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The role of Visual Literacy in developing digital literacy skills in secondary school students: what educators need to consider.

Contents

"If people aren't taught the language of sound and images, shouldn't they be considered as illiterate as if they left college without being able to read or write?"

Credit: George Lucas

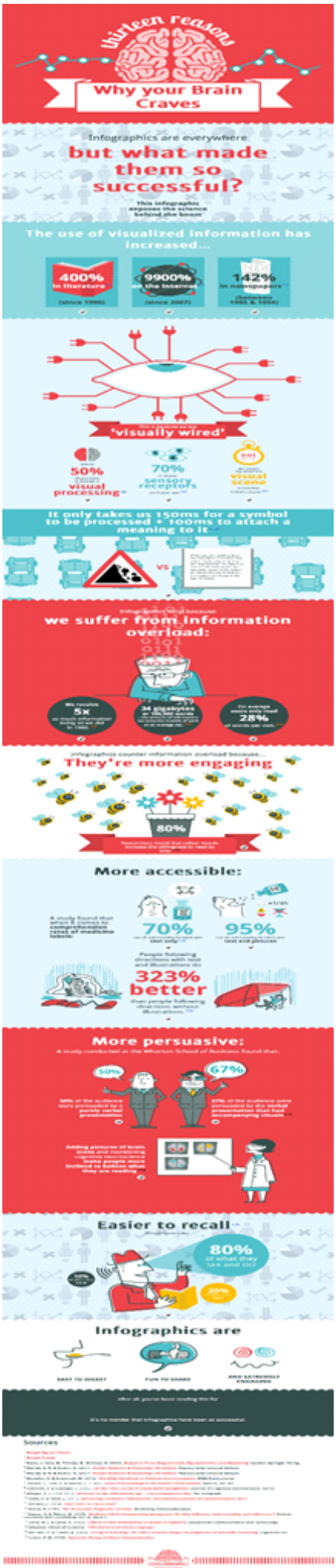


Figure. 1

1. Digital Literacy

The term 'Digital Literacy' is broad and multi-faceted, open to interpretation and constantly evolving. The number of definitive definitions of Digital Literacy or fluency are varied and many, from Wikipedia, to Microsoft.com to schools and universities, such as CSU, around the world. In addition, the term is often used interchangeably with others, such as Media Literacy, Digital Media Literacy, Transliteracy and Information Literacy/Fluency.
The NMC Horizon Report (2012) lists the continued rise in importance of digital media literacy as the third most important challenge to education institutions.

Then there is the perception that students or 'digital natives' (Prensky, 2001), who have grown up in and experience daily, the digital world, are naturally digitally literate; a view that subsequent research (Palfrey & Glasser, 2008; Brumberger, 2011) is proving false -that in fact, students are immersed in and experiencing the digital world, rather than **creating**, **critiquing**, **analysing** and **challenging** it.

Boyd (2014, p.176) concurs that, while the Net Generation is accustomed to living online and engaging with technology, their knowledge, understanding, experience and ability to interpret, analyse, evaluate and critically engage with visual and digital texts is not automatic, and needs to be taught. This was not necessary in previous generations, prior to the internet, when publishers and curators provided such evaluations, hence the increasing need for these skills today.

It is apparent, then, that any organisation undertaking the up skilling of students, teachers and employees in digital literacy, will require a definitive decision on what digital literacy looks like, is comprised of and how evidence of such literacy will be measured, in their institution.

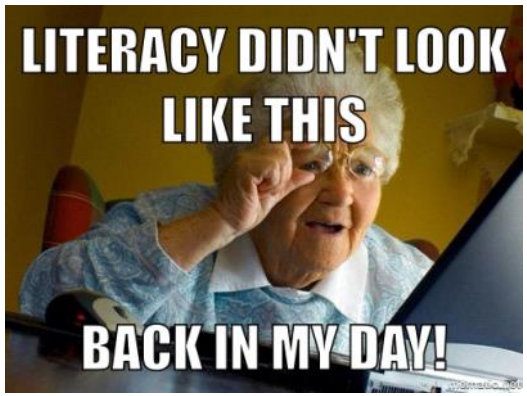
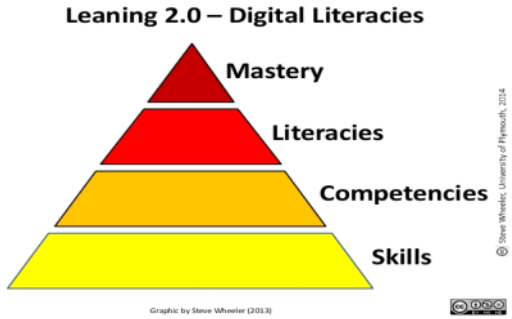


Figure. 2

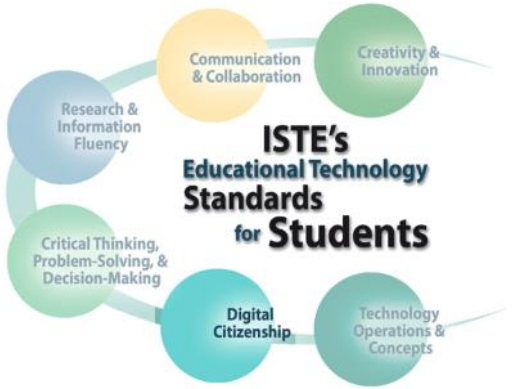
2. THE COMPONENTS OF DIGITAL LITERACY

The choices are many -

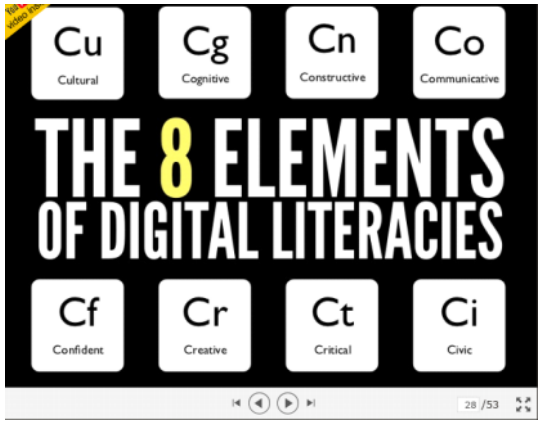
Steve Wheeler (2014) - 'new literacies' of social networking, privacy maintenance, identity management, content creation, curation and organisation, repurposing, self presentation and transliteracy.



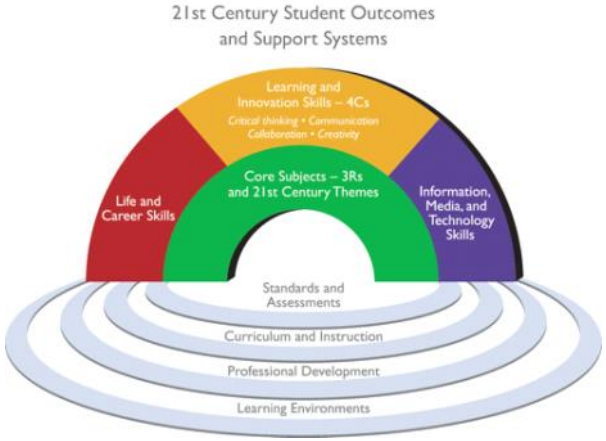
The ISTE Standards for students and teachers, includes VL in all of the elements.



Doug Belshaw (2011) - the 8 elements of Digital Literacy.



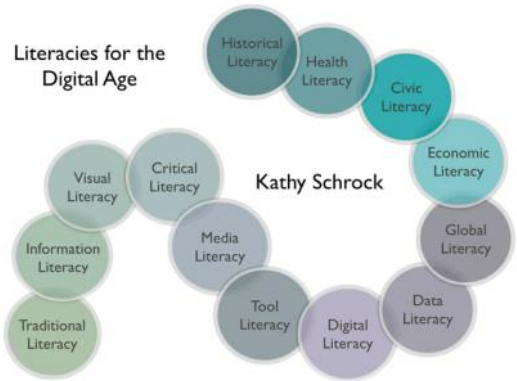
The Partnership for 21st Century Learning incorporates the skills and literacies, within a graphic that also represents student outcomes and support systems.



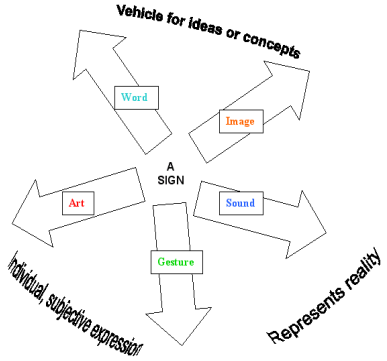
Futurelab- Digital Literacy across the Curriculum model.

Digital Literacy Across the Curriculum, p.19, FutureLab March 2010.

Kathy Schrock has listed a more extensive list of literacies in her model.

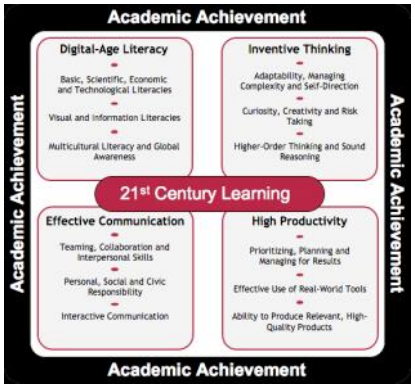


3. A PLACE FOR VISUAL LITERACY

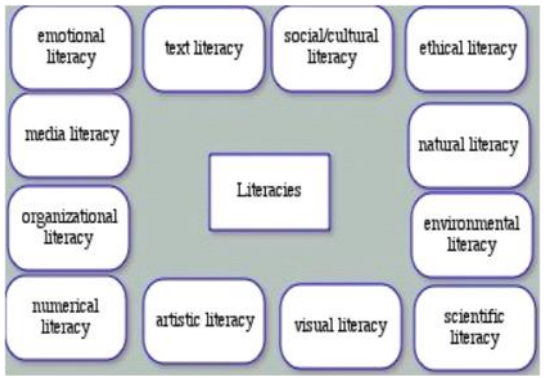


Noodletools Information Literacy uses the term 'reading the medium'.

ACARA incorporates VL in Critical and Creative Thinking and ICT Capability.



NCRL, enGauge Report provides an indepth report on 21st Century Skills and being visually literate.



Jamie MacKenzie (2010) highlights Visual Literacy as separate from Media Literacy.

On closer inspection, it is evident that each version of digital literacy contains many of the aspects of the others, while including variations and differing areas of emphasis, yet they all include Visual Literacy in some form. Clearly, Digital Literacy is comprised of a selection of lower order ICT skills, higher order critical, evaluation and analysis competencies and opportunities to collaborate and understand/demonstrate the responsibilities of having an online presence.

So why is the explicit teaching and assessment of Visual Literacy (VL), a consistent element of Digital Literacy, frequently overlooked within secondary classrooms, even when the task requires a multi-modal component?

4. VISUAL LITERACY (VL)

The Australian Curriculum, Assessment and Reporting Authority (ACARA, 2014) states that
"Literacy involves students in listening to, reading, viewing, speaking, writing and creating oral, print, visual and digital texts, and using and modifying language for different purposes in a range of contexts."

And ACARA is clear that teachers are responsible for teaching all literacies for each key learning area. Since visual and digital texts are specifically listed, the expectation of the Australian Curriculum authority is that every educator will be teaching VL within their field. Yet, the work of Susan Metros (2006) posits that visual literacy among the digital generation has evolved haphazardly and will continue to do so, until:

- educational institutions explicitly list visual literacy alongside the three Rs,
- include an explicit curriculum and
- educators clearly understand the vital role of visual literacy in society.

And the benefits of VL (Ausburn & Ausburn, 1978) continue to be cited today (Frynt & Brozo, 2010); (Serafini, 2014)

Gibson, Friesen and Martin (2008, slide 4) define Digital Visual Literacy as a set of vital interdisciplinary skills that enable us to function in a digital, visual workplace, listing the skills of critically evaluating, using and creating still and moving visual images and data. And it is the multimodality of the modern world (Serafini, 2014) that is driving the need for VL.
But it is the work of David McCandless (2013) and Hans Rosling that perhaps best demonstrates the place of data visualisation and visual literacy through the use of data and graphics, enabling the language of the eye and the language of the mind to connect and collaborate, to make meaning, create and co-create stories. Information is just information without visual representation, yet visual representation is incomplete if we fail to ask the right questions around author, bias, data included and omitted, intended audience and motive (Thoman & Jolis, 2003). It is the skills of VL that enable us to see the 'complete story'.

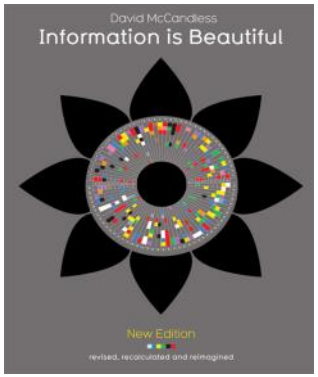


Figure.3

Figure. 4

5.Components of VL

In 2010, the [Association of College and Research Libraries (ACRL)] produced a comprehensive breakdown of the elements of visual literacy and the competency standards, ranked 1-6, of a visually literate higher education student.

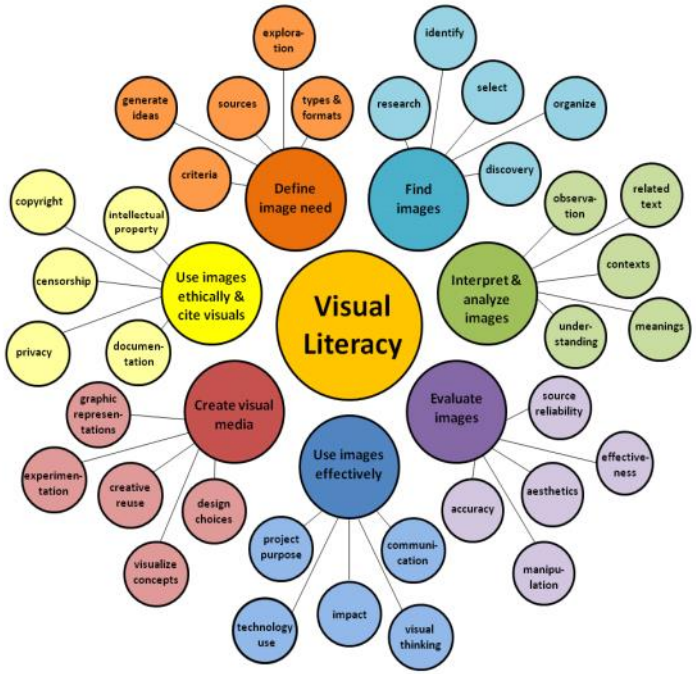


Figure. 5

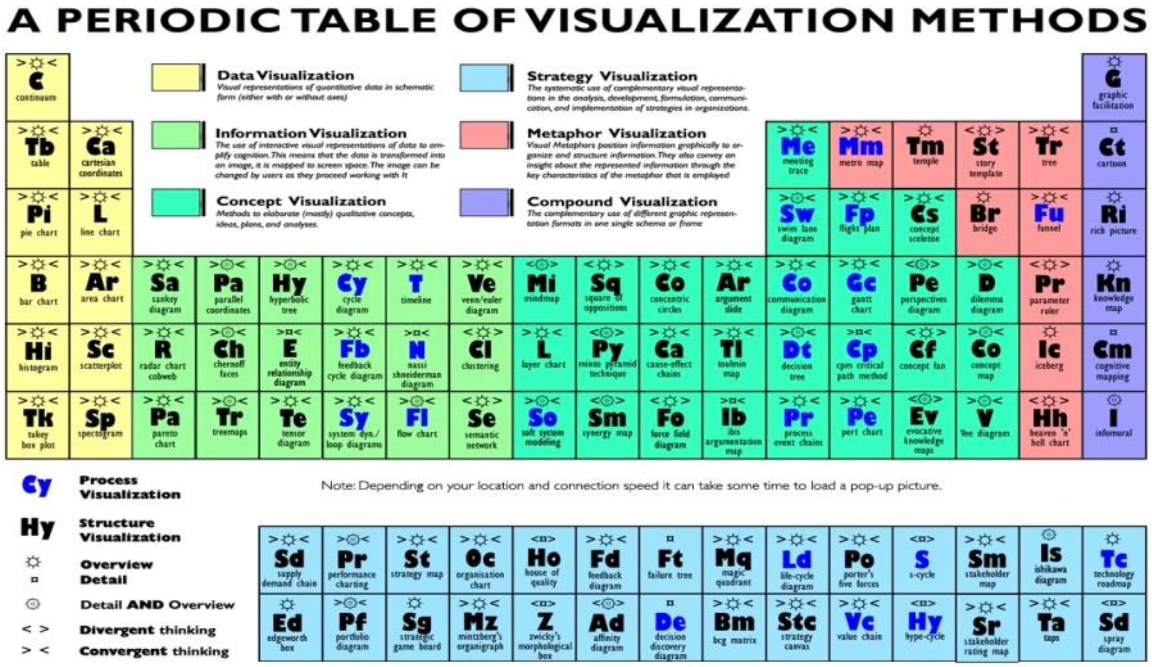


Figure. 6

The complexities and details of such graphics provides educators with a clearer idea of the extensive number of elements that are required to be visually literate, and the realisation that this level of complexity cannot be assumed, but needs to be explicitly taught.

6. TRIVIAL, TRANSITORY AND UNACADEMIC

"Academics have a long history of claiming and defending the superiority of verbal over visual for representing knowledge. By dismissing imagery as mere decoration, they have upheld the sanctity of print for academic discourse."
Susan E. Metros & Kristina Woolsey

VS

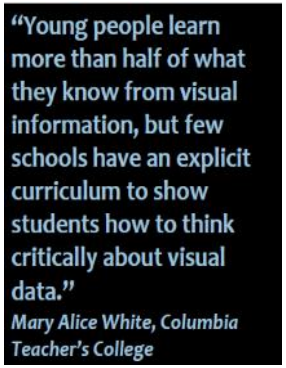


Figure. 7

So why then, is the Visual Literacy element of Digital Literacy not translating into tasks and assessment in schools, when extensive research, by Philip & Garcia (2013), Boyd (2013), and Osterman, (2012) has demonstrated the integral nature of visual literacy?

It could be that:

- Reading words and images is assumed to have been dealt with in primary education and not applicable to secondary;
- VL can be interpreted in multiple ways, but most commonly for critiquing art and media, creating the perception that it is an Arts skill;
- There is insufficient knowledge and understanding of the role of VL in the curriculum, and perhaps there is merit in identifying the percentage of time allocated to teaching teachers learning theory and design, in their initial training and throughout their careers, to determine if this is a factor;
- the highly complex nature of teaching and assessing visual literacy, as can be seen by ACRLs elements and standards of visual literacy and the Periodic Table of Visualisation Methods is overwhelming. Visual literacy is a highly analytical and questioning skill, with multiple interpretations, making it more difficult to measure progress and competency; as opposed to more traditional skills where answers are right or wrong and can be 'fed' to students (Daly, 2004).
- integrating new disciplines takes time to allow new patterns of thinking to become habitual (Cronin, 2010).

The QCS CCEs identifies the different types of images that require interpretation, analysis and creative use, to demonstrate understanding across all subject areas. So, VL is multidisciplinary, as we analyse maps, data and graphs in geography and business; symbols and equations in mathematics and science; images in art, English and history (Bamford, 2011). Some KLAs, when using CCEs, call VL 'source evaluation', focusing on the elements relevant to their subject, yet there is generally little evidence of criteria being addressed across subjects and year levels.

Put simply, VL is an integral part of 21st century culture and can no longer be considered trivial, transitory or non-academic (Bleed, 2005, p.8).

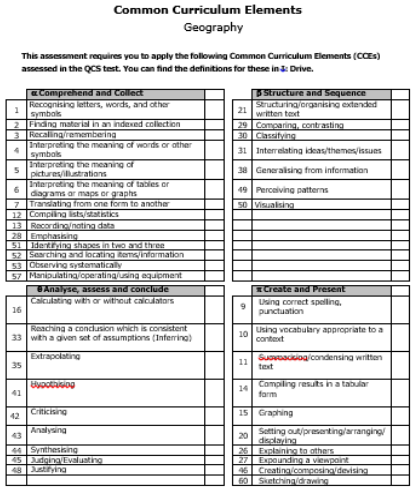
8. VALUED AND SUPPORTED

Visual Literacy affords learners the opportunity to connect with the world and each other; understanding their role and the role of others in everything that they view, however there are many aspects of Visual Literacy that need to be learned by educators, in order to be effectively taught to students (Turner, 2013). The challenge faced by those striving to make Visual Literacy an embedded element of all learning, is not dissimilar to the challenge of embedding ICTs into every aspect of the curriculum; in fact it is one part of the embedding ICT/digital literacy challenge.

The need for VL highlights a growing awareness that educators will require considerable support and training in order to do this well. Metros & Woolsey (2006) challenge the leadership of institutions to commit to establishing strategic goals to:

- enculturate visual literacy into every aspect of the curriculum,
- facilitate a new way of thinking, problem-solving, collaborating and communicating, in order for it be seen as a valuable part of every curriculum. Her position indicates that change is required from the top down, within institutions, as well as through teacher training courses.

At the same time, educators and departments can develop an understanding of engaged, reconnected learning, and apply the four design principles of connected, co-created, integrated and personal (Learning Frontiers, 2014) into 21st century learning and make use of the plethora of models available, to build a spiral curriculum, and assess accordingly.



Common Curriculum Elements
Geography

This assessment requires you to apply the following Common Curriculum Elements (CCEs) assessed in the QCS test. You can find the definitions for these in ~~1~~ Drive.

	a Comprehend and Collect
1	Recognising letters, words, and other symbols
2	Finding material in an indexed collection
3	Recalling/remembering
4	Interpreting the meaning of words or other symbols
5	Interpreting the meaning of pictures/illustrations
6	Interpreting the meaning of tables or diagrams or maps or graphs
7	Translating from one form to another
12	Compiling lists/statistics
13	Recording/noting data
28	Emphasising
51	Identifying shapes in two and three
52	Searching and locating items/information
53	Observing systematically
57	Manipulating/operating/using equipment

	b Structure and Sequence
21	Structuring/organising extended written text
29	Comparing, contrasting
30	Classifying
31	Interrelating ideas/themes/issues
38	Generalising from information
49	Perceiving patterns
50	Visualising

	c Analyse, assess and conclude
16	Calculating with or without calculators
33	Reaching a conclusion which is consistent with a given set of assumptions (Inferring)
35	Extrapolating
41	~~Hypothising~~
42	Criticising
43	Analysing
44	Synthesising
45	Judging/Evaluating
48	Justifying

	d Create and Present
9	Using correct spelling, punctuation
10	Using vocabulary appropriate to a context
11	~~Summarising~~/condensing written text
14	Compiling results in a tabular form
15	Graphing
20	Setting out/presenting/arranging/displaying
26	Explaining to others
27	Expounding a viewpoint
46	Creating/composing/devising
60	Sketching/drawing

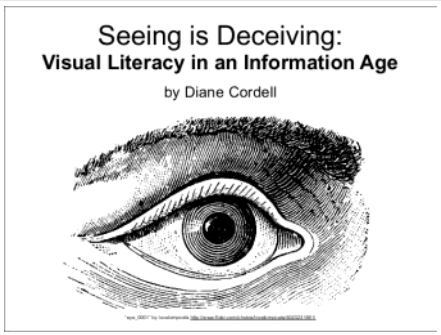
Figure. 8

Figure. 9

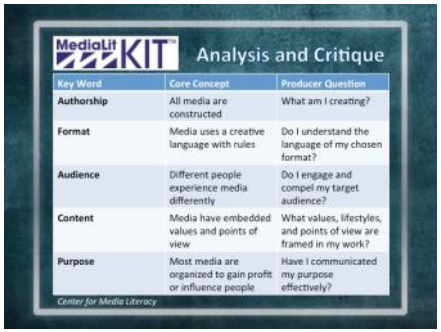
9. MODELS AND PROGRAMS FOR SCHOOLS

Since learning theories, design models and teaching/learning pedagogies all incorporate elements of visual literacy within higher order activities, providing educators with a selection of visual literacy models, criteria and resources, to enable a step by step progression for embedding VL into a higher order thinking secondary curriculum, is imperative.
Any one of the following would provide a starting point, as those who are visually literate have also addressed a portion of Digital Literacy, Information Literacy and Digital Citizenship.

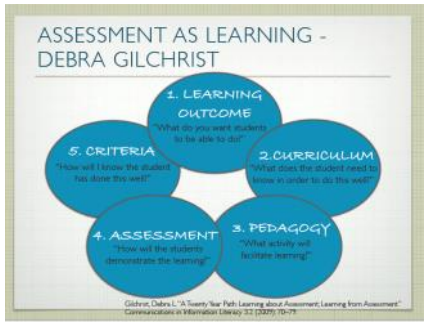
[The Visual Literacy Toolbox]



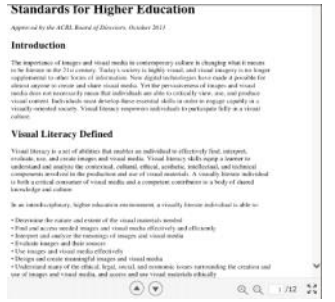
Seeing is Deceiving



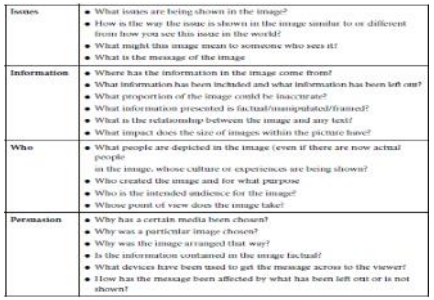
Media Centre for Literacy - MediaLit Kit



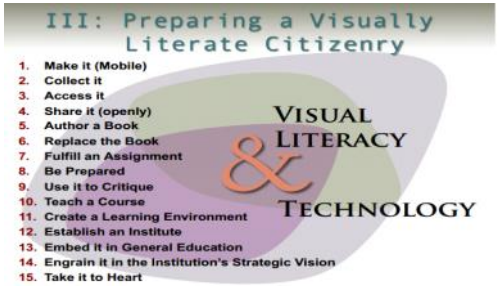
Visual literacy across the arts



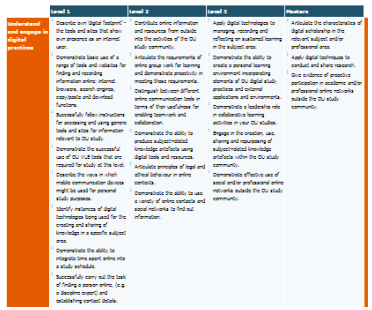
ACRL Visual Literacy Competency Standards
http://www.slideshare.net/johnmacasio/acrl-visual-literacy-competency-standards

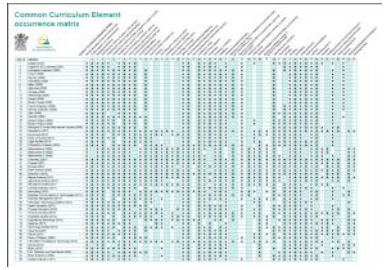


Visual Literacy White Paper



The Educators Role in preparing a visually literate citizenry


Digital and Information Literacy Framework



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