Live Learning ™

When every Learner has a Tablet and Internet connection

Prof. M.M. Pant

Three Questions for this age?

What does it mean to know (something)?

How does a learner know that he has learnt (what he set out to learn)?

What are the attributes of 'an educated person' in the 2nd half of the 21st Century?

Goals / Objectives of Education

- Helping the learner to be able to rise to the full height as a human being.
- Making the learner a "well educated person" for the latter half of the 21st century.
- "Awakening the learner within"
- Remove learning phobias
- When the student(learner) is ready, the teacher will appear

The Future is Completely Different from the Past

- In the past, educated persons have demonstrated different knowledge and skill sets.
- I have been exploring what would be the attributes of an ' Educated Person' in the future.
- Some research led me to views of leading Institutions (Harvard and Princeton) and thought leaders on the same.
- Oliver Van Demille's [American author and Educator] 'A Thomas Jefferson Education' included Harvard's list, in addition to two others.

"In 5 years from now, the best education will come from the web."

— Bill Gates

But why?

- He believes the web is where people will be learning in five years from now, not Colleges and University.
- During his chat he said: Five years from (6th August 2010) now on the web for free you'll be able to find the best lectures in the world. It will be better than any single University.
- Gates' reasoning is based on the assumption that education away from the classroom should count as credit. So if MIT release courses on the web, a student should be able to study them at home and get credit for doing so.

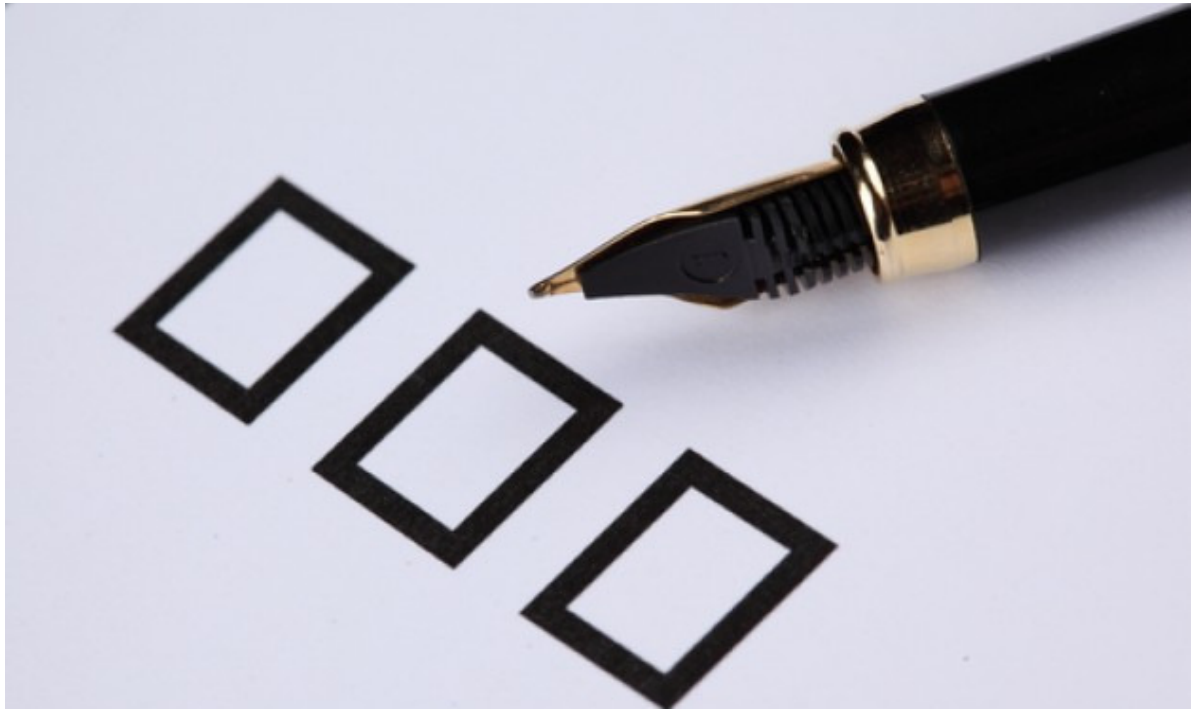
Thomas Friedman: Author and Columnist

Globalisation and Information Technology revolution have gone to a whole new level. Thanks to Cloud Computing, robotics, 3G wireless connectivity, Skype, Google, Facebook, Linked in, Twitter, the iPad and cheap Internet enabled Smartphones, the world has gone from connected to hyper-connected. This is the single most important trend in the world today.

Thomas Friedman

A Consensus of Opinions

Completely new tools, skills and competencies are required to succeed in today's complex, connected, information abundant, fast changing world

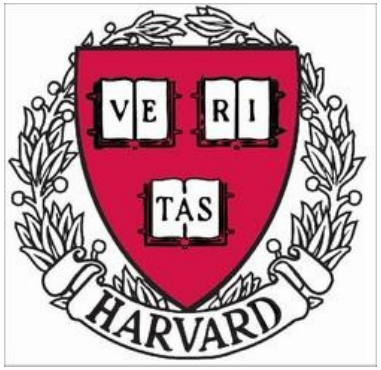


Some more Thought Leaders

- **"Learning how to Learn is life's most important skill"** — Tony Buzan, originator of Mindmaps

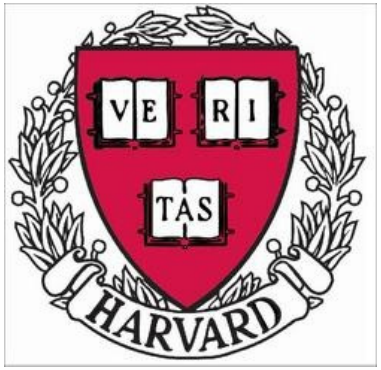
- **" The illiterates of the 21st Century will not be those who cannot read or write, but those who cannot, learn, unlearn and relearn"**
  — Alvin Toffler , American author and futurist

Harvard's list of 10 Skills ofan Educated Person



1. The ability to define problems without a guide.
2. The ability to ask hard questions which challenge prevailing assumptions.
3. The ability to quickly assimilate needed data from masses of irrelevant information.
4. The ability to work in teams without guidance.
5. The ability to work absolutely alone.

Harvard's list…continued



6. The ability to persuade others that your course is the right one.
7. The ability to conceptualize and reorganize information into new patterns.
8. The ability to discuss ideas with an eye toward application.
9. The ability to think inductively, deductively and dialectically.
10. The ability to attack problems heuristically.

Princeton's List of Skills

- The ability to think, speak, and write clearly.
- The ability to reason critically and systematically.
- The ability to conceptualize and solve problems.
- The ability to think independently.
- The ability to take initiative and work independently.
- The ability to work in cooperation with others and learn collaboratively

Princeton's List…continued

- The ability to judge what it means to understand something thoroughly.
- The ability to distinguish the important from the trivial, the enduring from the ephemeral.
- Familiarity with the different modes of thought (including quantitative, historical, scientific, and aesthetic.)
- Depth of knowledge in a particular field.
- The ability to see connections among disciplines, ideas and cultures.
- The ability to pursue life long learning.

Multiple Roles of the Teacher

- Curator of existing learning resources
- Creator of new appropriate content/APPs
- Mentor
- Coach
- Motivator
- Guided Self help
- Helping the Learner to learn
- Developing an enquiring mind

Gagne's 9 Events of Instruction

- Gain attention
- Inform learner of objectives
- Stimulate recall of prior learning
- Present stimulus material
- Provide Learner Guidance
- Elicit Performance
- Provide Feedback
- Assess Performance
- Enhance Retention and Transfer

The Learning Cycle of an Enquiring Mind

- Asking the Right Question (s)?
- Seeking Information
- Analyzing Information
- Organizing Information
- Presenting Information
- Persuading others about one's views
- Reflecting & Raising New Questions

Asking Questions is the First Step

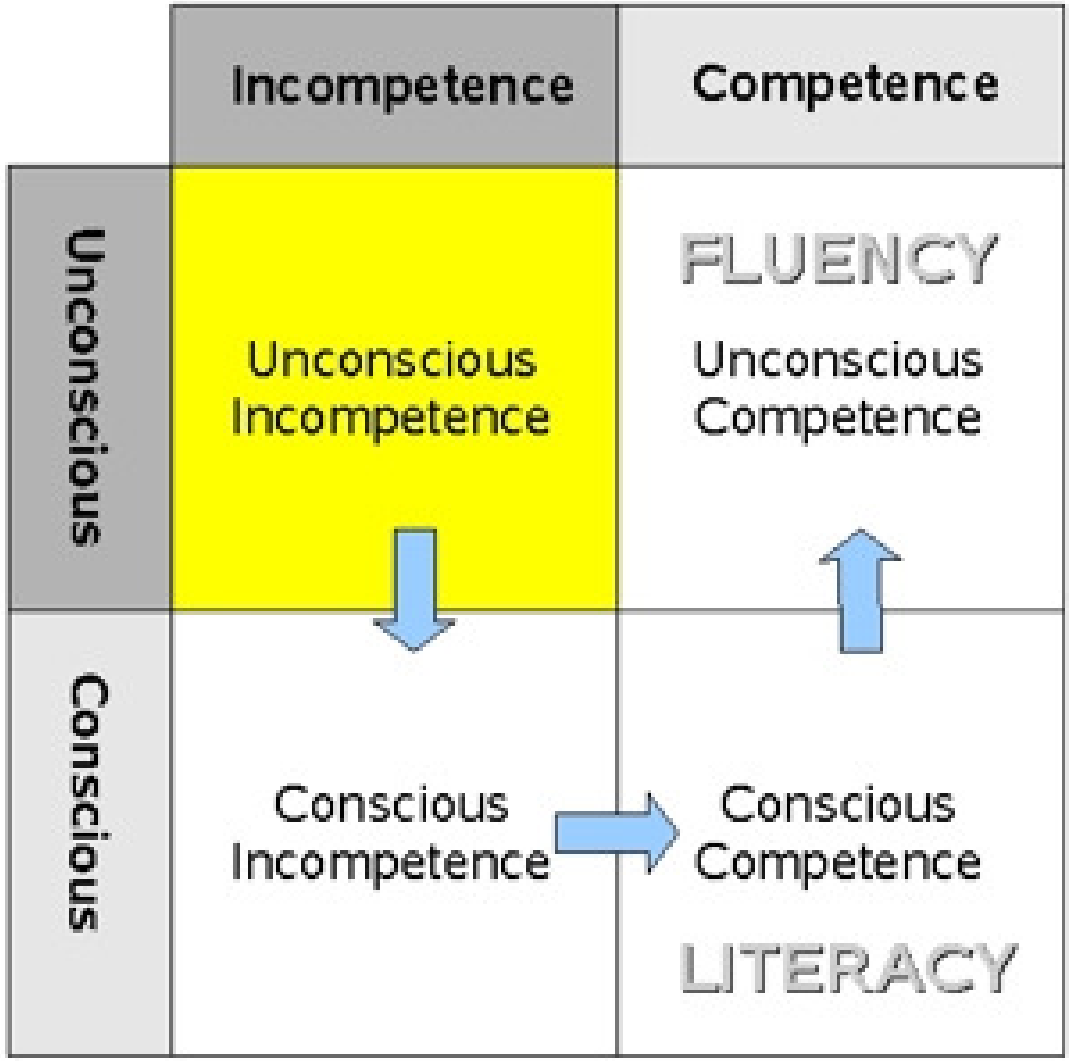
- Learners have to be aware of their lack of relevant knowledge and be prepared to explore the area of their ignorance with suitable questions and participation by other learners in the group.
- Hence questions raised by the group are very important.

Asking the Right Question (s) ?

Taxonomy of questions: :

- "closed" questions:
  - who?
  - what?
- "objective" questions:
  - how much or how many?
- "relative" questions:
  - where
  - when
- "open questions
  - why?
  - how?

Developing Expertise

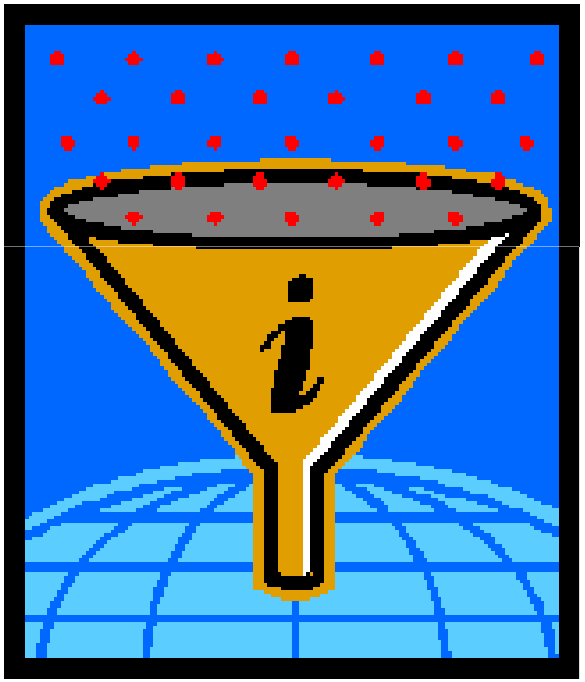


A few Tools for seeking information

- Search Engines: Google, Yahoo, Bing, Wolfram Alpha
- Wikis: Wikipedia, wikieducator
- Youtube, Ted talks, free sources
- Educational Apps
- Social Media: Facebook, Twitter
- Khan Academy

Analyzing Information

- Quantitative Information: Analytics
- Qualitative Information: Creative & Critical process
- Summarise & Consolidate Information
- Analysis of Similarities
- Analysis of Differences
- Exception and Anomalies



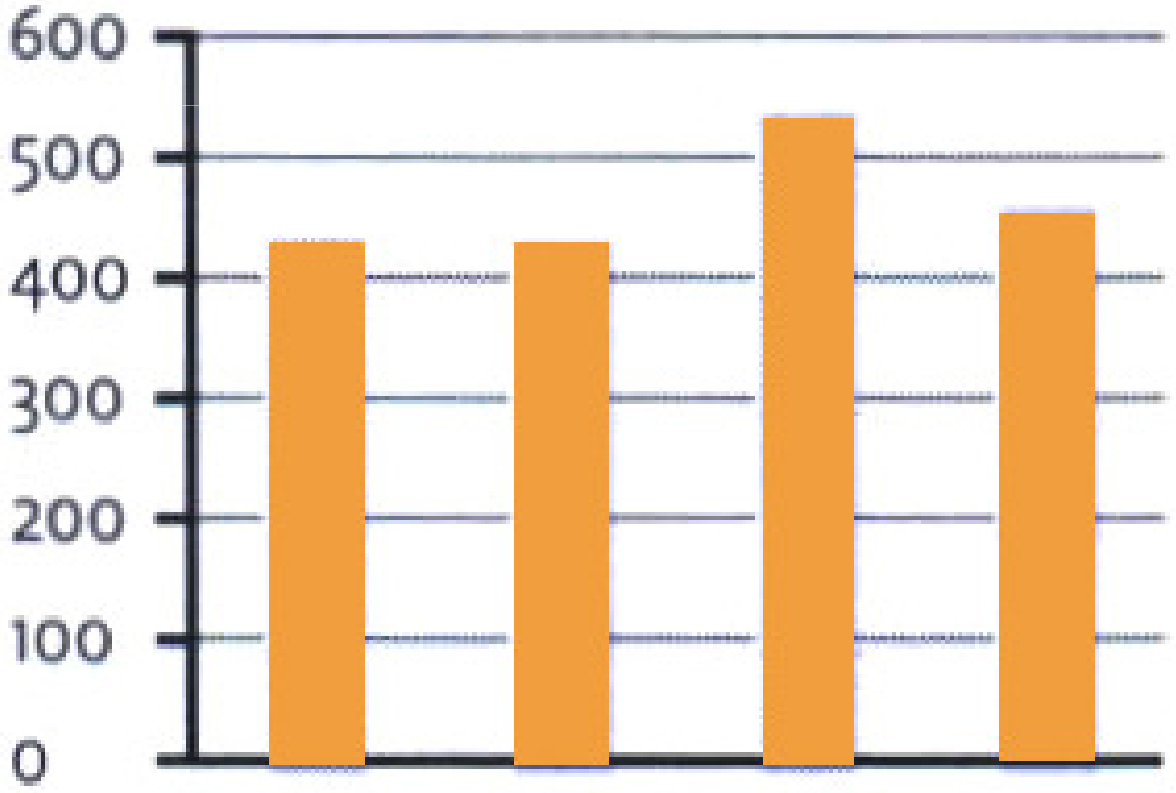
Organizing Information

Visual Organisation

Conceptual Organisation

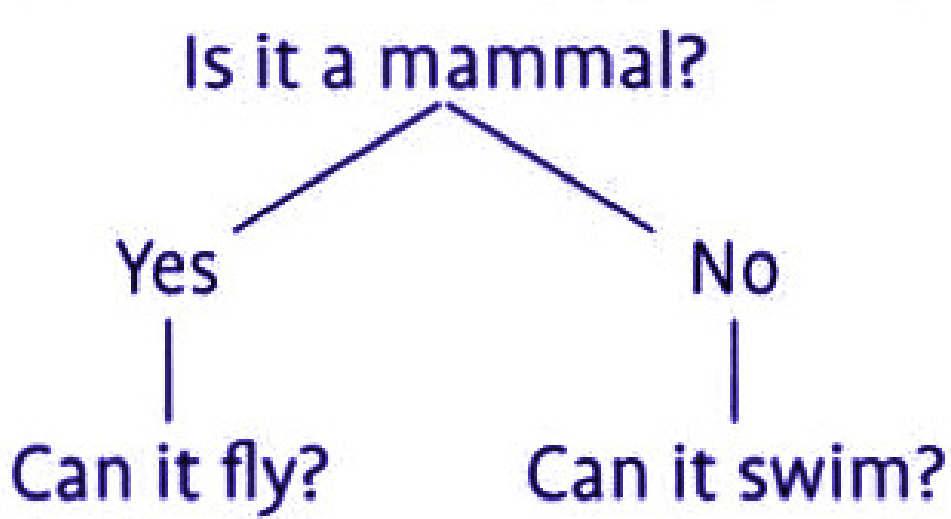
Bar Chart

- To show frequency or quantity using rectangles which are the same width, but different heights.



Binary Key

- To divide information into two parts using a series of questions, each of which has only two possible answers
- **Language :**
  - closed questions



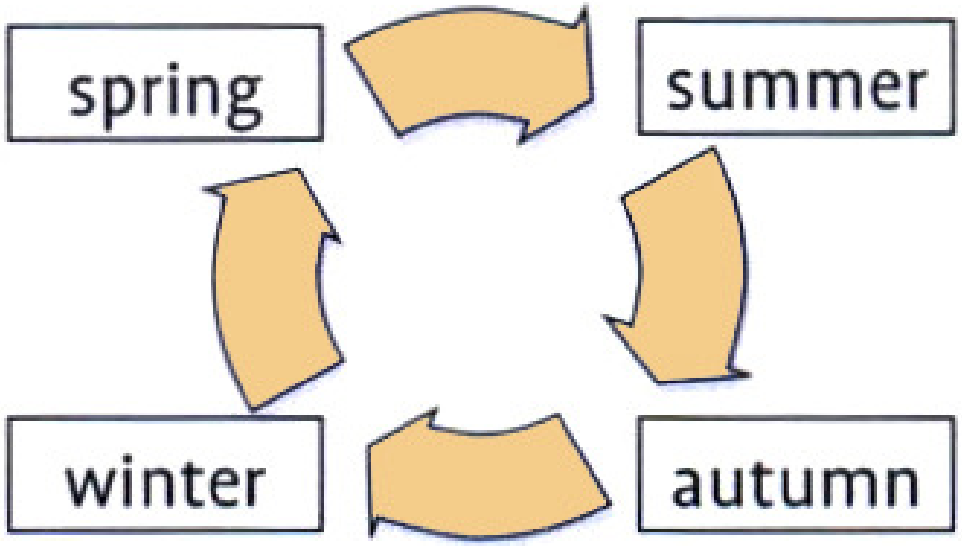
Carroll Diagram

- To sort yes / no information according to two sets of opposite criteria
- **Language :**
  - for example, such as subject vocabulary

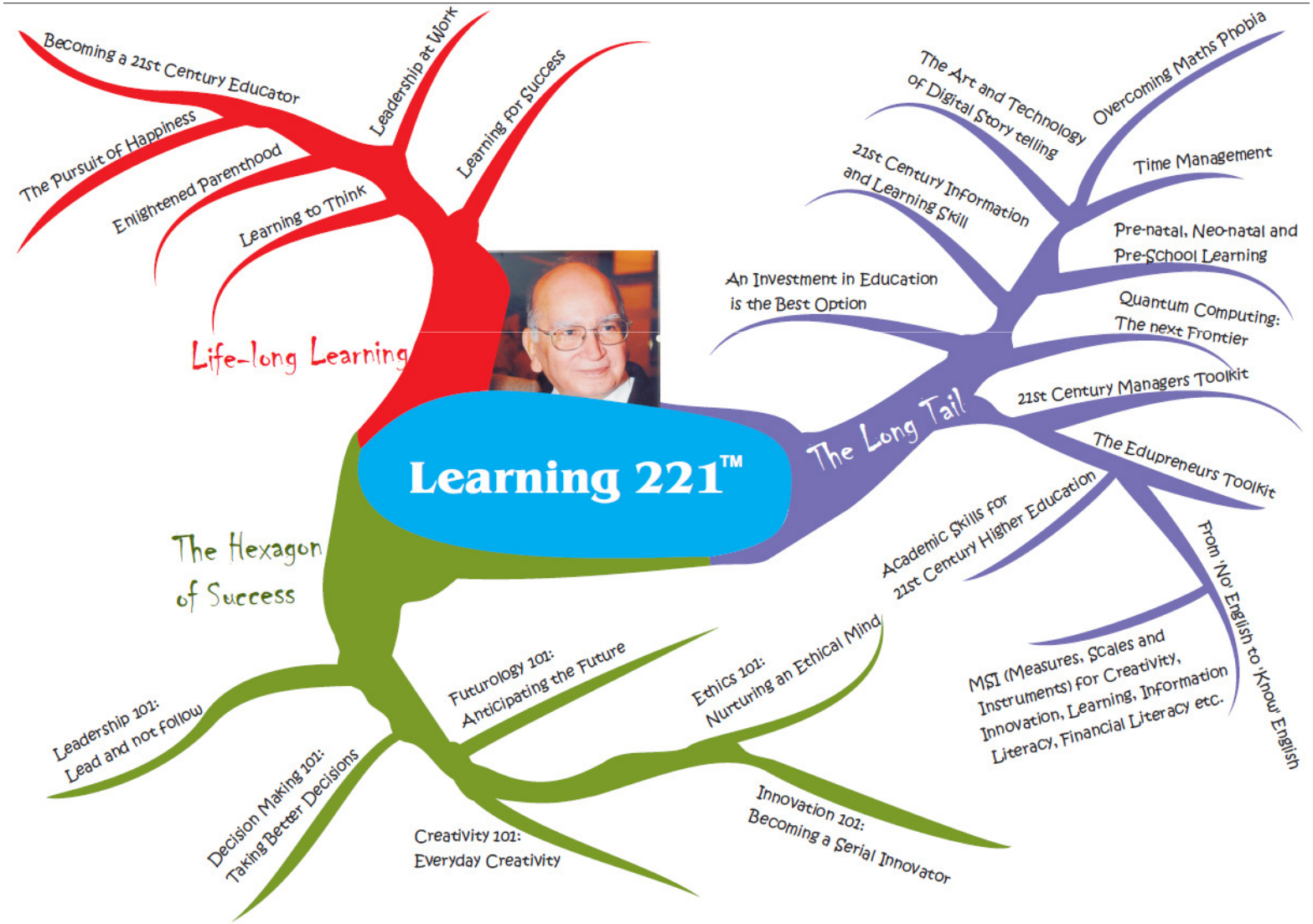
	living	*non-living*
natural	tree	stone
manufactured		computer

Cycle

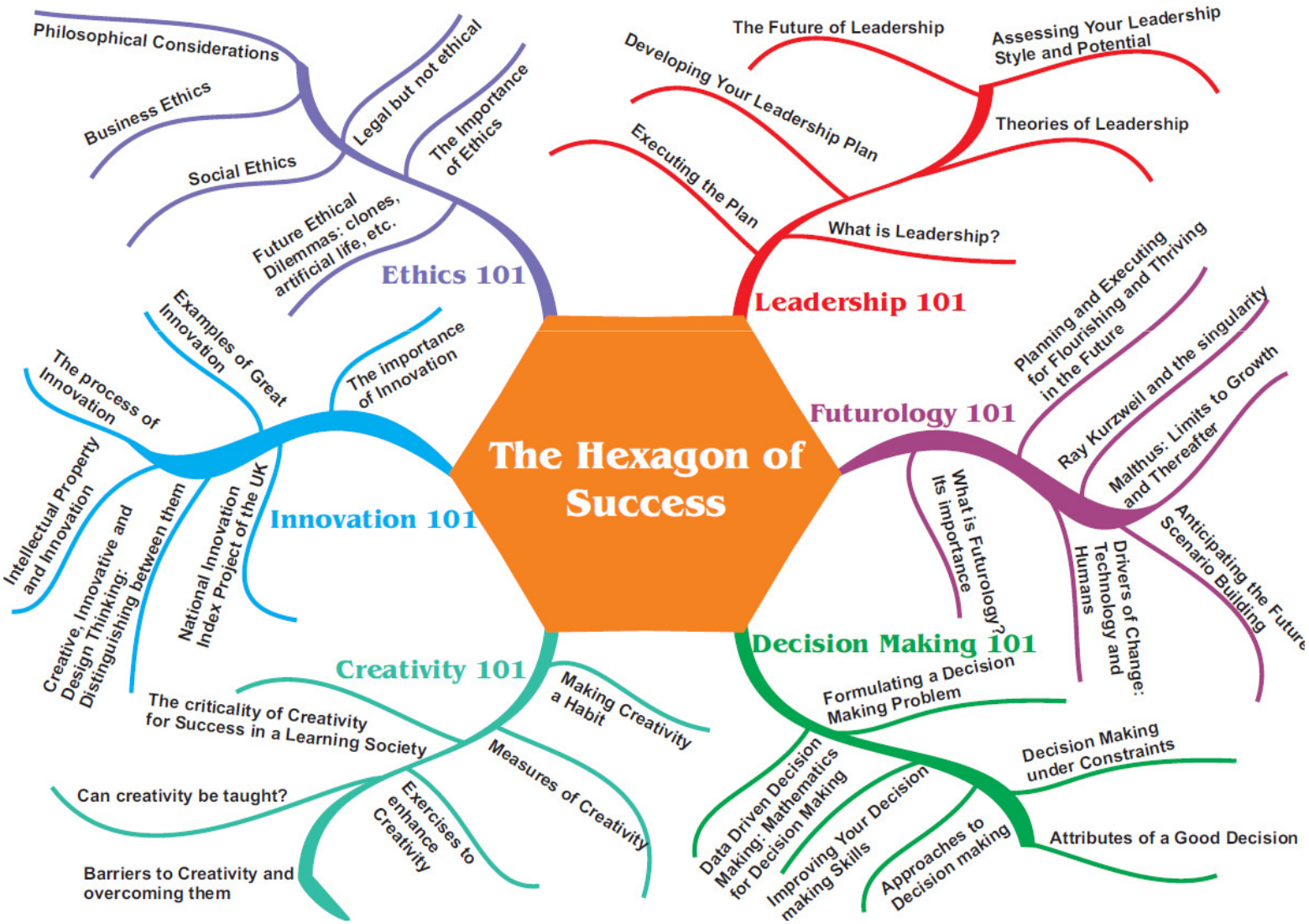
- To show a series of events which happen again and again in the same order
- **Language** :
  - then, next, after that, later



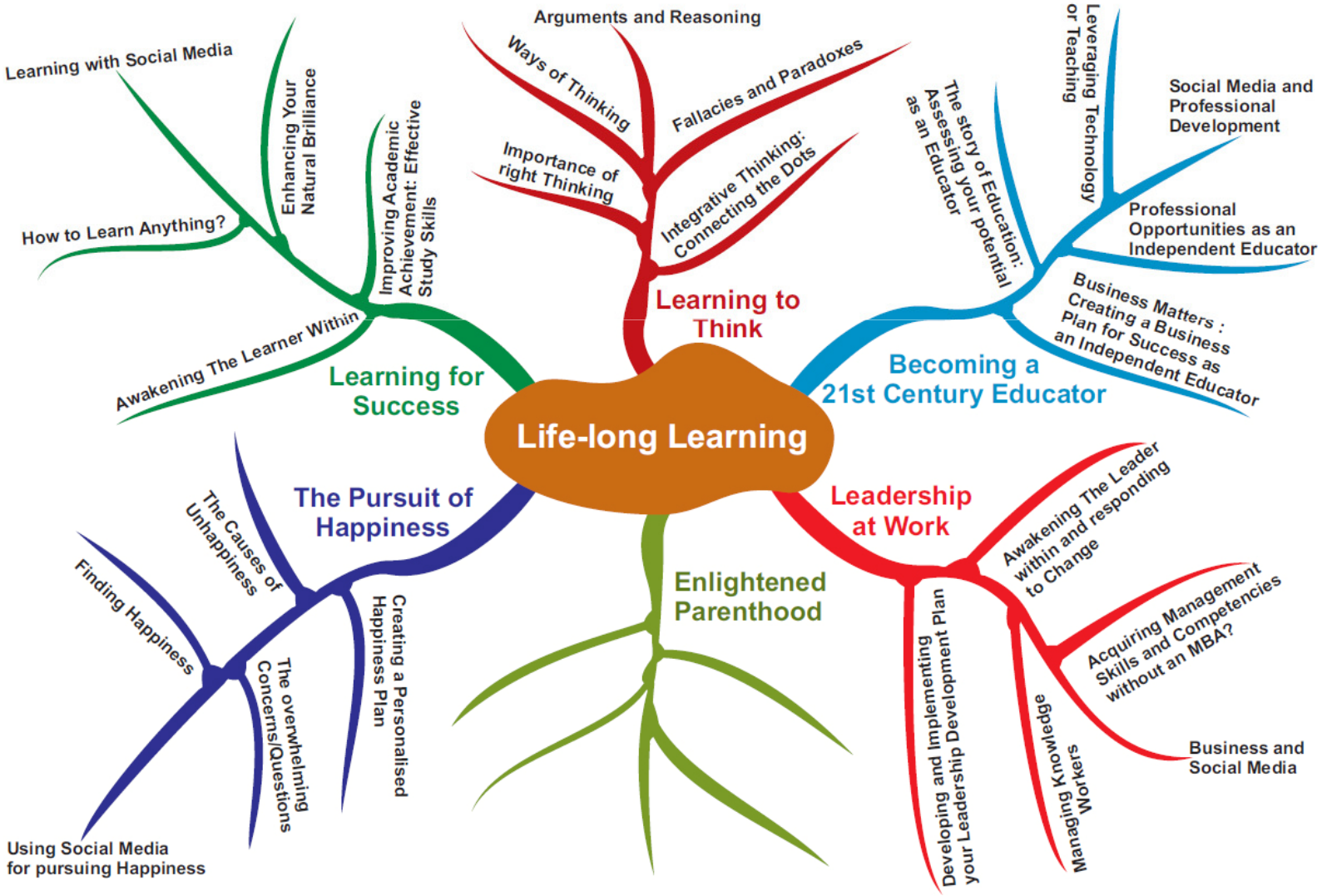
Mind-map


Learning 221™
Life-long Learning
Becoming a 21st Century Educator
Leadership at Work
Learning for Success
The Pursuit of Happiness
Enlightened Parenthood
Learning to Think
The Long Tail
The Art and Technology of Digital Story telling
Overcoming Maths Phobia
21st Century Information and Learning Skill
Time Management
An Investment in Education is the Best Option
Pre-natal, Neo-natal and Pre-School Learning
Quantum Computing: The next Frontier
21st Century Managers Toolkit
The Edupreneurs Toolkit
Academic Skills for 21st Century Higher Education
From 'No' English to 'Know' English
MSI (Measures, Scales and Instruments) for Creativity, Innovation, Learning, Information Literacy, Financial Literacy etc.
The Hexagon of Success
Leadership 101: Lead and not follow
Futurology 101: Anticipating the Future
Ethics 101: Nurturing an Ethical Mind
Decision Making 101: Taking Better Decisions
Creativity 101: Everyday Creativity
Innovation 101: Becoming a Serial Innovator

Mind-map (cont…)

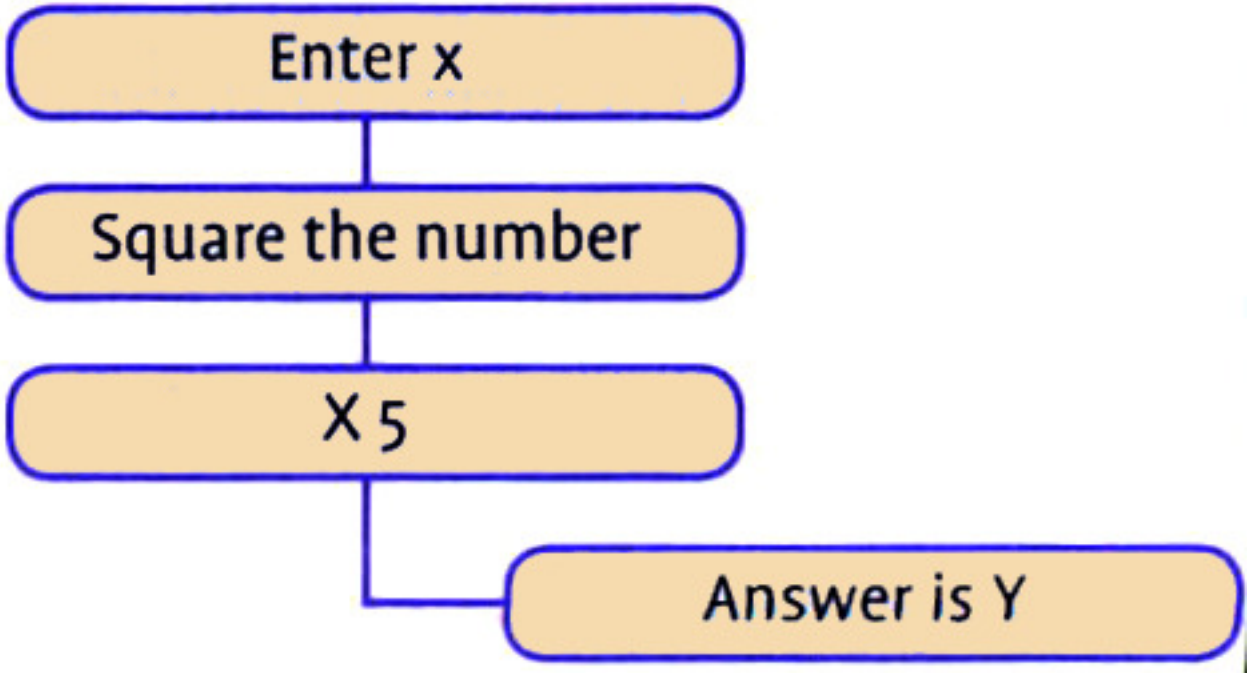


Mind-map (cont…)



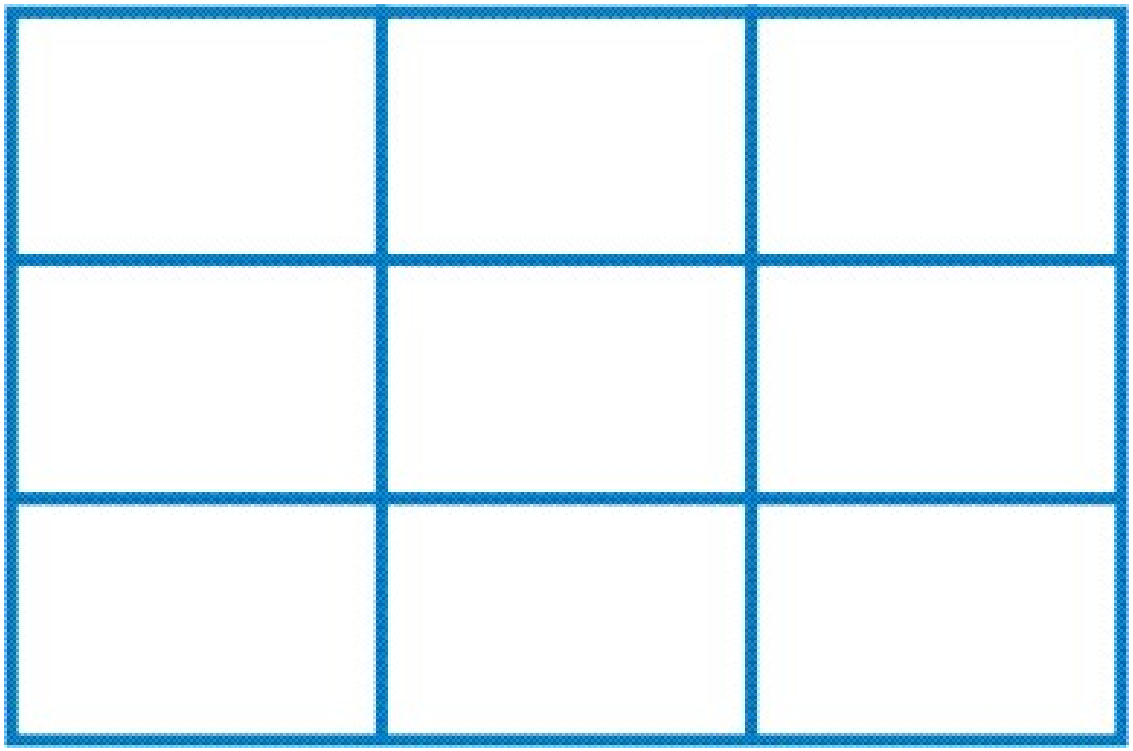
Flow Diagram or Flow Chart

- To show the order of a process or the order of how decisions are made
- **Language :**
  - then, next, after that, later, eventually, finally



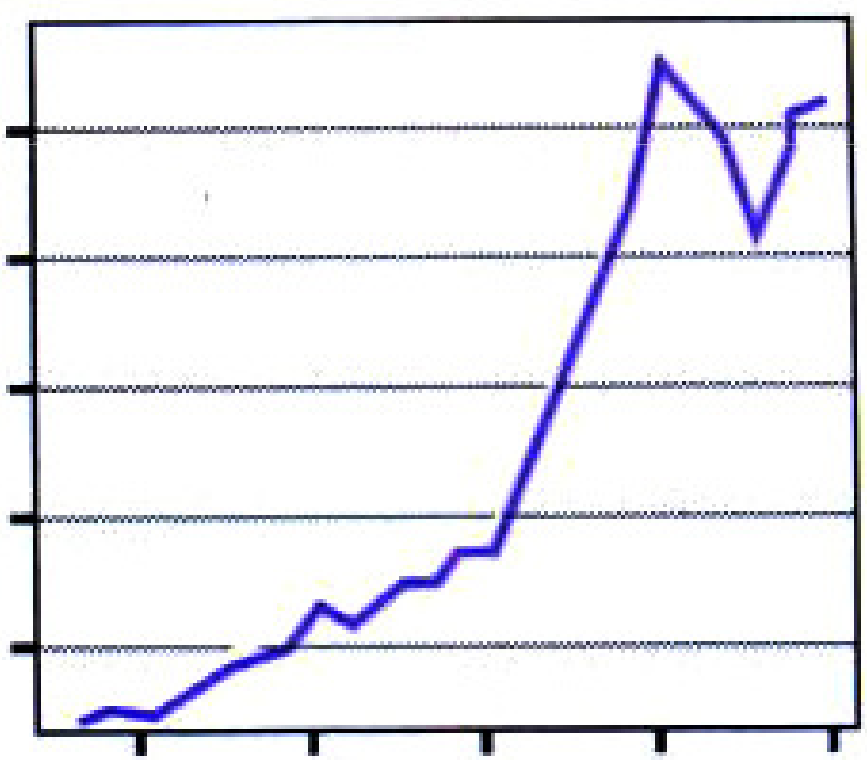
Grid (squares set out in row and columns)

- To show locations of places, e.g., on maps



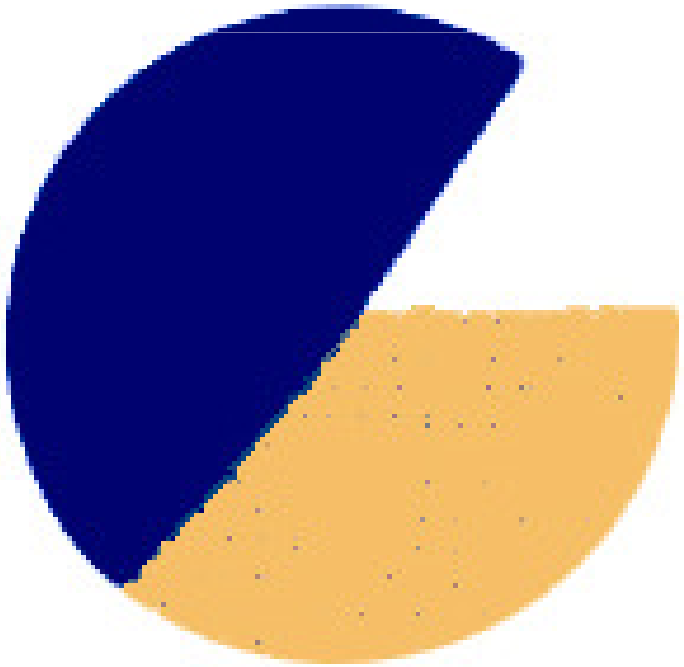
Line Graph

- To show a trend or data using X and Y axes



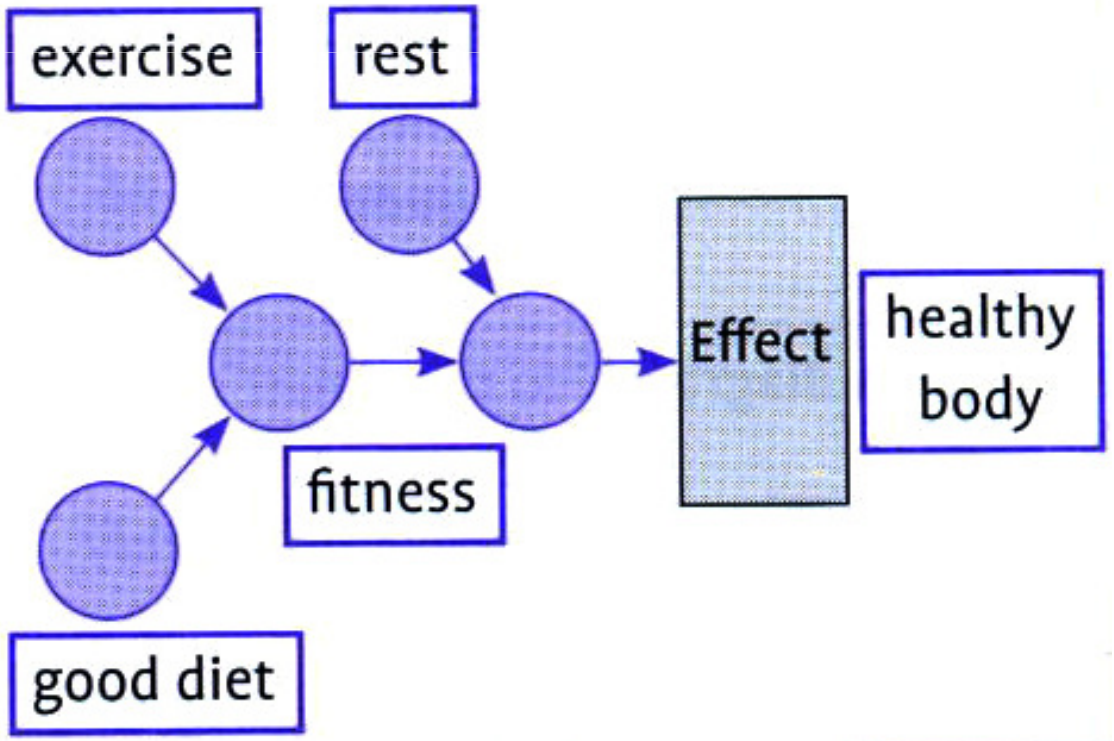
Pie Chart

- To show different amounts or frequencies as parts of a circle



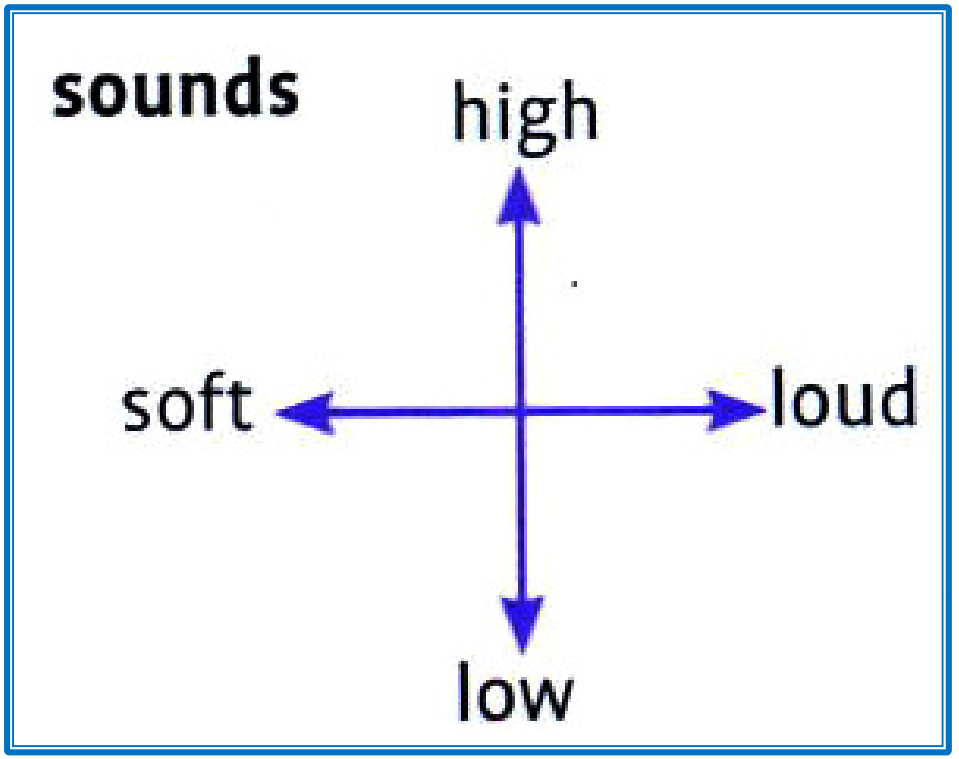
Process / cause-effect diagram

- To show a cause-effect network which leads to a specific outcome or to show a sequence of steps leading to a product
- **Language:**
  - As a result, because of, therefore, so



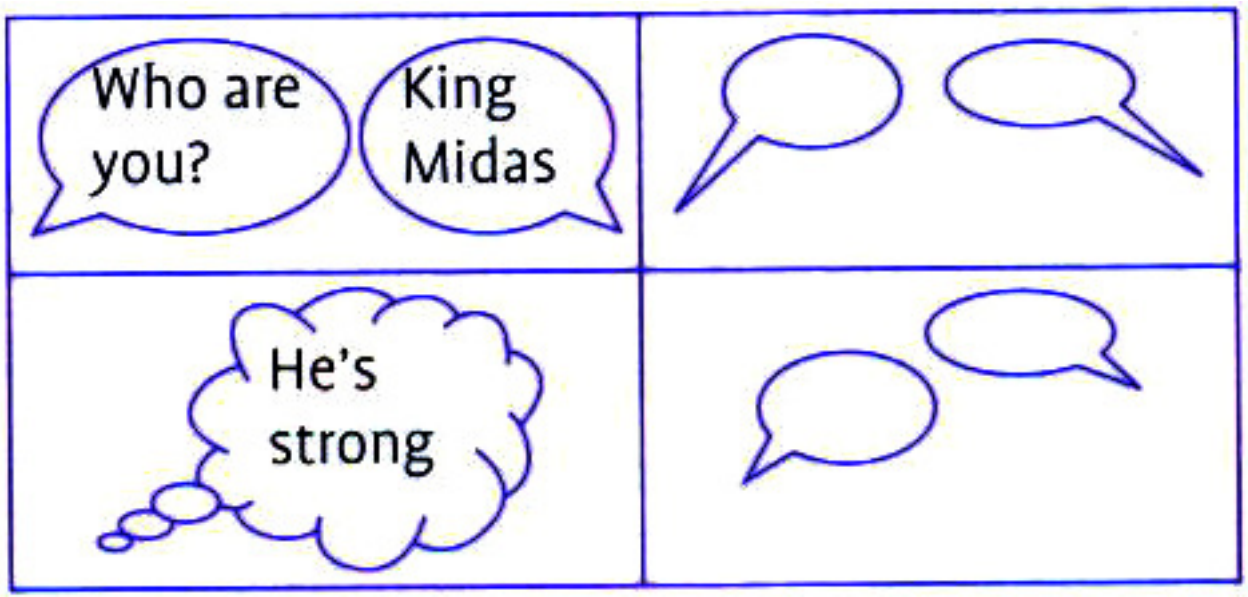
Quadrants

- To show connections between concepts, e.g., a sound can be high and soft, high and loud, low and soft, low and loud; sounds can also vary within these quadrants
- **Language :**
  - and, but not, quite, not very



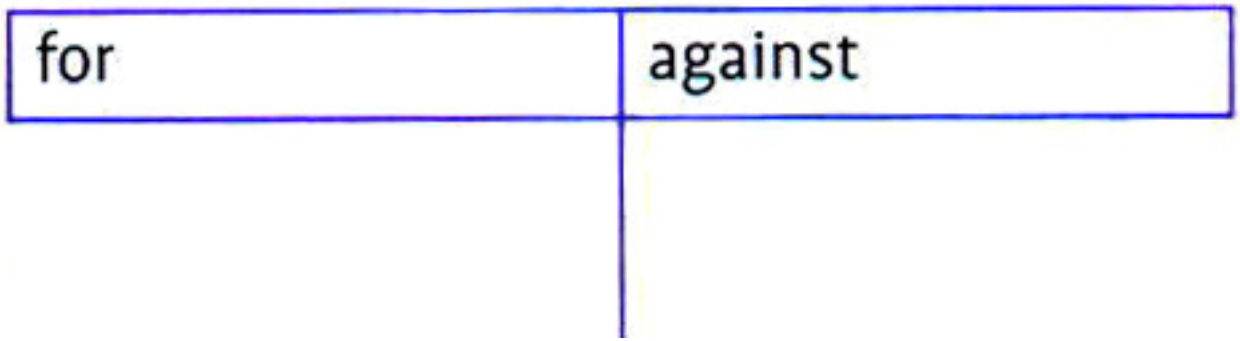
Storyboard

- To plan and write a draft of events in a story, sometimes with speech and thought bubbles
- **Language :**
  - Direct speech



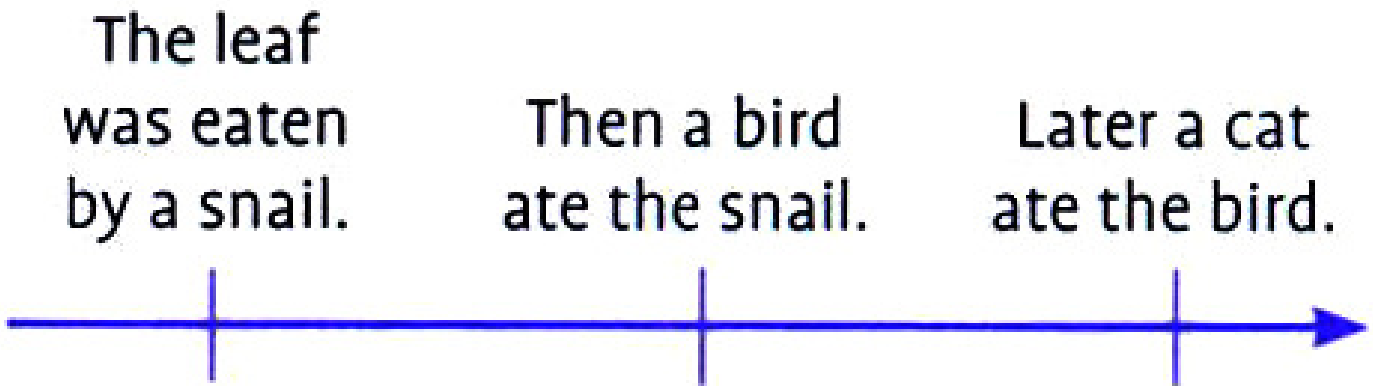
T-chart

- To show two sides of a topic such as:
  - For and against an argument; the advantages and disadvantages of something; facts and opinions



Time-line

- To show event, usually in chronological order
- **Language :**
  - Dates, times, notes

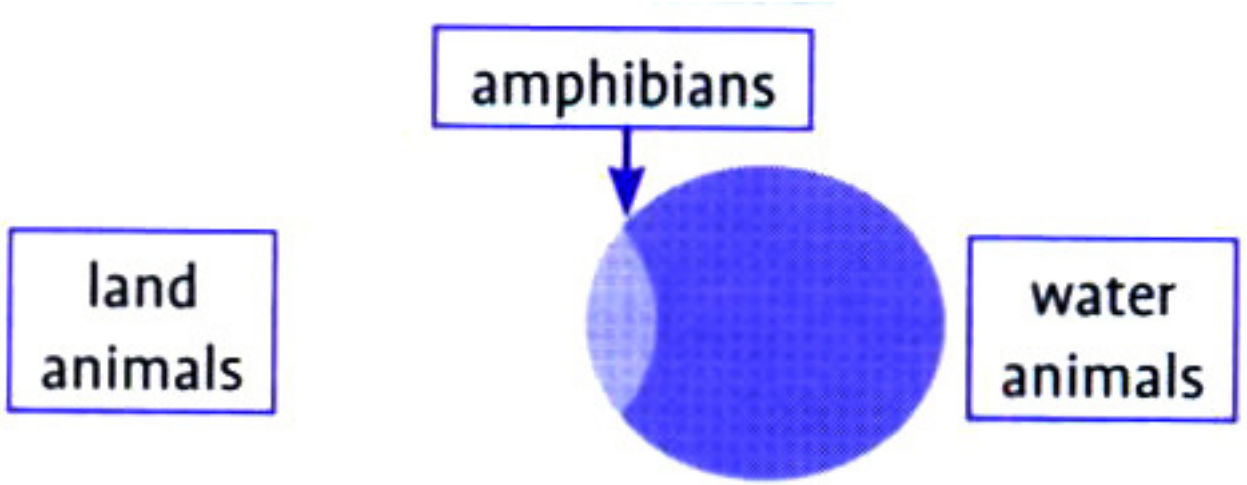


Tree Diagram

- To classify words and show their relationships, often with examples
- **Language:**
  - under, below, above, at the top, on the same level, an example is

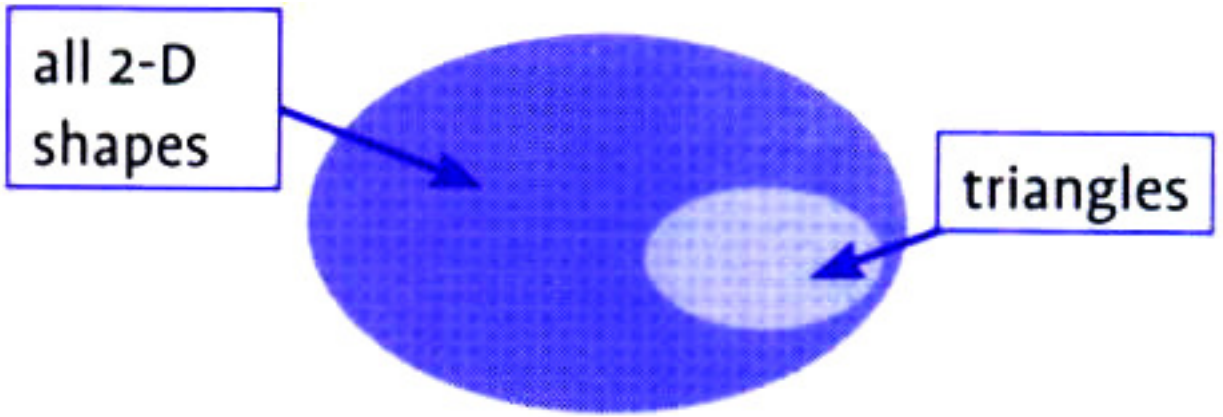
Venn Diagram - 1

- To show similarities and differences – similarities are in the intersection between the circles: differences are in the parts of the circles which do not intersect
- **Language:**
  - such as, the same, different



Venn Diagram-2

- To show part of a larger group
- **Language:**
  - subject vocabulary



Presenting Information

- Presenting facts.
- Presenting Concepts.
- Describing Processes/ Procedures
- Developing a theory.
- Narrative as story.
- As a game.

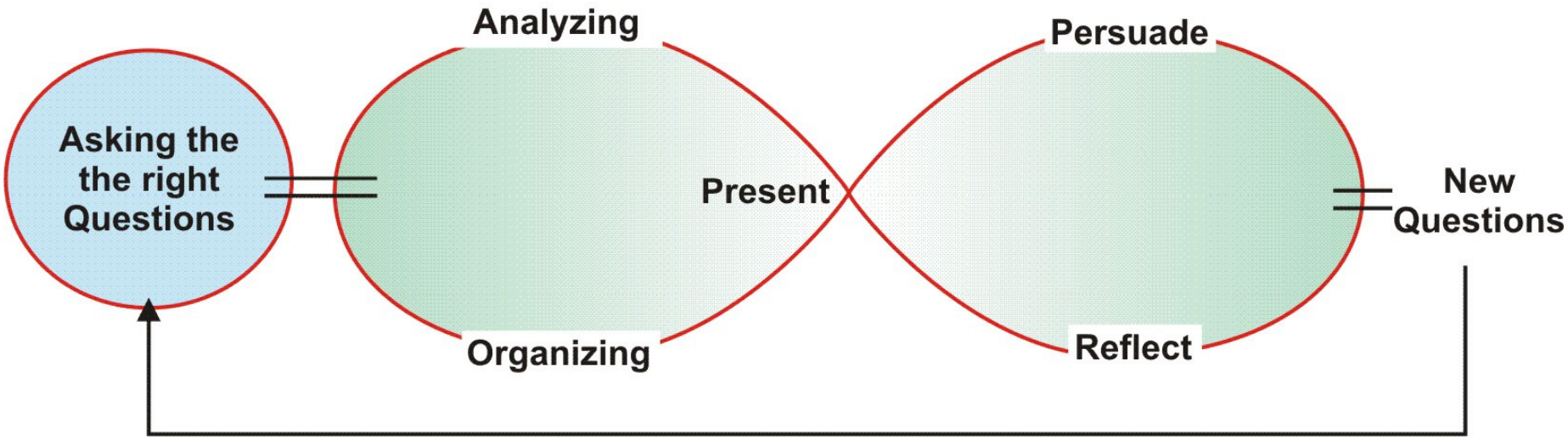
Persuasion

- Authority
- Scarcity (preciousness)
- Likeability
- Consistency
- Social Acceptability
- Reciprocity

Reflecting & Raising New Questions

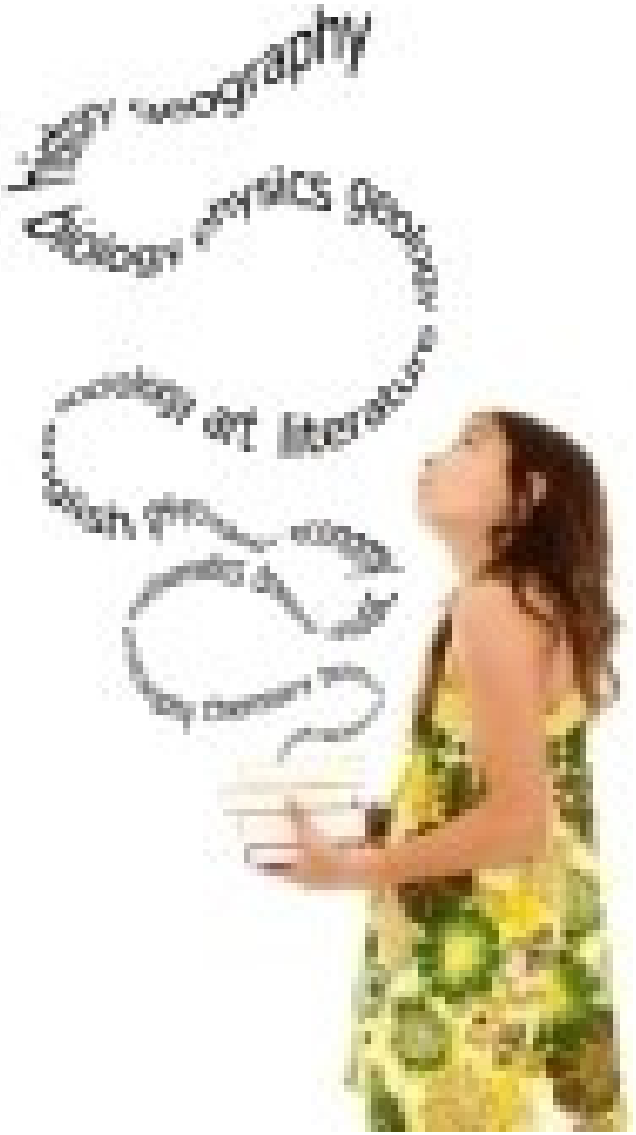
- This additional element emphasizes the point that "great questions" should evoke thoughtful Reflections while considering the current problem, the desired goal, designing strategies, developing action or implementation plans, or executing action steps that are components of the implementation plan.

The Live Learning Cycle



Tell me

- Excite me about what I am going to learn, and describe it in clear terms, and then tell me about it.



Show me

- Videos
- Demos
- Animations
- Pictures
- Images
- Diagrams
- Mindmaps

Let me

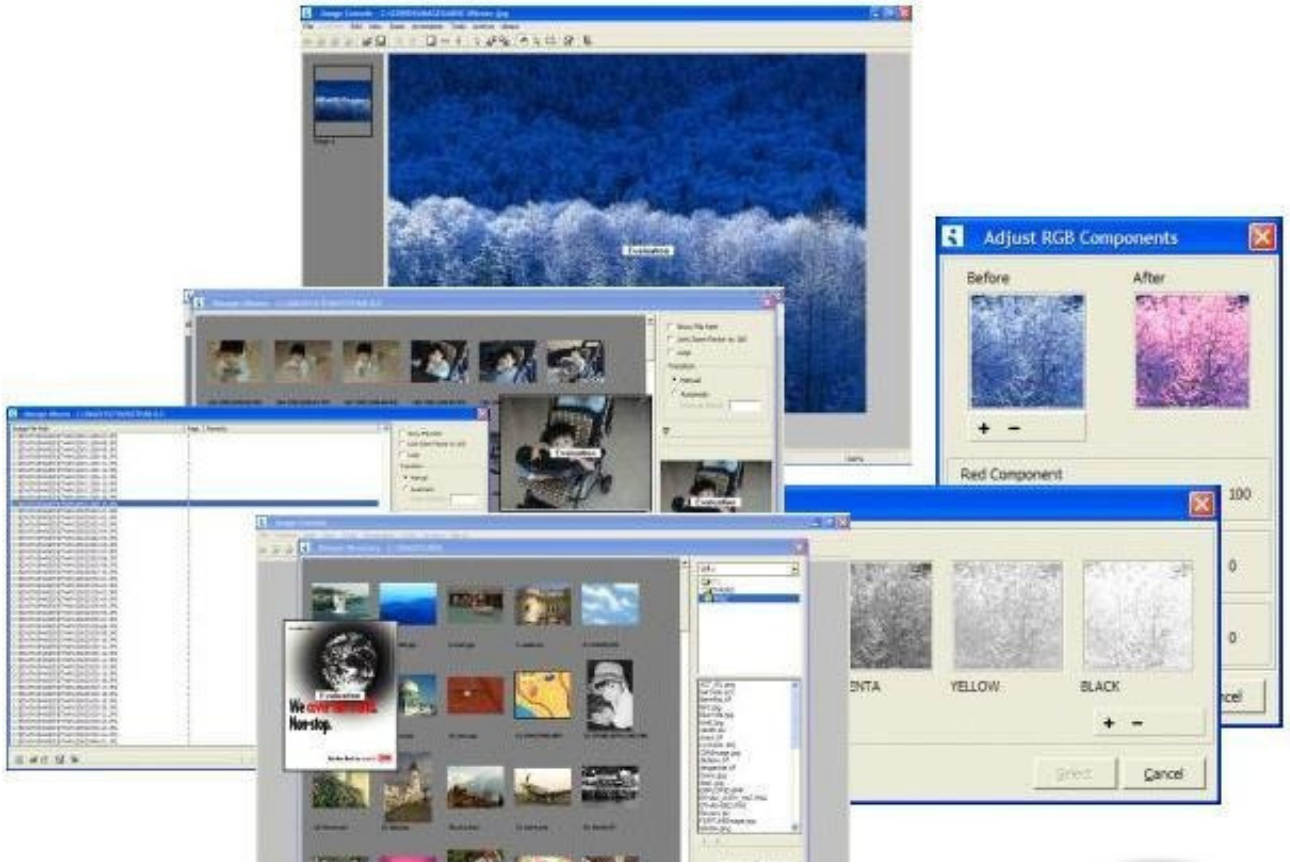
- Give me tasks to provide evidence of my learning

Tell me more

- Give me feedback for me to improve my learning

Show me more

- Extensions and Applications



Let me explore

- Let me find out more on my own and also reflect upon my learning

Traditional Learning which can benefit from LiveLearning™

- Mathematics : expansion of Sin(x)
- Physics: Finding the radius of the earth by lying on a beach
- Chemistry:
- Geography: exploring Equinoxes
- History:
- English Literature: Polonius in Hamlet

Emerging Innovations in Education: Horizon Report (2011-2012)

- Cloud Computing (1-2 years)
- Mobile Devices (1-2 years)

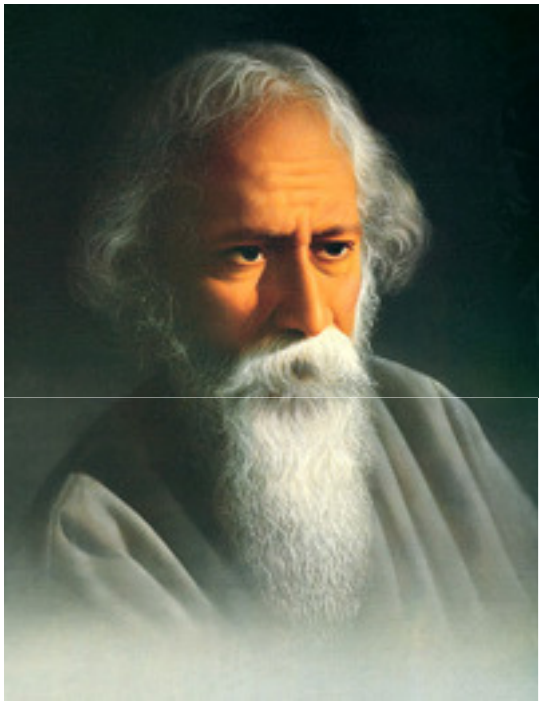
- Game Based Learning (2 – 3 years)
- Open Content (2 – 3 years)

- Learning Analytics (4-5 years)
- Personal Learning Environments (4-5 years)

Examples of Completely Open Ended Current Concerns

- Solar Storm – May 2012 ?
- FDI in retail in India?
- How do I make a good investment ?
- Whether the Euro can be saved ?
- When is Nuclear Power a good option?
- Is a large population, a liability or an asset?
- What happens when machine intelligence surpasses natural human intelligence?
- How can I make my website more popular?

Inspiration from Rabindranath Tagore



Where the mind is without fear and the head is held high
Where knowledge is free
Where the world has not been broken up into fragments
By narrow domestic walls

Where words come out from the depth of truth
Where tireless striving stretches its arms towards perfection
Where the clear stream of reason has not lost its way
Into the dreary desert sand of dead habit

Where the mind is led forward by thee
Into ever-widening thought and action
Into that heaven of freedom, my Father, let my country awake.

Thank you !

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http://mmpant.wordpress.com/