MIRANDA NET

Visual Learning

How and why does it work?

Learning has an integral visual component

- Theories of Visual Cognitive Tools (VCT) and Visual Representations (VR) are utilised in theories of Distributed Cognition.
- Distributed Cognition Theory sees the use of cognitive aids and artefacts – displayed information, tools and so on – as influencing thinking and the learning process.
- External artefacts can support, enhance, guide, canalise, constrain, offload, augment and transform mental processes and activities.

What are external artefacts?

- Include interactive cognitive tools
  - Mind tools, thinking tools, cognitive technologies.
- They can be deployed in a number of ways, with different affordances.
- They can represent information - Maintaining; Displaying - allowing information to be represented in different ways.

Interactive cognitive tools

- They are interactive and dynamic;
- serving as a mediating function between learner and the information;
- facilitating the performance of epistemic actions on representations of information.

The use of Visual Cognitive Tools (VCT)

- The affordances of VCT enable learners to perform reasoning and knowledge-based activities on information.
- Information can be seen in terms of structures, objects, concepts, ideas and problems.
- VCT act as partners in the process of cognition. The features enable learners to operate on information. They can:
    - Explore, investigate, deconstruct, decode, organise, analyse, evaluate, apply, elaborate and generate information.

Visual Representations (VR)

- Encode the causal, functional, structural, logical or semantic properties of information in a visual form.
- Allow learners to externalise, visualise, organise and model information.
- Learners use these VR as aids to thinking, reasoning, planning, problem-solving and exploring relationships and trends in information.