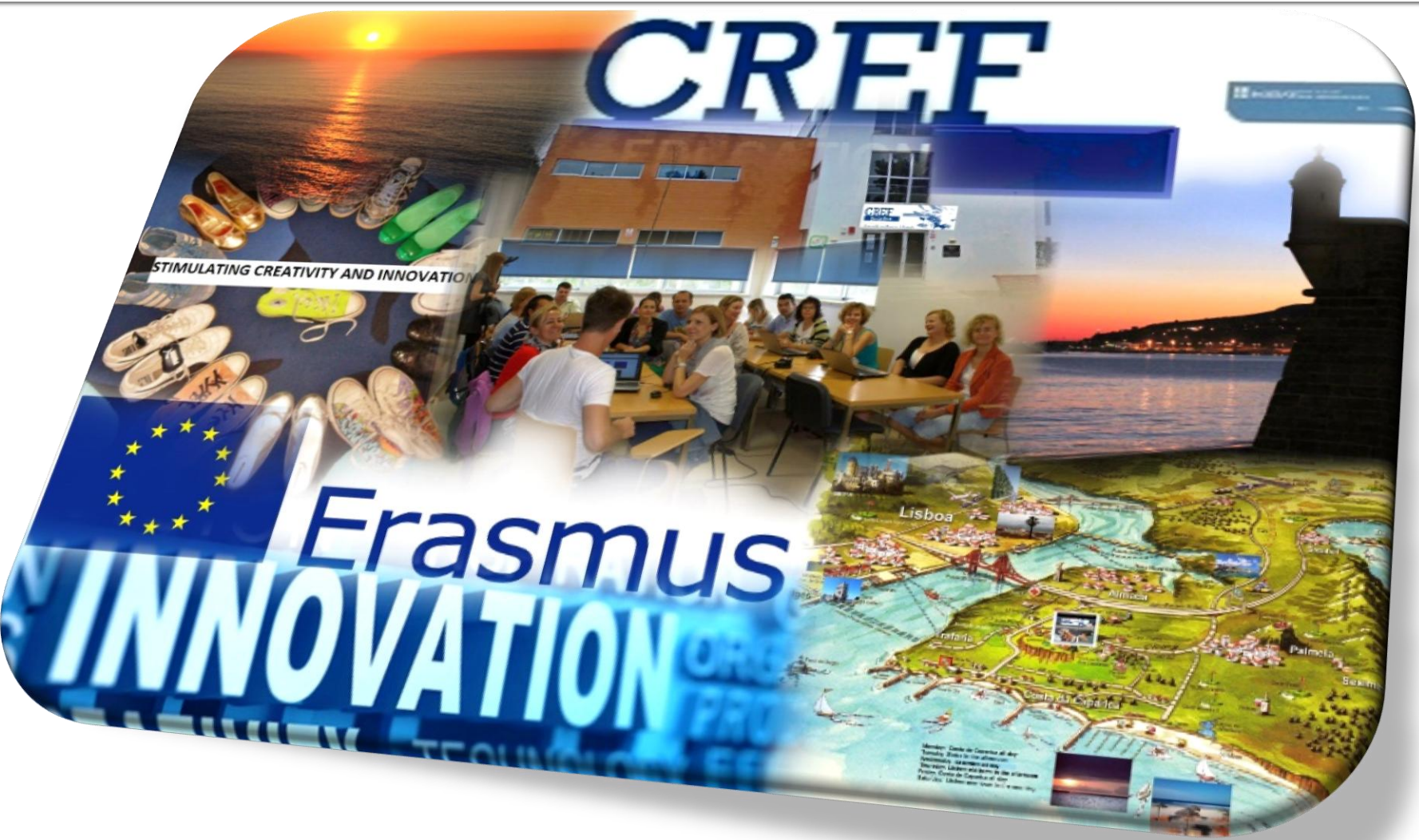


Stimulating Creativity and Innovation



Creativity and Innovation in the classroom



WHAT IS CREATIVITY?

'I define creativity as the entire process by which ideas are generated, developed and transformed into value. It comprises what people commonly mean by innovation and entrepreneurship.' John Kao, 1997

'Creativity is about liberating human energy.' Howard Gardner

'Creativity is the process of developing ideas that are original and of value. Creative intelligence is dynamic, diverse and distinct.' Sir Ken Robinson 2001



Creativity and Innovation

Without change there is no innovation, creativity, or incentive for improvement. Those who initiate change will have a better opportunity to manage the change that is inevitable.

(William Pollard)

Introduction

“To be at the forefront of this new world, Europe needs to become more creative and innovative ... The need for change and new initiative is urgent. Europe and its Member States must give full attention to creativity and innovation now in order to find a way out of the current stalemate.”

Creativity as a strategic challenge for education and training

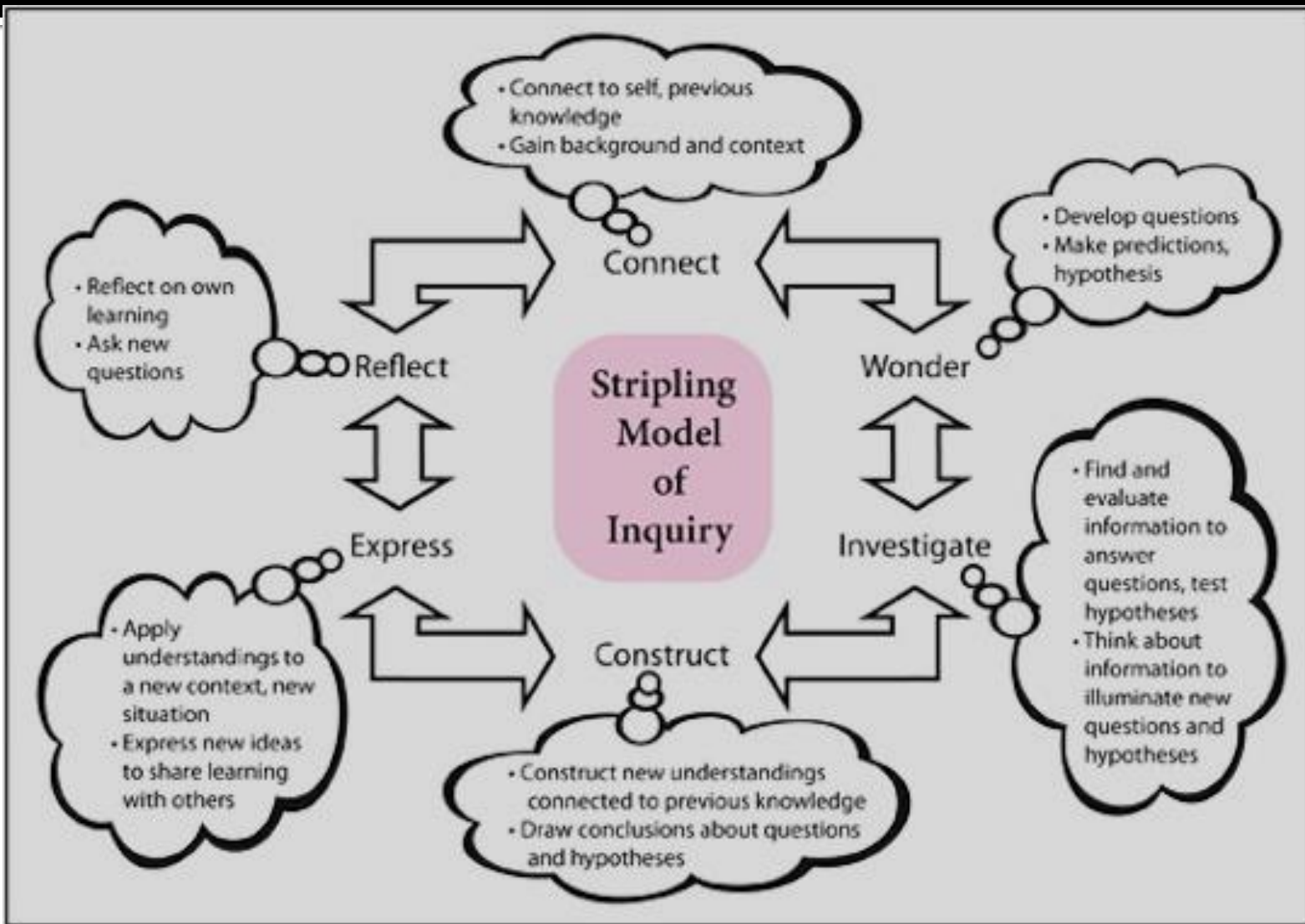
Enhancing creativity and innovation,
including entrepreneurship, at all levels of
education and training has been named
as one of the four strategic objectives of
European Education and Training 2020
(Council of the European Union, 2009b).

Creativity as a strategic challenge for education and training

It should encourage teachers to develop their roles as learning facilitators and promoters of creativity, and help teacher education institutions to respond to the new demands of the teaching profession.

Creativity as a strategic challenge for education and training

At the same time, it is recognized that fostering creative abilities and attitudes within schools also requires the support of an organizational culture open to creativity and the creation of an innovation friendly environment in general.



Stimulating Creativity and Innovation



We think too much about effective methods of teaching and not enough about effective methods of learning.

Introduction



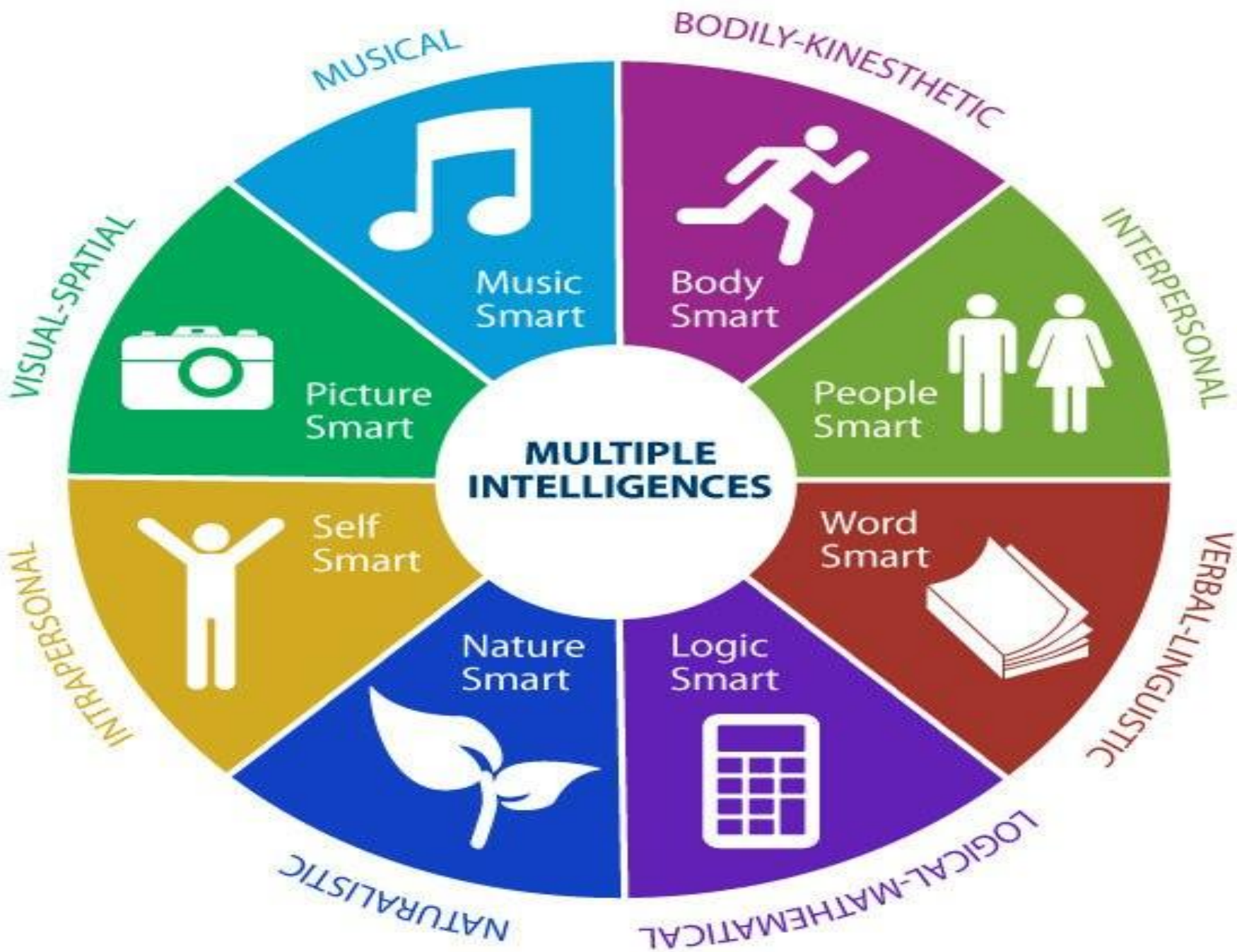
❖ Teaching must include two major components: sending and receiving information

❖ Any communication methods that serve this purpose, without destroying the objective, could be considered as innovative methods of teaching.

Introduction

Inserir collaborative working text

**Benefits of innovative methods :
to improve the learning process.
There are not students, anymore,
who just sit down and listen.
They want to explore, cut and paste**

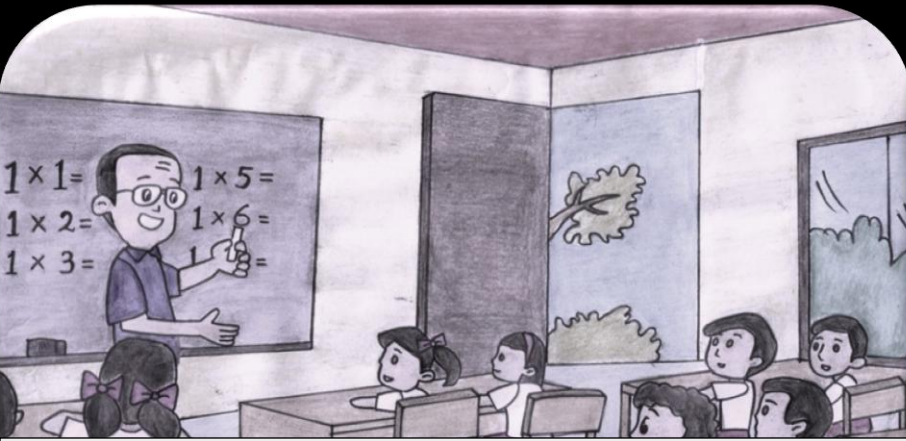


ANALYSIS OF TRADITIONAL METHOD OF TEACHING




- **Pre-technology education context :**
the teacher is the sender or the source.
- **The educational material is the information or the message.**
- **The student is the receiver of the information.**
- **The delivery medium: chalk-and-talk” method overhead projector (OHP) transparencies.**
- **In such a lecture students assume a purely passive role and their concentration fades off after 15-20 minutes.**

LIMITATIONS



- ✓ Teaching in the classroom, using chalk and talk, is “one way flow” of information.
- ✓ Teachers often continuously talk for about an hour without knowing students response and feedback.
- ✓ The material presented is only based on lecturer notes and textbooks.

LIMITATIONS

- 
- ✓ **There is insufficient interaction with students in the classroom.**
 - ✓ **More emphasis has been given on theory without any practical and real life time situations.**
 - ✓ **Learning from memorization but not understanding.**

Innovative Methods of Teaching

I hear and I forget.
I see and I believe.
I do and I understand.

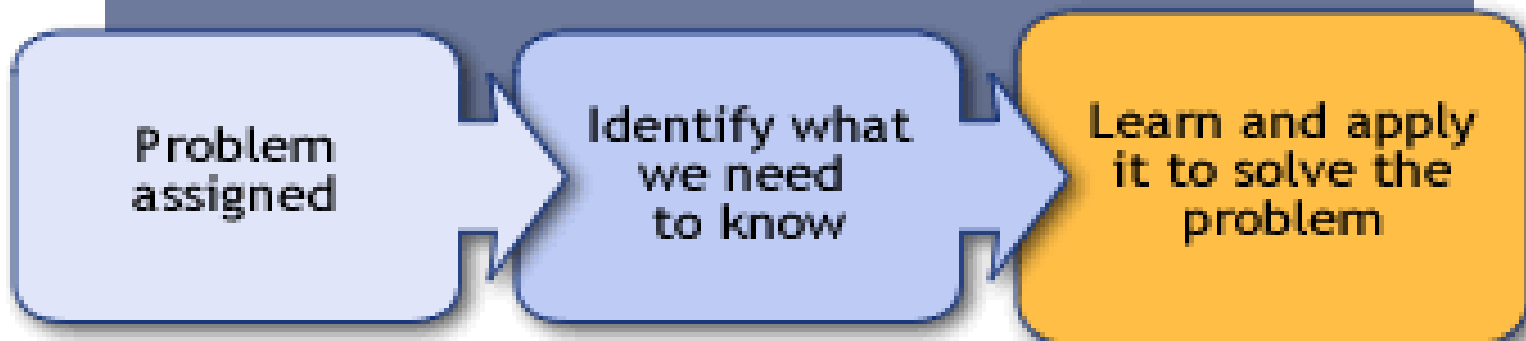
- Confucius

Innovative Methods of Teaching

Traditional Learning



Problem Based Learning (PBL)



MULTIMEDIA LEARNING PROCESS

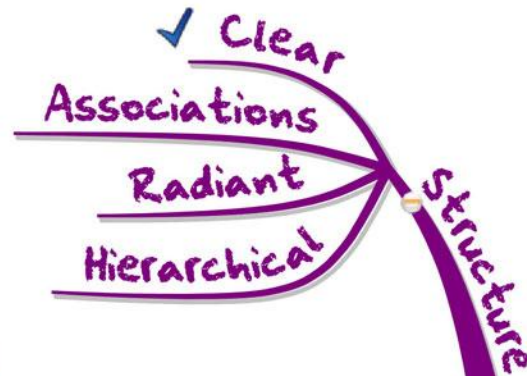
- Text
- Images
- Audio
- Video
- Animation

MIND MAP

- Mind Mapping is a technique that can help you to learn more effectively, improve your memory, come up with new creative ideas, and enhance your problem solving abilities.
- Mind Maps help you to remember information more easily, as it is presented in a format that your mind naturally finds easier to encode and recall.
- This is because in addition to the key information being presented you can also see the way that information fits together and so understand the structure of the topic.

MIND MAP

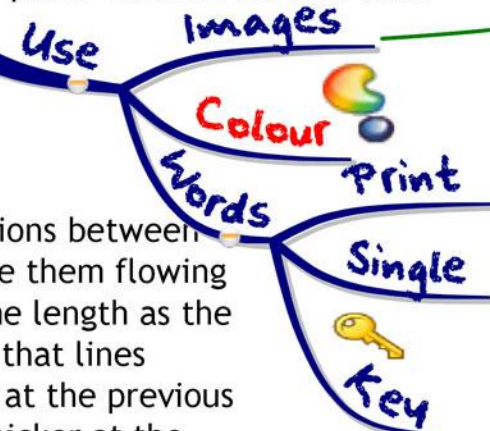
5. The structure that should develop will be a 'radiant hierarchy', with ideas radiating out from your central theme and main branches.



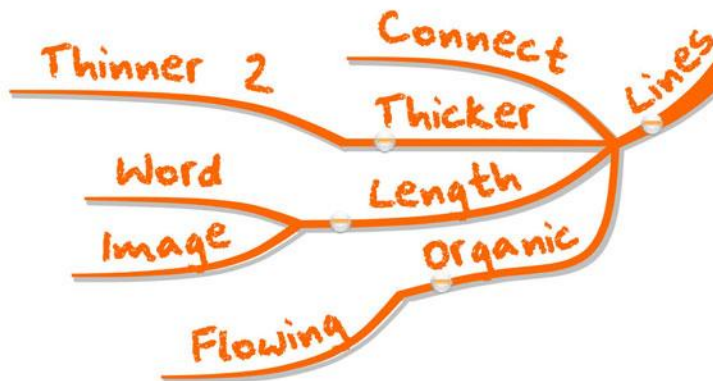
1. Start at the centre of a blank, landscape page, ideally with a colourful image to represent your subject.



2. Use words and pictures throughout your map. Wherever possible use single KEY words, printed along a line. Each word or picture sits on its own line.



3. The lines make the associations between ideas as clear as possible. Make them flowing and organic, each line the same length as the word or image. Always ensure that lines connect to the end of the line at the previous level. Typically lines will be thicker at the centre and thinner further out.



4. Experiment with different ways of linking and emphasising different aspects. Use highlighters, codes and arrows as necessary.



TEACHING WITH SENSE OF HUMOUR



- **Laughing is a natural, universal phenomenon, with beneficial effects, both physical and psychological.**
- **Everyone loves a teacher with an infectious sense of humor, a cordial relationship and ability to relax people and reduce tension.**

TEACHING WITH SENSE OF HUMOUR

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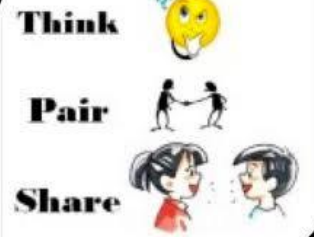
“Why is it important for today’s kids to learn algebra? Because *I* had to learn this junk in school and now it’s *your* turn, that’s why!”

Cartoon

Advertising strategy

Students enjoy humor
In all its forms

The Think-Pair-Share strategy



The think, pair, share strategy is a cooperative learning technique that encourages individual participation and is applicable across all grade levels and class sizes. Students think through questions using three distinct steps:

1.Think: Students think independently about the question that has been posed, forming ideas of their own.

2.Pair: Students are grouped in pairs to discuss their thoughts. This step allows students to articulate their ideas and to consider those of others.

3.Share: Student pairs share their ideas with a larger group, such as the whole class. Often, students are more comfortable presenting ideas to a group with the support of a partner. In addition, students' ideas have become more refined through this three-step process.

Reciprocal Teaching



Reciprocal Teaching

Reciprocal teaching refers to an instructional activity that takes place in the form of a dialogue between teachers and students regarding segments of text. The dialogue is structured by the use of four strategies: summarizing, question generating, clarifying, and predicting. The teacher and students take turns assuming the role of teacher in leading this dialogue.

Reciprocal teaching is most effective in the context of small-group collaborative investigation, which is maintained by the teacher

TAPPS-Thinking Aloud Pair Problem-Solving

The Tapps strategy is a method of verbalizing problem-solving thinking to a listening partner. Using this strategy, students rehearse the concepts, relate them to existing knowledge, and produce a deeper understanding.

- 1) Students work in groups of 4 to solve a problem.
- 2) One pair are the problem-solvers and the other pair are the listeners.
- 3) The problem solvers verbalize everything they are thinking as they work on a solution; the listeners encourage and offer suggestions if the problem solvers get stuck.
- 4) The roles are reversed for the next problem.

Grid-group cultural theory

The grid dimension describes how different people are in the group and how they take on different roles. At one end of this spectrum people are relatively homogeneous in their abilities, work and activity and can easily interchange roles. This makes them less dependent on one another.

At the other end, there are distinct roles and positions within the group with specialization and different accountability. There are also different degrees of entitlement, depending on position and there may well be a different balance of exchange between and across individuals. This makes it advantageous to share and organize together.

Collaborative Writing



Collaborative Writing Assignments

Collaborative groups draw upon the strengths of all their members. Although one student may be stronger in critical thinking skills, another may excel in organizing. By working in groups, students learn from each other while they complete assigned tasks.

More and more workplace activities involve project teams. Giving students opportunities to work collaboratively on academic projects can help to prepare them for the advantages of collaborative work on the job.

Students working in collaborative groups can take advantage of group members for built-in peer review as they complete writing projects. Not least important, collaborative writing assignments usually entail much less grading time for the teacher.

Brainstorm in the classroom

Use WORDL to this strategy

Brainstorm

What do you know about the ways students learn?

Start with your clearest thoughts and then move on to those that are kind of out there!

Brainstorm in the classroom

Brainstorm is an excellent teaching strategy to generate ideas on a given topic. Brainstorming helps to promote thinking skills. When students are asked to think of all things related to a concept, they are really being asked to stretch their thinking skills

Brainstorming promotes success for students

Brainstorm



The use of laptops in the classroom



It`s only a useful tool but it doesn`t substitute the teacher and is needed a methodology to use it...

The use of technology in the classroom

- The best way to help students master these skills is to change HOW we teach and learn in our classrooms.
- Technology is a perfect vehicle for facilitating this. But this isn't about learning how to use technology or even teaching with technology tools, it is about **students creating and constructing with technology.**

The use of technology tools in the classroom

- We help students build creativity and critical thinking by the types of questions we ask them to respond to. With all of the information that can easily be found online, we no longer need to have students think **of** things, but think **about** them.
- Ask students to help solve a problem and let them share a solution in the form of a digital story, video journal or interactive game.

TEACHER : THE GREATEST INNOVATOR

Anyone who stops learning is old, whether at twenty or eighty. Anyone who keeps learning stays young.

To teach is to learn twice.

Teachers should guide without dictating, and participate without dominating.

The critical factor is not class size but rather the nature of the teaching as it affects learning.

LEARNING NEVER ENDS