or low sound levels, background noise, hiss, sibilance, poor cuts and fades long periods of silence, unbalanced etc. The speech is fluent but has some pauses, hums etc. The speed of delivery is acceptable. Music or sound effects are of acceptable quality and for the most part appropriate.
3	A plan is created that covers the major points of the development process. A script is developed which contains an acceptable level of detail.	Some elements of the content are quoted. The quoted material is acknowledge appropriately. Much of the content is original. Where copy written materials are used and permission has been sort for its use. The student uses royalty free materials like music. The content is appropriate or accurate.	The podcast shows care and effort. The quality of the production is good with few issues regarding quality i.e. high or low sound levels, background noise, hiss, sibilance, poor cuts and fades long periods of silence, unbalanced etc. The speech is fluent and the speed of delivery is acceptable. The podcast is enhanced with sound effects and music or the inclusion of images, files (like PDF files)[enhanced podcast].

	Planning	Developing Content	Constructing
4	A detailed plan is created that covers the development process. A script is developed which contains an acceptable level of detail.	Some elements of the content are quoted. The quoted material is acknowledge appropriately. The majority of the content is original. Where copy written materials are used and permission has been sort for its use. The student uses royalty free materials like music. The student creates or generates his own media. The content is appropriate or accurate.	The podcast shows care and effort. The quality of the production is excellent The speech is fluent and the speed of delivery is acceptable. The podcast is enhanced with high quality and appropriate sound effects and music. Podcasts maybe further enhanced by the inclusion of images, files (like PDF files). Sound effects and music make the podcast more captivating and enjoyable.

A student creating music for a podcast using

Sony's Jamtrax, a loop based music tool.

Starter Sheet – Mixbook

Mixbook
Create and Share

Mixbook

Sensory Learning: Visual and Read/Write learner.
Bloom's Digital Taxonomy: Applying - Editing
Creating - Mixing, remixing, digital publishing.

Mixbook is an online web 2.0 tool that allows the user (registration required) to create photo albums for publishing. The product is a self publishing tool that will allow students and teachers to create, share and potentally print books. The user selects the individual page style within their book, these can contain text only or one of more images, upload images, add narration to create a product. This can be shared with other users or ordered as a book. This is a tool for presentations, e-portfolios and publications.

Process: 1. Create an account (Free). 2. Start a Mixbook. 3. Select pages styles, add images, text, backgrounds etc (or select auto layout option). 4. Share by email invitation or publishing in hard copy (Cost involved in this).

Mixbook is an online Desk Top Publishing Product. The web site allows a one stop process from creation to publishing and printing.

URL
http://www.mixbook.com

Alternatives:
Off line products like the open source DTP tool Scribus (www.scribus.net) allows the user to create and structure documents. Publishing tools like Lulu (www.lulu.com) will, if required, allow you to have publish in hard copy books.

Mixbook allows the user to create their own layout or have it generated for them.
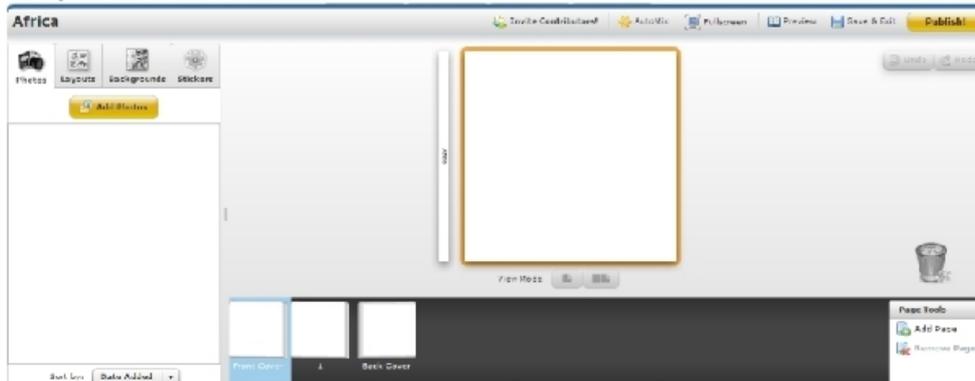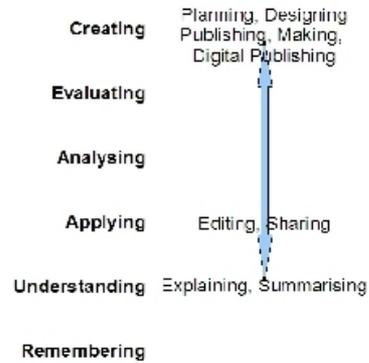
Mixbook
In the Classroom

While Mixbook's purpose is to publish in print format books, this tool can be **easily adapted for classroom use**. It is an engaging tool that allows students to create and publish. This exemplar looks at students creating **portfolios of their own work**. **In English**, the Middle School students are studying poetry. They are examining a variety of **genre, authors and styles** and then **creating** poetry of their own in the different form. Their study ranges from haiku to Sonnets.

The students **create an account** in Mixbook and share their **user name** with their teacher. They then **start** a Mixbook using the **Create from Scratch** option. They give their Mixbook a **title** and fill in the **description**.

Bloom's & Desktop Publishing

Creating	Planning, Designing Publishing, Making, Digital Publishing
Evaluating	
Analysing	
Applying	Editing, Sharing
Understanding	Explaining, Summarising
Remembering	

The **Workspace tool** allows the students to select the **page style** (**text only** or **text and images**), add **backgrounds, images** and **stickers**.

The students start new pages for each of their poems, adding images or backgrounds that enhance the presentation of their work. They structure the page to **enhance flow** and **readability** from the range of tools and
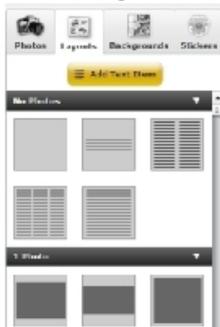
The variety of **layouts** (See left) available provides the students with many different options for structuring their pages. Text can be structured in to **multiple columns**. Images of different sizes and number can be selected.

The **backgrounds** can reflect a festive theme (See left) or can provide suitable backgrounds or **textures** for the students creations. Colors can be manipulated to suit the purpose and mood of the poem.

Digital Publishing Rubric

Bloom's Taxonomic Level: **Creating**

Key Words:

designing, constructing, producing, making, programming, blogging, wiki-ing, publishing, directing/producing

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Introduction:

This is a rubric for applying the Principles of Design in developing a digital document/content. A digital document is not limited to a word processed product, rather it could be a blog or wiki entry, a web page, slide show presentation, DTP product etc.

The digital document must successfully answer the two key questions of design:
- Is it suitable for the Purpose?
- Is it suitable for the Audience?

Then the principles of graphic design are applied. This is broken down into two areas:

Aesthetics:
- **Repetition and Consistency** – design features like use of colour, font selection or type, text layout, text enhancements, alignment, page structure etc. are consistently use through out the document, page(s), site, presentation etc.
- **Layout, Shape and Form** – The way the digital document is structured or its layout, its shape and form enhance access to information
- **Colour** – (Volume = sound analog) the use of and selection of foreground and background colours enhances the documents ability to be read, is aesthetically pleasing, appropriate for the audience and the purpose of the document.
- **Flow** – the digital document has a logical flow and progression that enhances understanding and readability and encourages the viewer/listener to read/play on
- **Harmony and balance** – the digital document is balanced, the different elements are in harmony with one another. Images or audio used support purpose of the digital document. The different elements of the page(s) support each other. The whole layout enhances readability.

Function:
- Does it convey information easily? - can you read/listen to it? Understand the message? Logically progress through the document?
- Is it efficient? - Is information easy to access? Convey information easily and quickly?
- Is it suitable? - Does it reflect the intended age group/audience/genre in its use of language, colour (volume), layout, busy-ness, font selection (voice selection) and enhancements (sound effects), image selection and enhancements etc. Is the information accurate or appropriate? (consider fictional writing)

	Aesthetics	Function
1	The **layout** and the **finish** shows little care. The digital document does not **flows**. There is little or inappropriate use of **design features**. Few of the elements of layout, use of colour and text enhancements enhance **readability**. Some of selections of colours, layout, fonts shape and form are suitable for **balance** and **harmony.**	The **purpose** and the **audience** of the digital document is unclear. The document is not suitable for the purpose or for the audience. **Information** is inaccurate, inappropriate and/or is difficult to access. The document is **inefficient** or hard to read.
2	The **layout** of the document and the **finish** is of an acceptable standard. The digital document **flows**. There is some use of **design features**. Some of the elements of layout, use of colour and text enhancements enhance **readability**. The digital document is mostly **suitability** of the purpose and audience. Some of selections of colours, layout, fonts shape and form are mostly **harmonious** and **well balanced.**	The **purpose** of the digital document is stated. The digital document is appropriate for the purpose. Some of the **information** is accurate or appropriate. The intended **audience** is stated. The student has attempted to design the digital document for its intended audience. The some elements or parts of digital document is **inefficient**.
3	The **layout** of the document shows care and the **finish** is of a good standard. The digital document has a logical **flow**. There is consistent use of some **design features**. The layout, use of colour, font selection, and text enhancements mostly enhance **readability**. The digital document is **suitability** of the purpose and audience. The selection of colours, layout, fonts, images shape and form are mostly **harmonious** and **well balanced.**	The **purpose** of the digital document is stated. The digital document is appropriate for the purpose, it conveys information and shows imagination or care. The **information** is mostly accurate or appropriate. The intended **audience** is stated. The digital document is design for its intended audience. The digital document is mostly **efficient**.
4	The digital document is well **laid out**, shows care, attention to detail and high quality **finish**. The digital document has a logical **flow**. There is consistent and appropriate use of **design features**. The layout, use of colour, font selection, text enhancements, imagery etc. enhance **readability** and **suitability** of the purpose and audience. The colours, layout, shape and form show **harmony** and **balance**.	The **purpose** of the digital document is clearly stated. The digital document Is suitable and appropriate for the purpose, it conveys information easily and shows imagination and care. The **information** is accurate or appropriate. The intended **audience** is clearly stated. The digital document is design for its intended audience. The digital document is **efficient**.

Students programming a Lego © NXT Robot

Enhancements:

Text elements:

Font type
- Serif or San Serif
- Modern or old style
- Decorative
- Script etc.

Font weight
- Outline
- Normal weight
- Bold

Font size

Font style
- Normal
- italic

Font colour

Bullets and Numbering

Reverse Text

Word art

Alignments
- Right aligned
- Centered
- Left aligned
- Justified
- Force justified
- Indented
- Pulled quotes

Underline and strikethrough

Page elements:

Borders

Columns and frames

Shading and Background

headers and footers

Margins

Use of White space

text/image balance

text/media balance

Hypertext and media elements:

Anchors and links

Indexes and tables of content

Alt text

Media
- Sound
- video
- Imagery
- interactive elements
- dynamic elements

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