

Accessing Information and Creating Knowledge: Some implications for providers and for users

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IC and T – a definition

ICT includes technologies such as desktop and laptop computers, software, peripherals and connections to the Internet that are intended to fulfil information processing and communications functions.

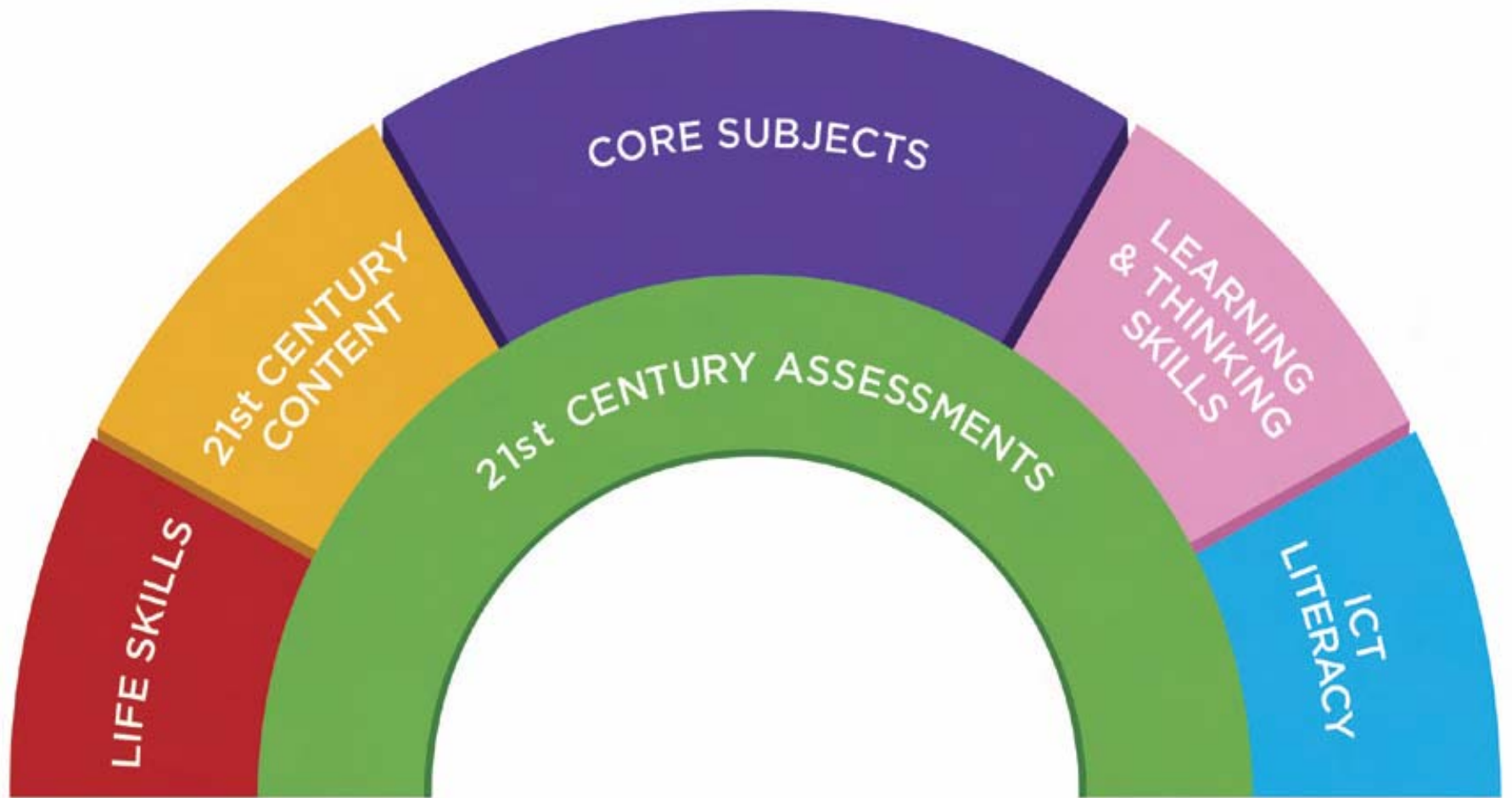
Source: Statistics Canada (2008)

ICT skills – a definition

‘The ability to use technology to develop 21st century content knowledge and skills, ... so that they (people) can know how to learn, think critically, solve problems, use information, communicate, innovate and collaborate.’

Source: Partnership for 21st Century Skills (2006) Framework for 21st C Learning. Tucson, AZ p 5.

USA 21st Century Skills Model



Information Literacy – a definition

The capacity of people to:

- *Recognise their information needs*
- *Locate and evaluate the quality of information*
- *Store and retrieve information*
- *Make effective and ethical use of information, and*
- *Apply information to create and communicate knowledge*

Source: Catts, R. & Lau, J. 2008. Towards Information Literacy Indicators. Paris, UNESCO, p 7.

Spot the difference

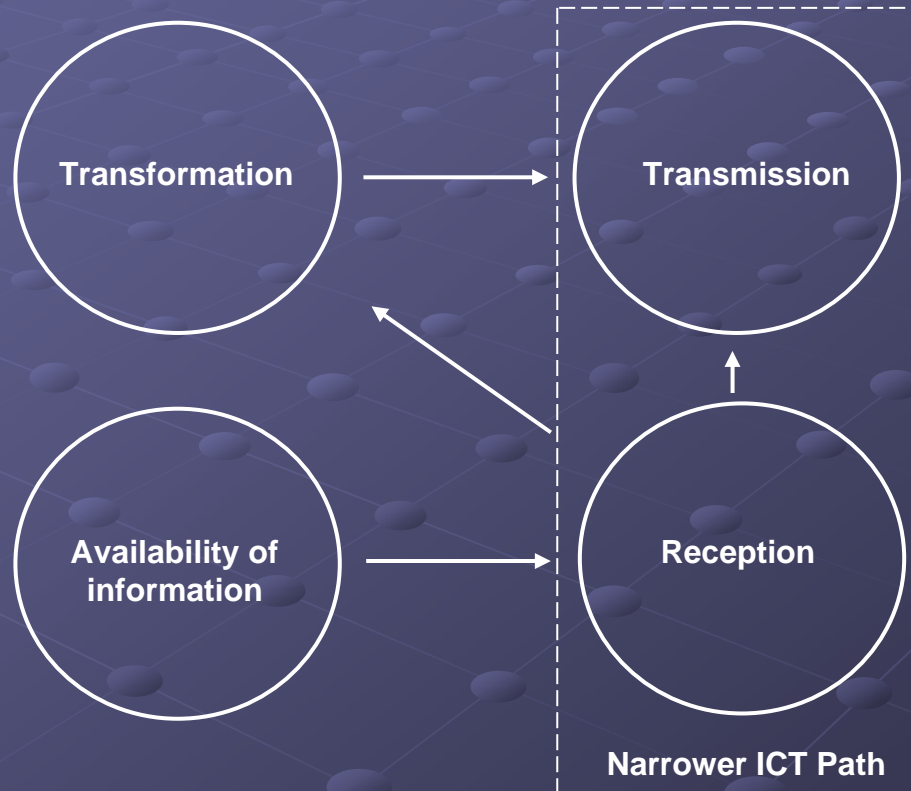
Information Literacy necessarily involves:

- ICT
- Transforming information
- Acknowledging sources

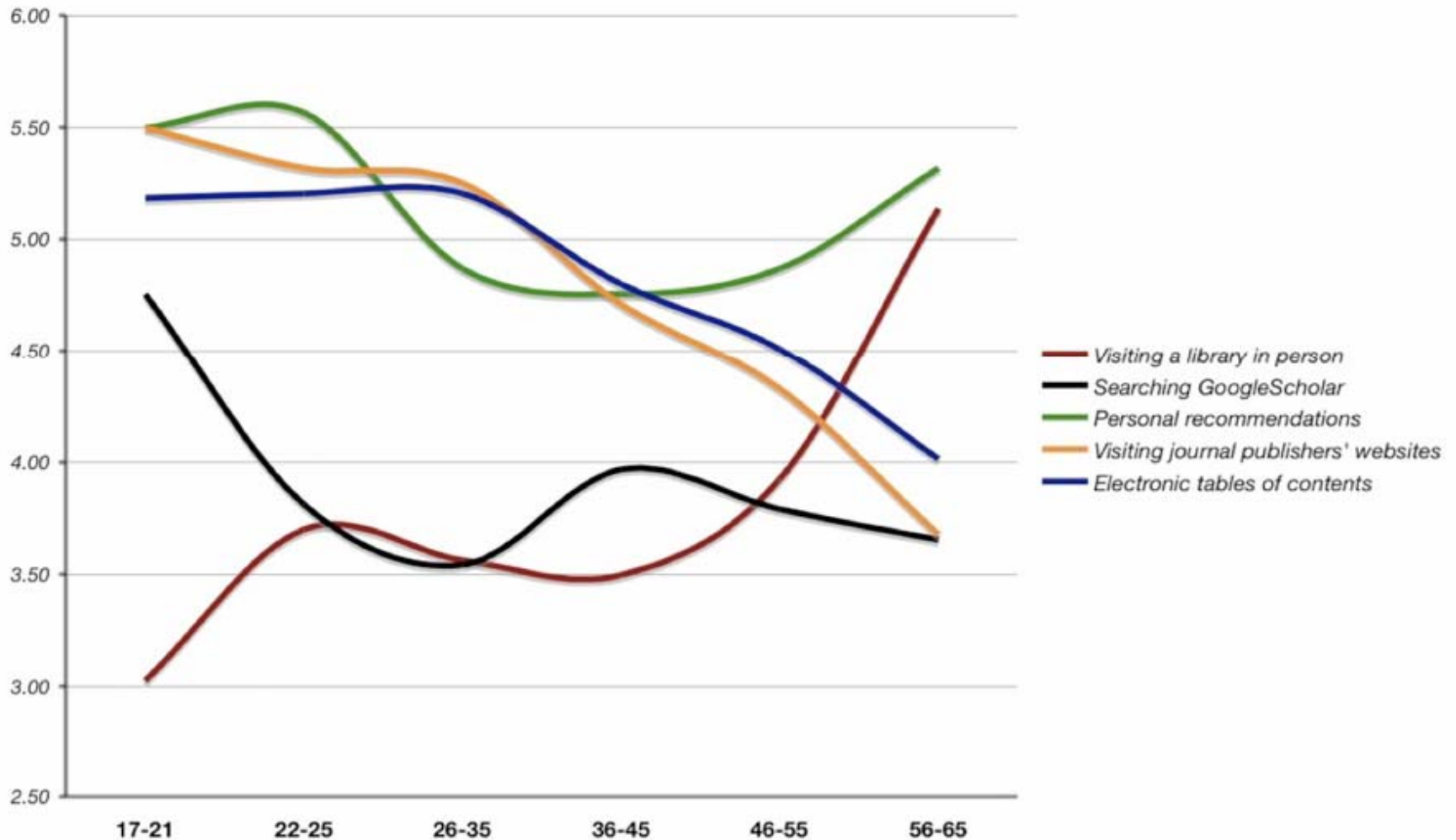
IST skills necessarily involve:

- ICT
- Transforming information
- Acknowledging sources

Distinguishing Information Transfer from Transformation



Significant age-related differences in article discovery methods



EUROSTAT Survey on ICT Usage:

Source: Czech Republic Strategy on Lifelong Learning 2007

Age Group	16 - 24	25 - 34	35 - 44	45 - 54	55 - 64
CZ	64	41	41	29	15
EU 25	80	67	60	47	32

Why are IST skills crucial?

OECD, UNESCO and European Community all identify use of ICT and application of IST skills as crucial for competitive role in Information society and so called 'Knowledge Economy'.

Issues for governments and industry

- Cost of IC and T equipment
- Capacity to develop IST skills among next generation (issue of teacher skills)
- Economic cost to retrain older workers with redundant skills
- Social costs of older people who lack IST skills

Issues for Information Software Providers

Data bases involve 'hidden' bias.

- Systematic (e.g. citation indices developed in English inhibit identification and use of papers in Swedish, or Czech)
- Selective (e.g. Google in China)
- Convenience (e.g. access to on-line journals or paper based sources).

Software influences on academic practice

- Sources of information – those sources listed in data bases are used
- Citation indices – selected journals excluding many small nations (e.g. Scotland, and those using own language)
- Control of plagiarism – as per example to follow

What is Plagiarism?

- ***transitive verb:*** to steal and pass off (the ideas or words of another) as one's own: use (another's production) without crediting the source.
- ***intransitive verb:*** to commit literary theft: present as new and original an idea or product derived from an existing source.

Source: Merriam- Webster Dictionary Online:

<http://www.merriam-webster.com/dictionary/plagiarizing>

An example of Plagiarism of Words:

A student copied an unpublished paper of his academic mentor and submitted it as an assignment to another academic.

This was detected by the tutor and confirmed using 'Turnitin' software.

Note: Turnitin is a sophisticated and effective tool for identifying copying

An example of Plagiarism of Ideas

Source: 4th Century hymn

*Divine Saviour, cast your eyes upon us;
spread out over us the fire of your mighty
grace so that hell itself flees at the sound
of your voice.*

17th Century Verse inspired by source:

*All darkness from our minds dispel, and turn
to flight the hosts of Hell:*

Turnitin Report

- We found a zero overlap between the two texts proving that the words were not copied, but we know that the ideas were copied because Racine declared his source!
- Turnitin is NOT designed to find such examples of inspiration, especially when the original was in Latin, and the 'plagiarism' was in French. BUT ...

Turnitin Claims

- Turnitin's comprehensive plagiarism prevention system lets you quickly and effectively check all of your students' work in a fraction of the time necessary to scan a few suspect papers using a search engine.
- Turnitin's plagiarism prevention is often so successful that institutions using our system on a large scale see measurable **rates of plagiarism drop to almost zero.**

Source: <http://turnitin.com/static/plagiarism.html>

What happens with Turnitin when a student paraphrases?

The Case: a student paraphrased an article and plagiarism was established because:

- The student used the same five arguments in the same manner, and in the same order
- The student made the same unusual mistake in post-hoc statistical analysis
- The student cited the same obscure source obtained by personal contact between academic authors

The Turnitin Report and its effects:

The report stated:

- Less than 5% of text 'plagiarised'
- Concluded no significant 'plagiarism'

The consequences:

- Student absolved by Deputy Dean
- Student demanded and received a written apology from Deputy Dean
- Academic criticised for 'victimising' student

Summary of Bloom's Taxonomy of Cognitive Knowledge

Levels of Knowledge	Meaning	Example
<i>Knowledge (use of words)</i>	<i>Rote learning and recall of procedures</i>	<i>Learns a multiplication table, recites a poem</i>
<i>Comprehension (use of ideas)</i>	<i>Understands meaning and states in own terms</i>	<i>Paraphrases a definition</i>
Application	Uses information to provide an outcome	Calculates a result using a formula; prepares a set of minutes
Analysis	Classifies and prioritises information	Stores information, and determines quality
Synthesis	Combines information to create a summary	Uses information sources to create a report
Evaluation	Make informed judgements	Reviews a report to determine quality

The future of libraries?

- Decline in library usage
- Traditionally - source of transmitted information
- Potentially - storage of transformed information
- Equity and Access in a civic society in the context of UNESCO's Information for All (IFA) Programme

Conclusions

There have always been selective sources and selective access to information:

The development of communication in the vernacular made information more accessible – one reason why Jan Hus is important in Czech history

The printing press enabled wider access to information

Conclusions for the Information Society

- Information can be widely transmitted at marginal cost
- Selectivity and bias need to be acknowledged
- Information transformers, not information receivers, are needed for economic competitiveness, and especially for a civic society