

# In search of 21<sup>st</sup> Century Skills task engines

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DEVELOPMENT OF C21ST SKILLS MATERIALS ACROSS THE CURRICULUM

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# C21st Perspectives

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Students cannot rely solely on left-brain skills for success in the 21<sup>st</sup> century. They also need to design innovations, communicate through compelling stories, develop rapport with others, and synthesize seemingly disconnected information in new ways.

**Daniel Pink**

simply adding a layer of expensive tools on top of the traditional curriculum does nothing to address the learning needs of modern learners.

*There will be changes in what students learn. But it's just as important to recognize the ongoing shifts in how and when they learn. EnGauge*

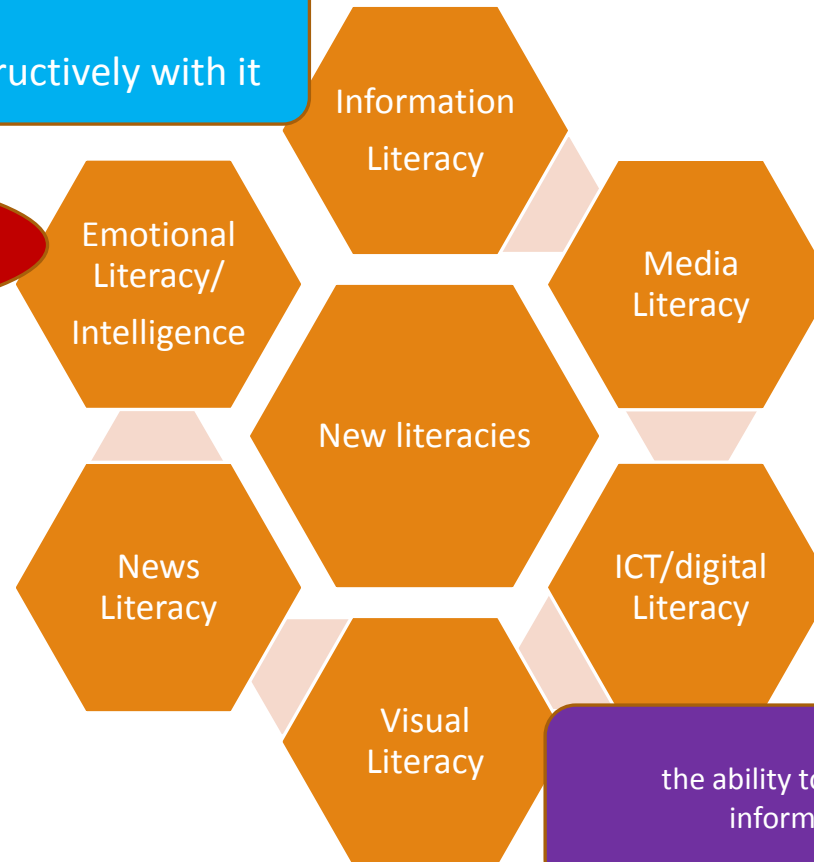
The cumulative amount of information in different forms of media that exists on the planet, from the beginning of recorded history to the present is - by most serious estimates - doubling every two years.

**TECHNOLOGY IS ONLY TECHNOLOGY TO THOSE WHO WERE BORN BEFORE IT.**

# In the literature about curriculum and our methodological response, there's a profusion of new literacies under discussion

the ability to mine new information and interact constructively with it

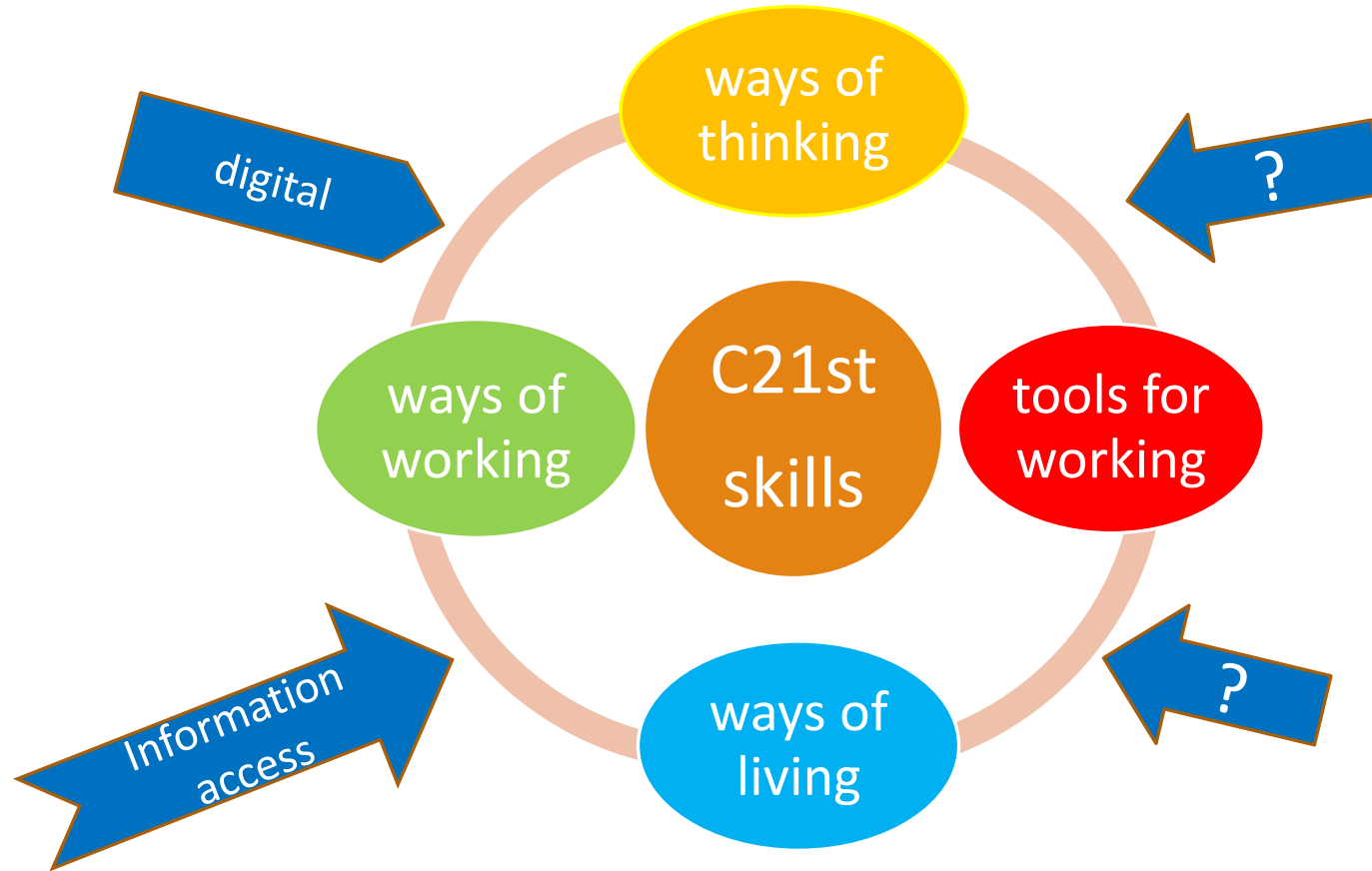
constellation of behavioural dispositions and self-perceptions concerning one's ability to recognise, process, and utilise emotion-laden information



the ability to interpret, negotiate, and make **meaning** from information presented in the form of an image

# Broad *C21<sup>st</sup> skills* definition

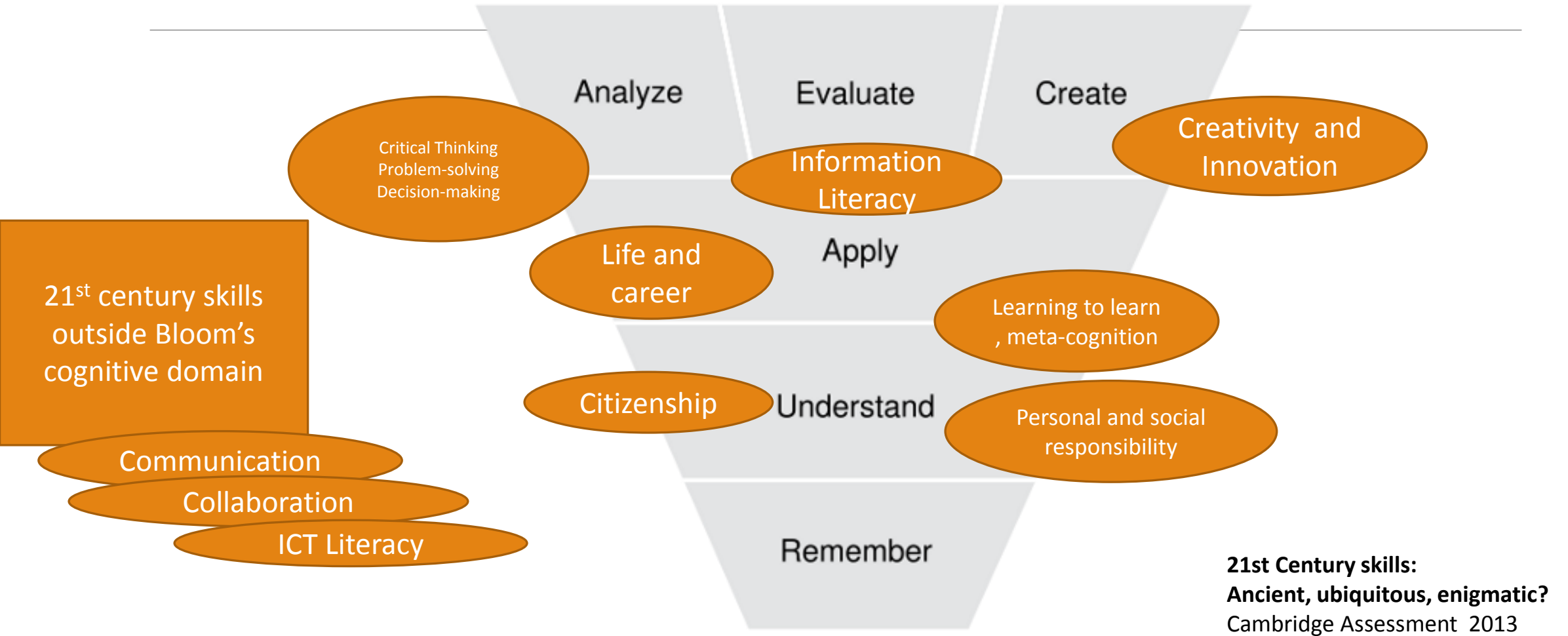
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# Digital Generation X



# Approximate mapping of 21<sup>st</sup> century skills onto Bloom's cognitive domain



## PEDAGOGIC THINKING AND C21<sup>ST</sup> SKILLS

### Critical and creative thinking

- Factual knowledge
- Conceptual knowledge
- Procedural knowledge
- Meta-cognitive knowledge

### Information Technology

- IT and ICT skills
- Digital Literacy

### Interpersonal and Social Awareness

- Organisation skills
- Communication and collaboration skills
- Citizenship

Possible Critical and Creative Thinking Skills Matrix

	analysing	reasoning	problem - solving	evaluating	possibility thinking	creative thinking
Factual						
Conceptual						
Procedural						
Metacognitive						

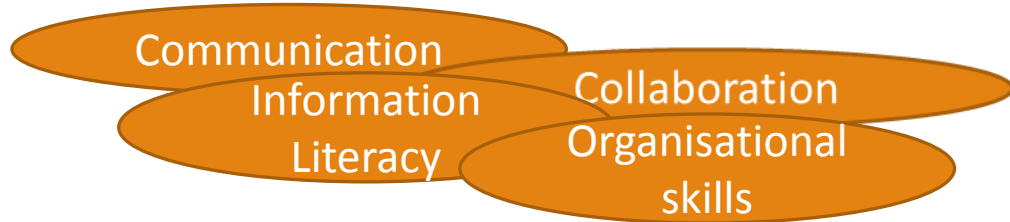


	<b>analysing</b>	<b>reasoning</b>	<b>problem - solving</b>	<b>evaluating</b>	<b>possibility thinking</b>	<b>creative thinking</b>
IT and ICT skills						
Digital Literacy						

	<b>analysing</b>	<b>reasoning</b>	<b>problem - solving</b>	<b>evaluating</b>	<b>possibility thinking</b>	<b>creative thinking</b>
Organisation skills						
Communication and collaboration skills						
Citizenship						

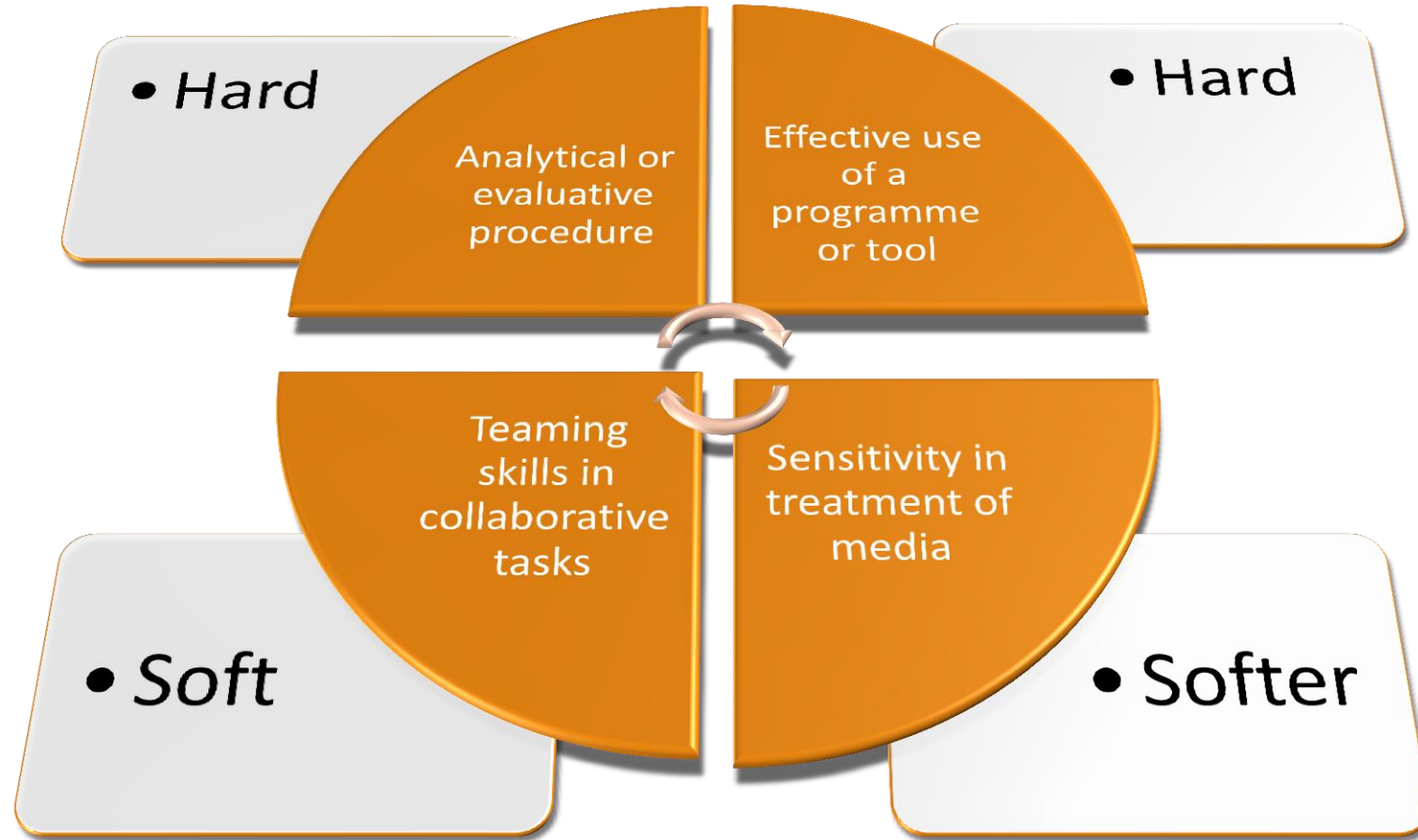
## *21<sup>st</sup> Century Skills – Infusion across the curriculum*

Multi-layered tasks which involve higher-order cognition processes in one or more elements of the task and are completed through task stages which involve high doses of



and thus allow for a clear focus on soft skills development

# Skills Infusion Model



# Learning styles or modes

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## Didactic limitations of [verb] 'rubric' approach

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After Bloom, Governments, Ministries etc. became too concerned with lists of types of questions/rubrics i.e. teacher-centred applications

What we really need is to bring Bloom's cognitive model into learner-centred activity focus by stressing task-based processes which involve C21<sup>st</sup> higher order thinking in Speaking, Writing, Listening and Reading

So moving more *from 'what' higher order thinking skills you require to task processes teachers use [how] to effectively facilitate their engagement with higher order thinking*

# Task Engines / Task Modalities ....

which engender C 21<sup>st</sup> learning



knowledge  
construction



mediation




synthesis



question framing



present & publish



simulation  
modelling

# Weave these 'knowledge construction' dimensions within our learning everyday tasks

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Teach skills through real-world contexts

Vary the context in which student use a newly taught skill

Emphasise the building blocks of higher-order thinking

- Build background knowledge
- Classify things in categories
- Arrange items along dimensions
- Make hypotheses
- Draw inferences
- Analyse things into their components
- Solve problems

Encourage students to think about the thinking strategies they are using





# Guess the Google

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**GUESS-THE-GOOGLE**

TIME REMAINING  
**:08**

INCORRECT GUESSES

- + palette
- + rainbow
- + color

ENTER KEYWORD

GUESS

# Superlative Imposter [What's the task mechanism?]

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SIZE: Lake Michigan    the Pacific Ocean    the River Nile    the Caspian Sea

NUMBER OF PEOPLE: Mexico City    China    English    Chinese

SIZE: Mount Everest    the Empire State Building    Jupiter    the Sahara

WEATHER CONDITIONS: Ethiopia    Antarctica    the North Pole    Bangladesh

ANIMALS: leopard    ostrich    great white shark    giraffe

Communication

Collaboration

# Classic 'knowledge construction' task frames

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Find the thread

Odd one out

Which one fits?

Same or different?

What's the connection ?

Situate the context

# Framing and gaming

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question framing

If the answer is .....

Beans in a jar .....

# enhance short video with commentary

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script a voiceover for documentary footage explaining impact, repercussions of what is being witnessed

mediation

# evaluate and extend range and depth of questions

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synthesis

research processes of effective interview techniques and then extend range and depth of a given set of interview questions

# remix media elements in presentation about a current trend

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present & publish

design a presentation using visuals, film or graphics to explain modern trends and/or neologisms e.g. FOMO

# use modelling programmes to investigate outcomes

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model different scenarios using modelling software and reach conclusions about initial hypotheses





# With the right 'task engines' ...

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Teaching shifts from focusing on covering all required content to focusing on the learning process, developing learners' ability to lead their own learning and to do things with their learning

Learning outcomes will be measured to some extent in terms of

- learners' capacities to build new knowledge and to lead their own learning effectively
- their proactive dispositions and their abilities to persevere through challenges
- the development of citizens who will prove to be life-long learners.

Be a total eclectic in collecting a range of simple interactive tools

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<https://www.polleverywhere.com>

<https://tagul.com/>

<http://www.tricider.com/>

[www.blabberize.com](http://www.blabberize.com)

[www.escrapbooking.com](http://www.escrapbooking.com)

# Short Bibliography

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