LAB 01.
MIND MAPPING

Test Design Techniques

Elective Course, 2021-2022, Spring Semester

week 01/02

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MIND MAPS

General Context. Human Brain

Definition. History

Advantages. Disadvantages

Elaboration Steps

General Context

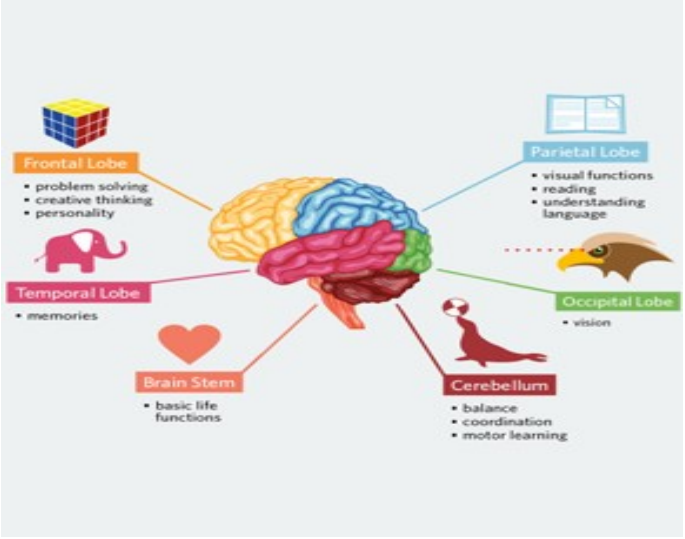
- **Human brain = thinking machine, able of create a large number of connections;**

- **Main functions:**
  - Perception;
  - Memory;
  - Analysis;
  - Transmission;
  - Control;

- Main functions allow to process the information in various ways:

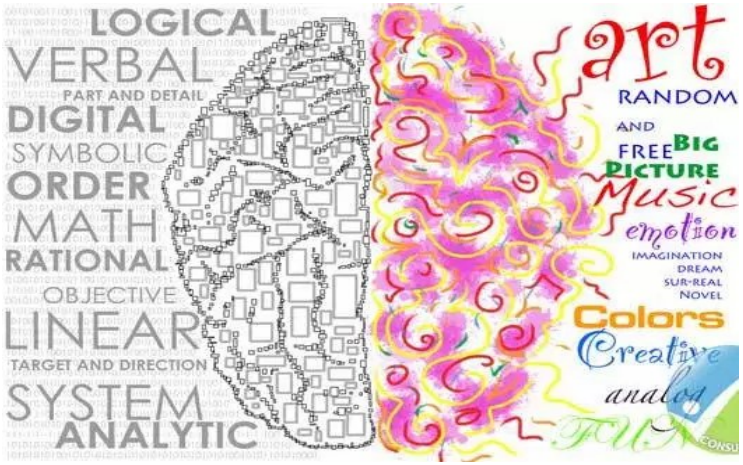
words **colours** **numbers**
smell **symbols**
image **sequence** **dimension**.

- Human brain receives pieces of information coded as:
  - sensations;
  - memories;
  - thoughts;
  - images;



Human Brain

- **Left hemisphere:**
  - Words;
  - Spoken language;
  - Logic,
  - Numbers;
  - Linear thought;
  - Details;
  - Analysis;
  - Sequence;
  - Lists;
  - Calculus;
  - Reasoning;
  - Writing;
  - Right hand control;



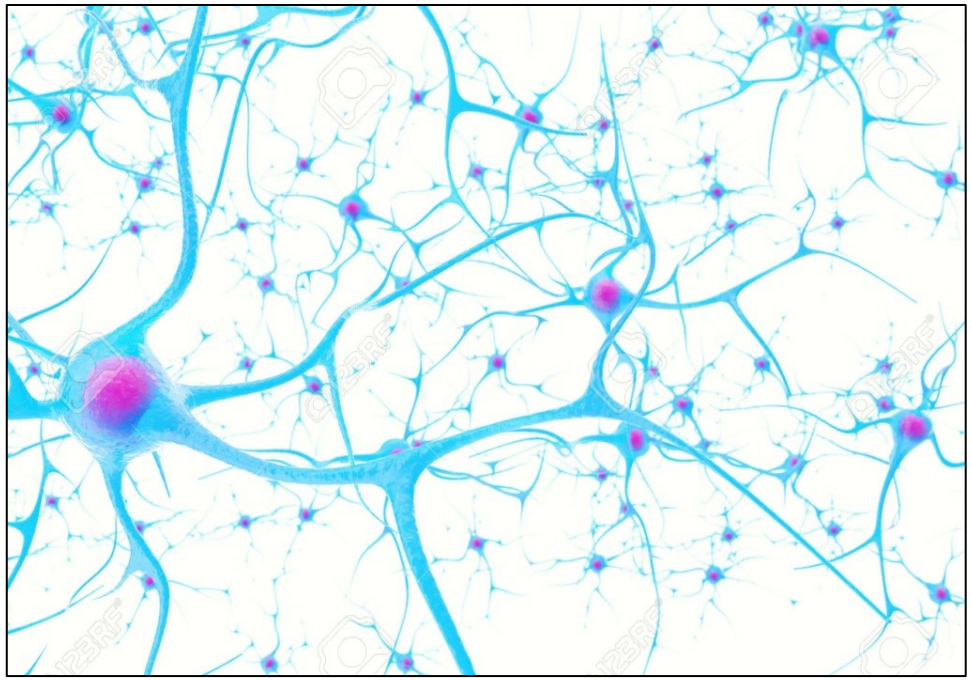
- **Right hemisphere:**
  - Spatial perception;
  - Maps;
  - Imagination;
  - Symbols;
  - Rhythm;
  - Passion;
  - Colour;
  - Shapes;
  - Dimension (2D, 3D);
  - Intuition;
  - Feelings;
  - Creativity;
  - Left hand control;

Neurons vs. Mind Maps

- Neuron connections allow to send information inside the brain, designing a map;

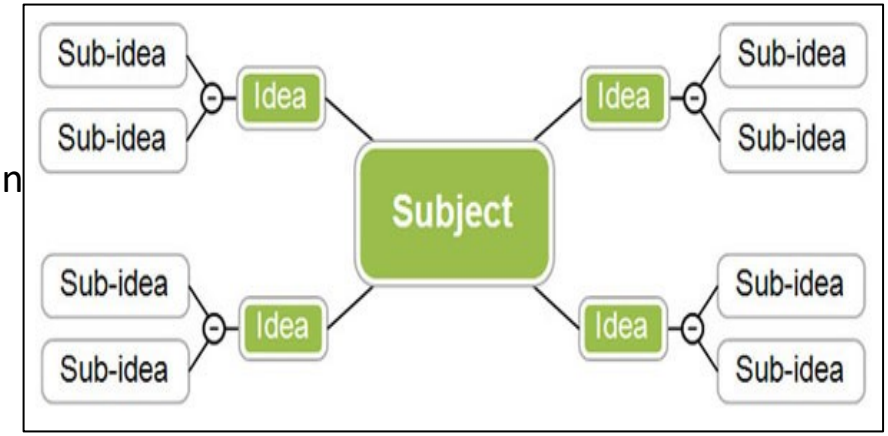
- Each piece of information that reaches the brain represents a sphere from which a large number of branches start, connecting this information to other associated concepts;

- Each associated concept has its own connections to an infinity of concepts.

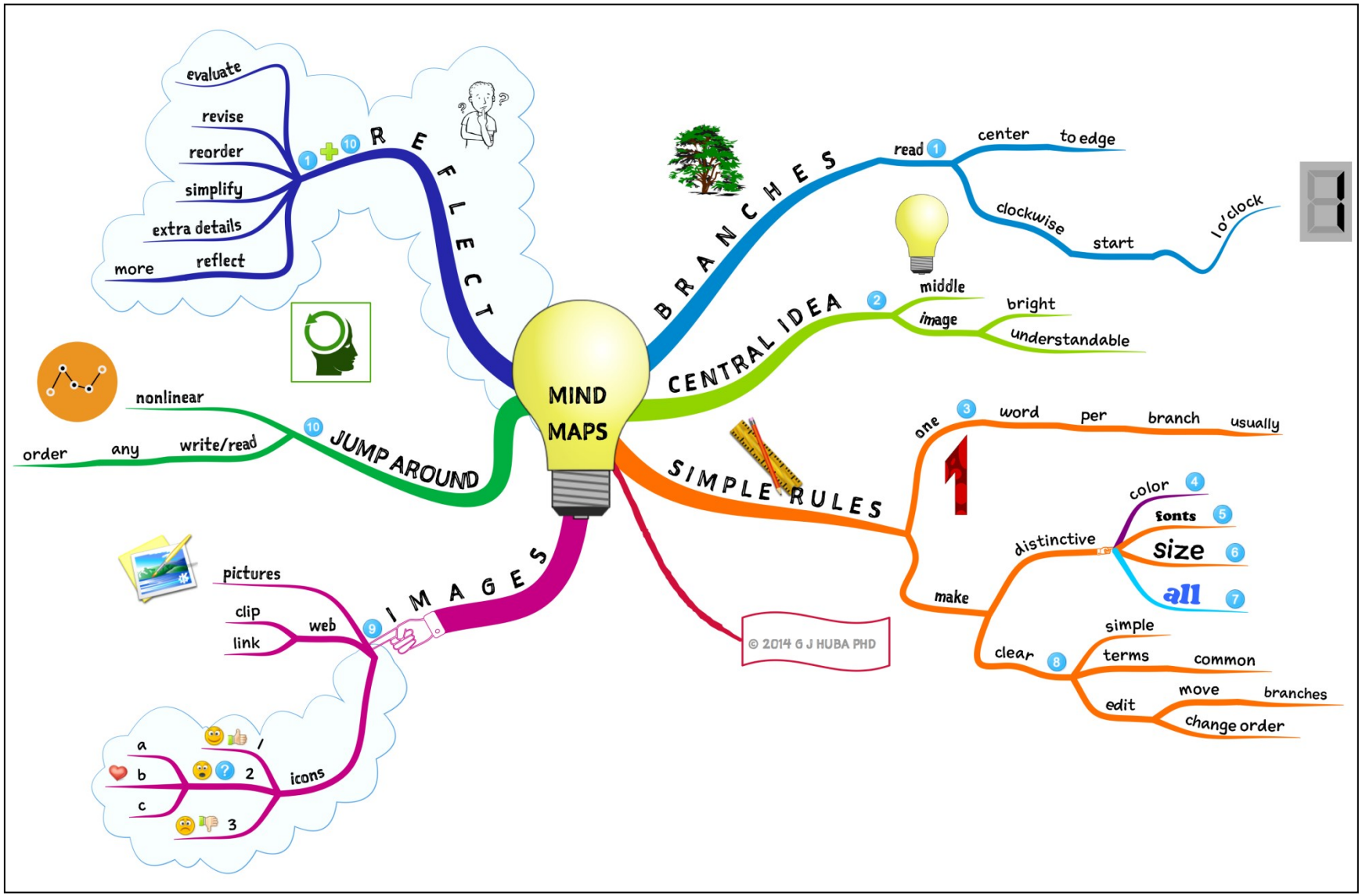


Mind Map. Definition

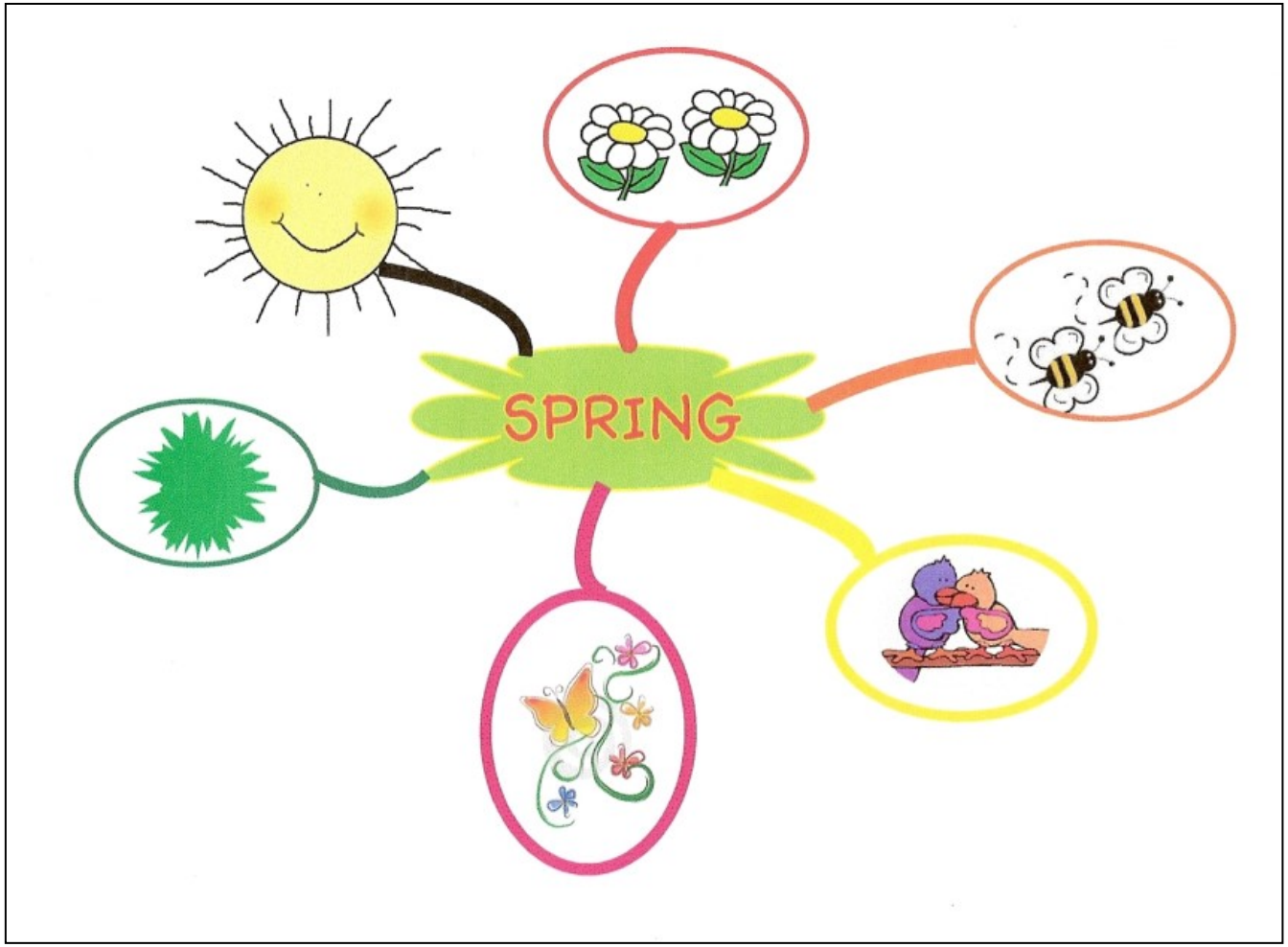
- **mind map** (rom. ***hartă mentală***) –
  - ***diagram*** that represents words, ideas, tasks and other interconnected elements, diposed around a main keyword or idea;
  - ***non-linear way*** to organize information in order to provide the natural flow of someone's ideas;
  - representation method for information and knowledge using a graphical hierarchical layout, based on:
    - *words* (font, colour);
    - *images* (representation, context);
    - *symbols* (shape, icon);
  - a diagram is used to visually organize information in a hierarchical manner, showing relationships among pieces of the whole; it is often created around a single concept.



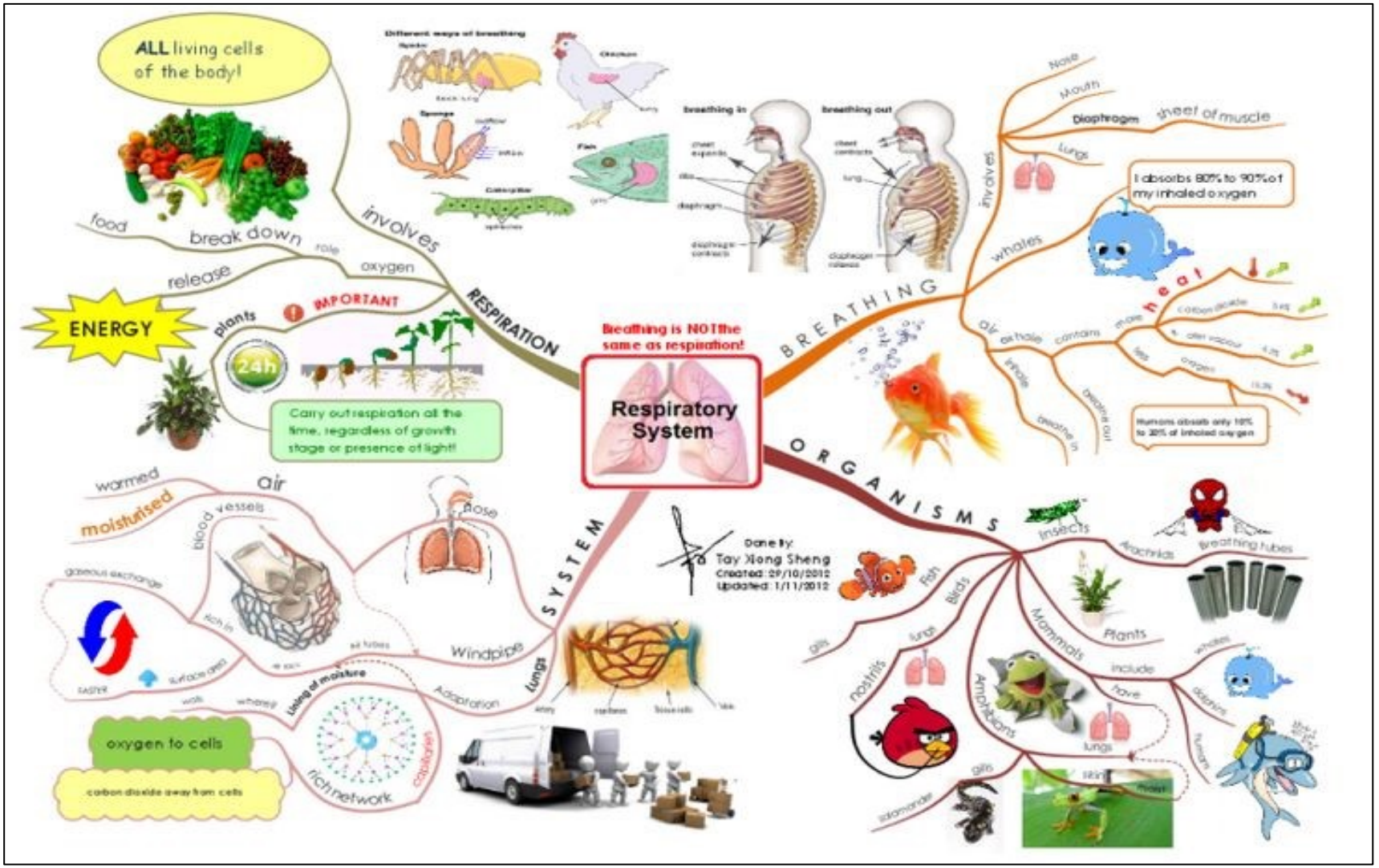
Mind Map. Example (1)



Mind Map. Example (2)

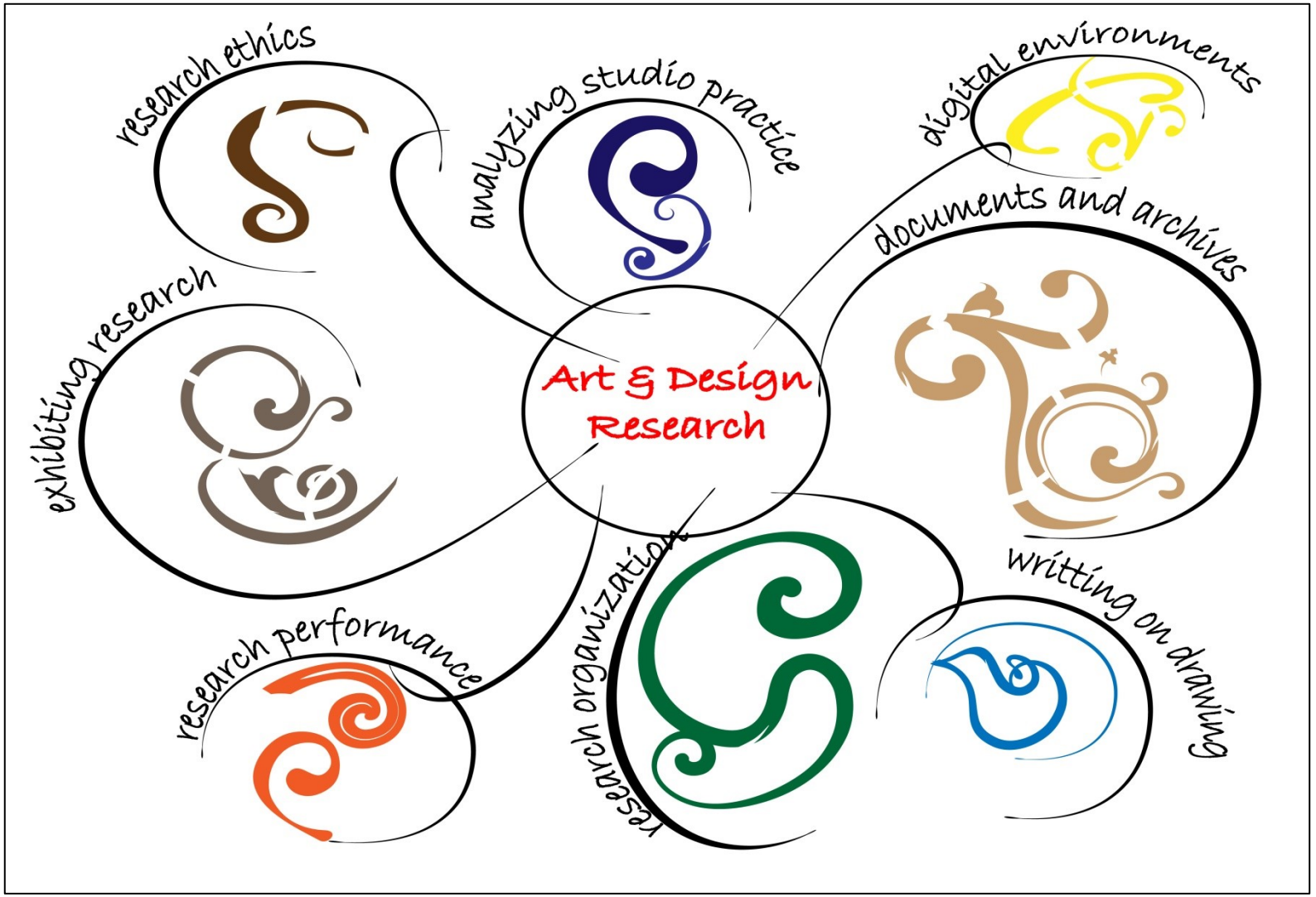


Mind Map. Example (3)

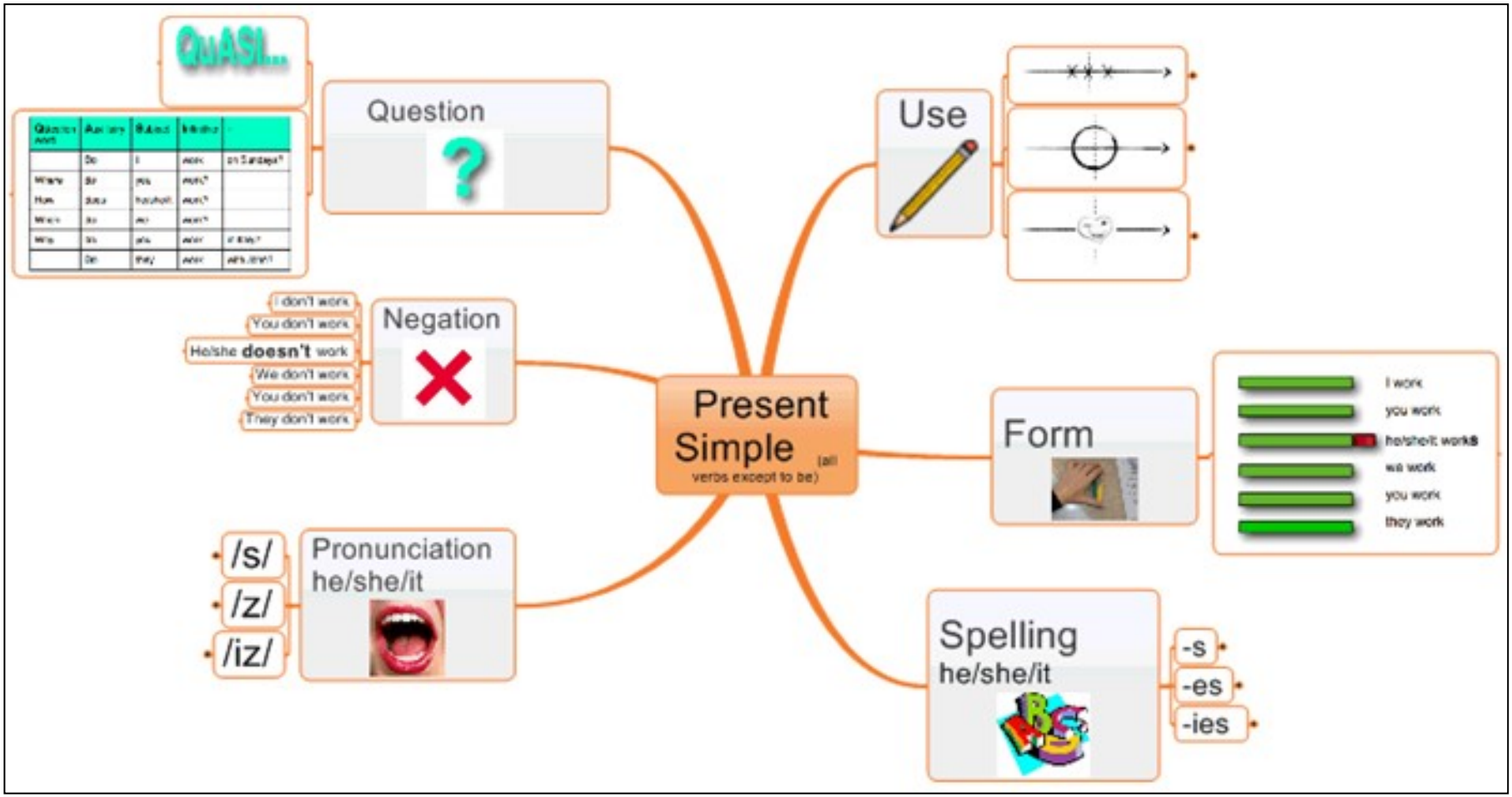


Mind Map. Example (4)

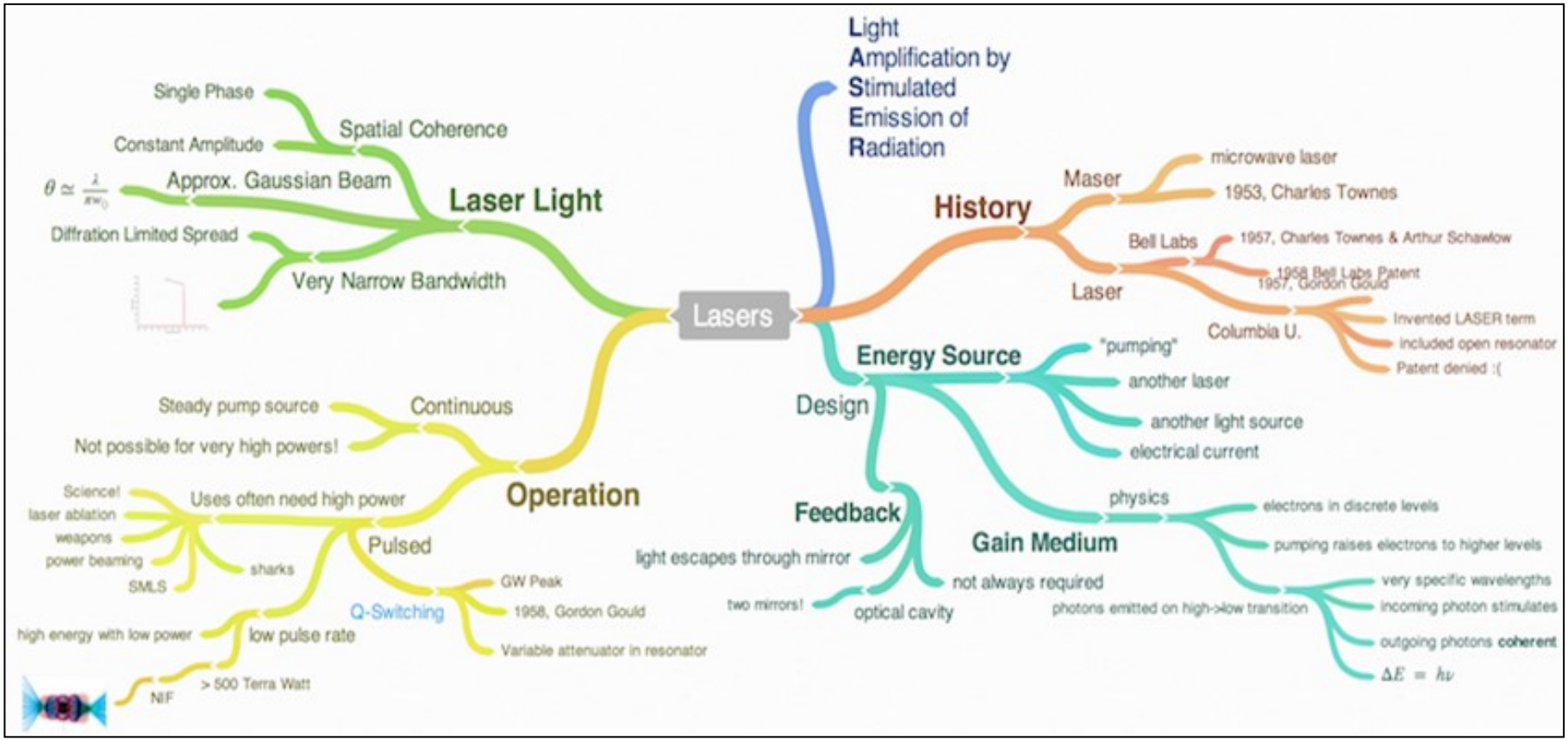
Mind Map. Example (5)



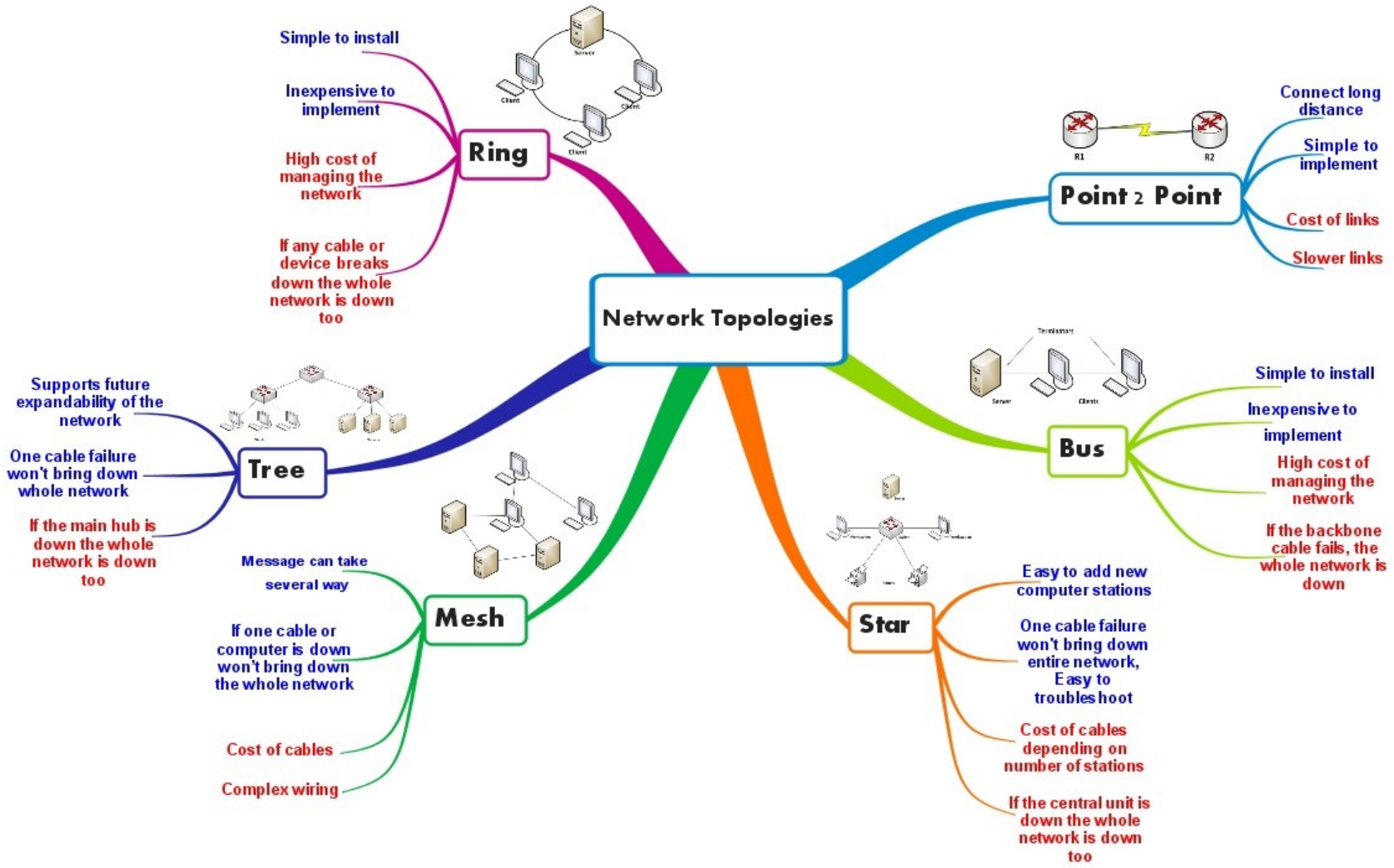
Mind Map. Example (6)



Mind Map. Example (7)

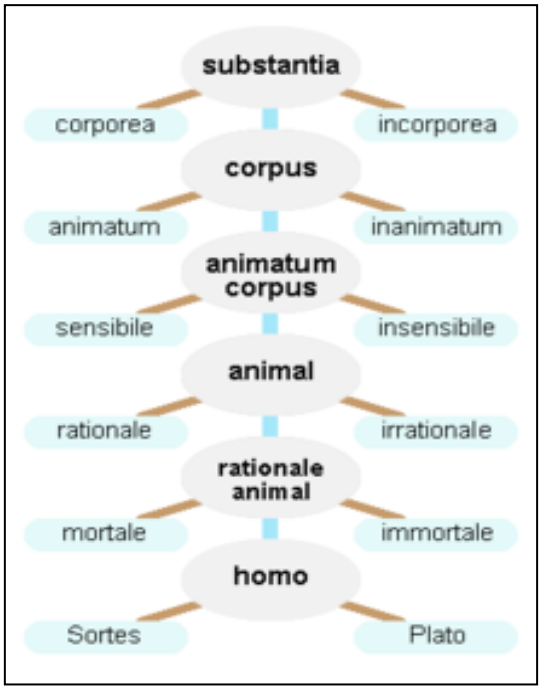


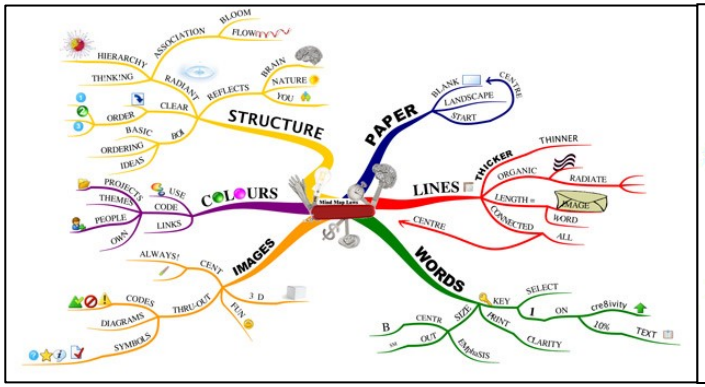
Mind Map. Example (8)

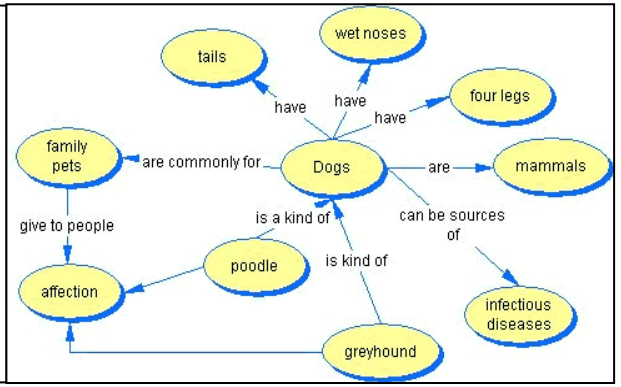


Mind Map. History

- 280b.C – Porphyry from Tyre –
  - Greek philosopher that graphically described Aristotel's categories;
- 14 century - Ramon Llull –
  - philosopher that used the same techniques;
- ~1950 – Allan M. Collins –
  - reţele semantice pentru descrierea relaţiilor dintre concepte;
- ~1960 – Ross Quillian –
  - concept networks;
- **~1970 – Tony Buzan –**
  - **mind maps;**







Mind Map. Advantages

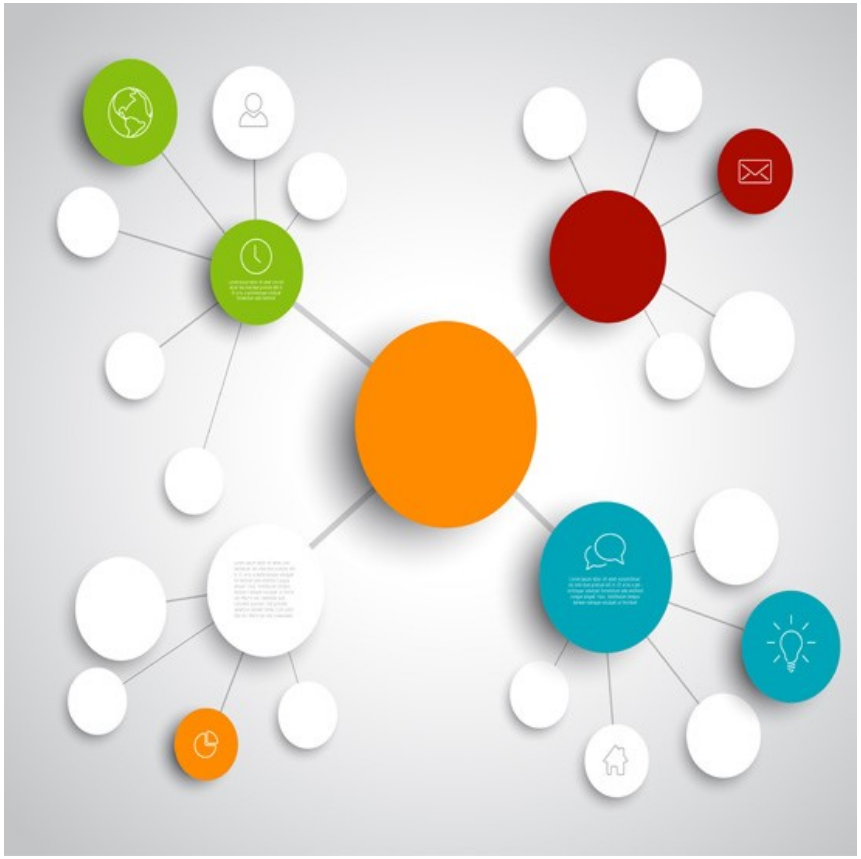
- Advantages:
  - easy to apply;
  - extensible;
  - enhances notes taking activity;
  - organizes ideas;
  - saves time (50%-95%) by using keywords;
  - favours creativity;
  - human brain receives visual stimuli together with the logical information;
  - information amount synthesized within one page;
  - improves rational thinking;
  - provides general view of the concept;

  indicates the way the human brain realize connection – thinking following an hierarchical and non-linear manner;

- Statistics:
  - 6x improves memory;
  - 83% from the learning process is a visual level;
  - 67% more persuasive than other presentation methods;
  - 80% more captivating by using colours;

Mind Map. Disadvantages

- Disadvantages:
  - it cannot include a large amount of text;
  - it requires time to elaborate, but this allows to revise and check the level of understanding;
  - excessive customization makes it difficult for others to understand it; it indicates the author's perspective though;
  - *it requires time to adapt from the linear describing system to the hierarchical one;*
  - there are mind maps that cannot be limited to a single page; adding new keywords becomes difficult since there is no available space.



Mind Map. Elaboration Steps

- 1. the main ideas is placed in the central part of the map;
- 2. braches are sketched starting from the main idea, while the associated keyword are identified;
- 3. sub-braches are sketched further from each keyword previously used;
- 4. images and/icons are added to the significant keywords;
- 5. connection between keywords are identified and added to the map;

- Basic rules:
  - use colours;
  - use line to connect keywords;
  - use images and/icons;
  - use meaningful keywords;

TOOLS

Online Tools

Desktop tools

Open Source Tools

Tools. Taxonomy (1)

- **software for creating mind maps:**
  - **online (web-based) with periodical subscription (3/6/9 months):**
    - **Mindomo.com (https://www.mindomo.com)** – the free version allows to create three mind maps at most;
    - **MindMeister.com (https://www.mindmeister.com)** – the free version allows to create three mind maps at most; it allows share, import, collaboration among users;
    - **Bubble.us (https://bubbl.us)** – it allows quick and easy creation of mind maps; after user registration, the created mind maps can be save, shared, etc;
    - **Mind42 (https://mind42.com)** – it allows to create online mind maps, collaboration among users;
    - **iMindMap for Web (https://app.imindmap.com/)** – it allows to create online mind maps based on an iMindMap account existance;
    - other tools: **Comapping, Mapul, SpinScape, Coggle;**

Tools. Taxonomy (2)

- **software for creating mind maps:**
  - **desktop (license based):**
    - **MindManager (https://www.mindjet.com/)** – free for 30 days; it allows to create mind maps for Windows and Mac users;
    - **iMindMap Desktop (https://imindmap.com/)** – free for 30 days; it allows to create mind maps for Windows and Mac users;
  - other tools: **Visual Mind (Windows), SMART Ideas (Windows, Mac), ThinkGraph (Windows), Topicscape (Windows), VisiMap (Windows), NovaMind (Windows, Mac);**

Tools. Taxonomy (3)

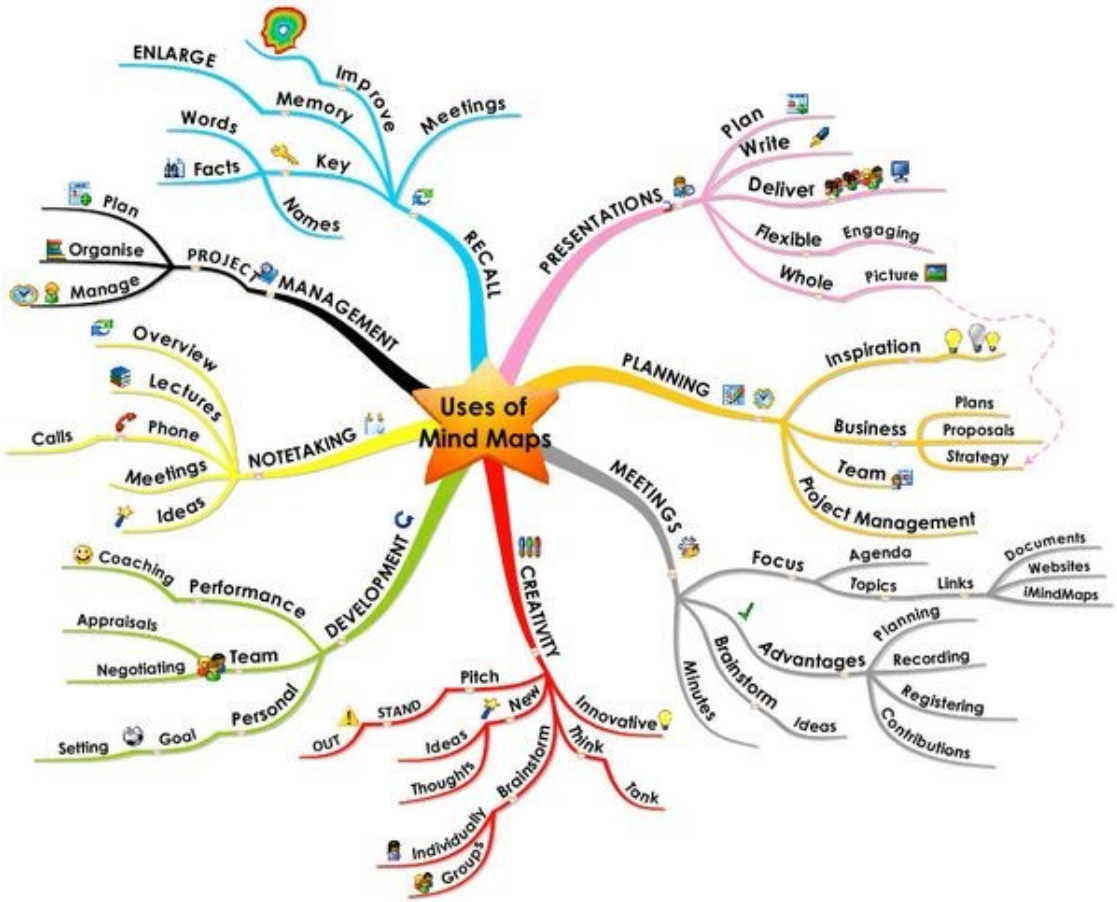
- **software for creating mind maps :**
  - **open source:**
    - **xMind (http://www.xmind.net)** – open source software for Windows, Mac, and Linux users with capabilities to create mind maps at personal and business level; both free and licensed versions are available;
    - **freeMind (http://freemind.sourceforge.net)** – Java application for creating mind maps for Windows and Mac users;
  - other tools: **DropMind, Edraw MindMap;**

APPLICABILITY

- Domains
- Examples
- Business Management
- Personal Development

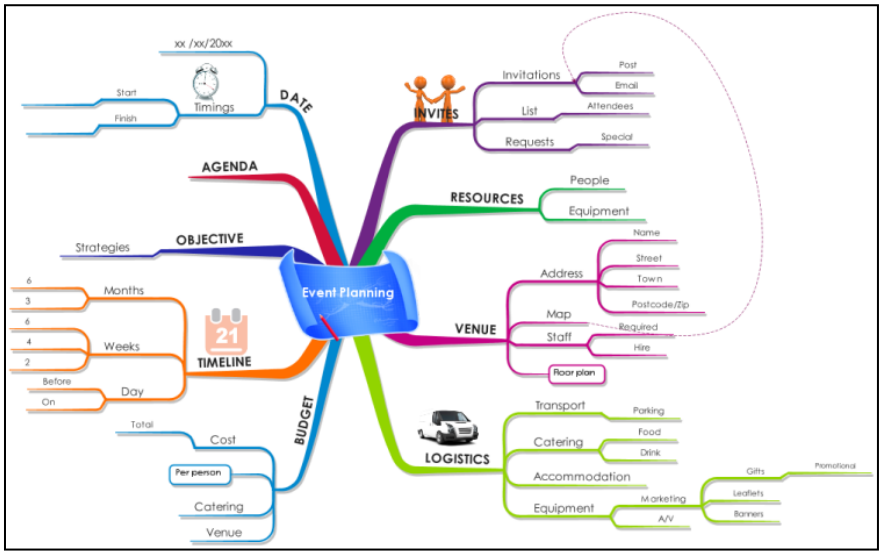
Mind Map Applicability. Domains

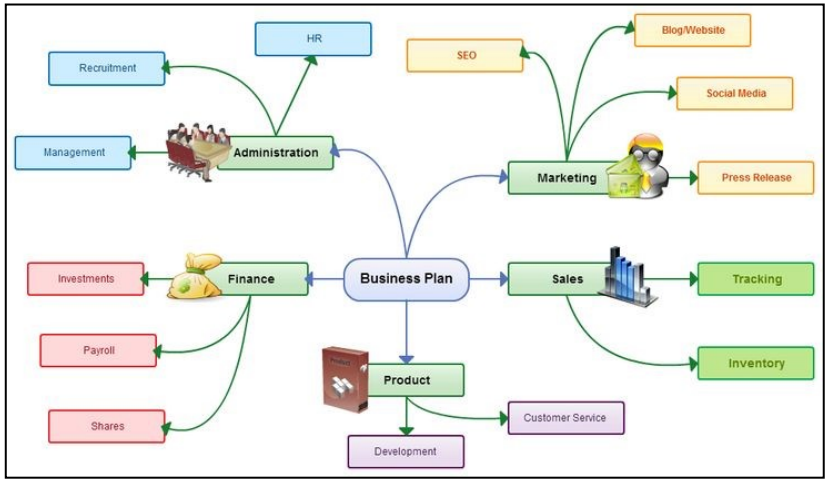
- applicability:
  - Brainstorming;
  - Study notes;
  - Summary elaboration;
  - Problem analysis and solving;
  - Planning;
  - Presentation;
  - Decision making;
  - Concept development;
  - Project management.

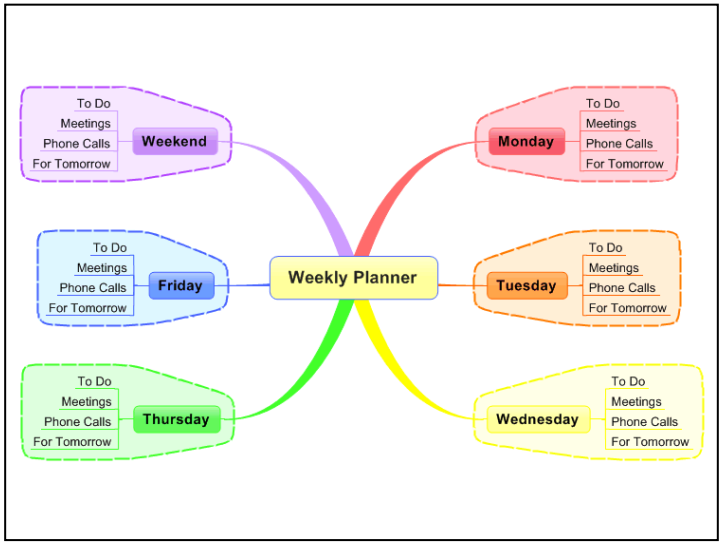


Mind Map Applicability. Example (1)

- Business management:
  - Weekly agenda/schedule;
  - Time management;
  - Project management;
  - Notes taking during meetings;
  - Presentation planning;
  - Event planning;

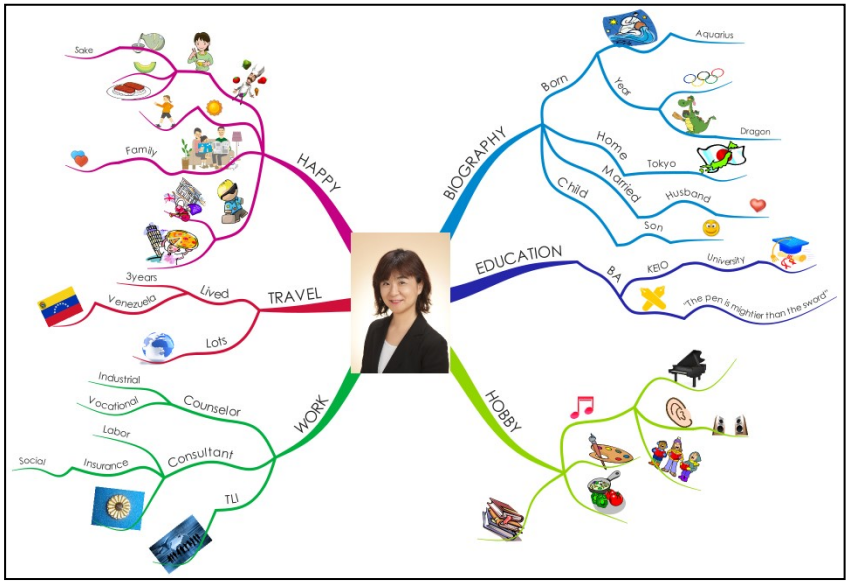


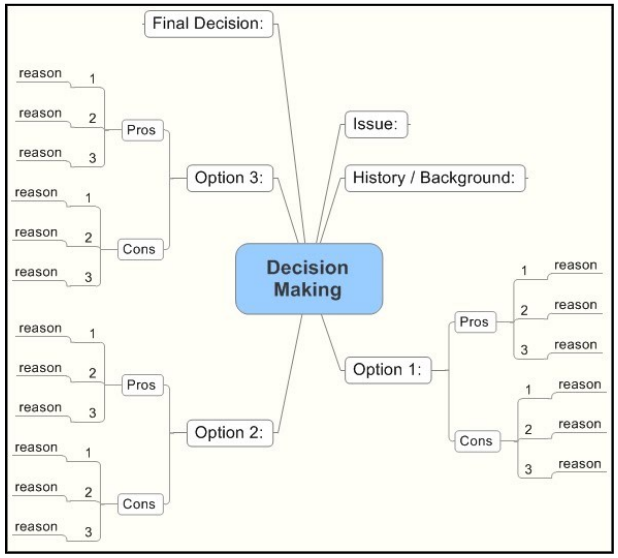


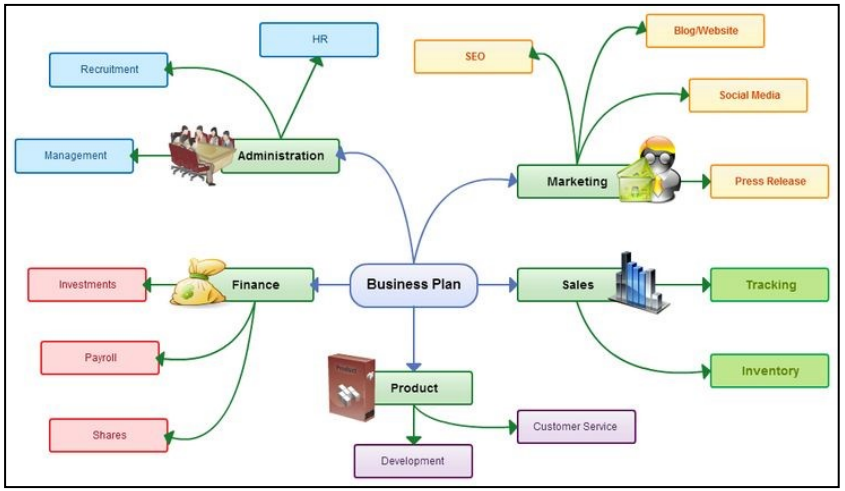


Mind Map Applicability. Example (2)

- Business management:
  - Ideas for the company blog;
  - CV- elaboration;
  - Web-site organization;

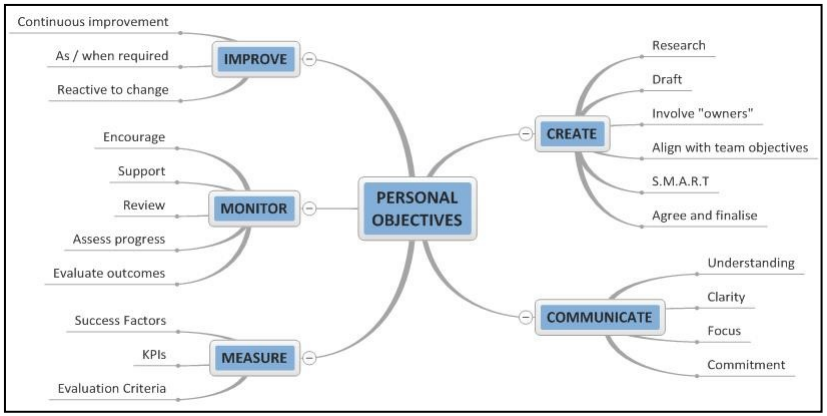


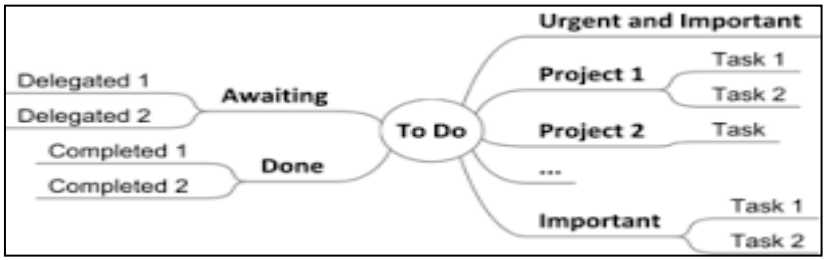


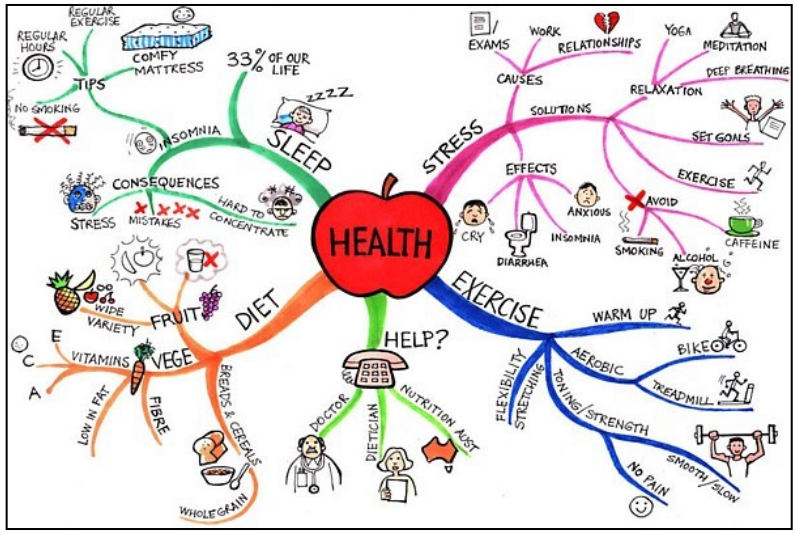


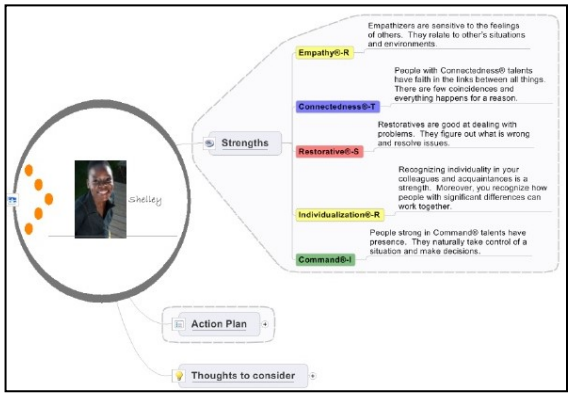
Mind Map Applicability. Example (3)

- Personal development:
  - Ability identification;
  - Goal prioritization;
  - Personal diary (monthly, annual);
  - Home project management;
  - Private activity planning;









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  - http://freemind.sourceforge.net/FreeMind%20User%20Guide%20by%20Shailaja%20Kumar%20(manual).pdf
- **Video**
  - https://www.youtube.com/watch?v=MlabrWv25qQ&eurl=http://members.optusnet.com.au/~charles57/Creative/Mindmap/
  - https://www.youtube.com/watch?v=33PCtkSlEf4
  - https://www.youtube.com/watch?v=FLiixvvOn7E
  - https://www.youtube.com/watch?v=uvnbKEHOQIY
- **Blogs**
  - http://ideamapping.ideamappingsuccess.com/IdeaMappingBlogs/
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