

DUAL CODING WITH TEACHERS



SUMMARY OF
INTRODUCTORY
PRESENTATION

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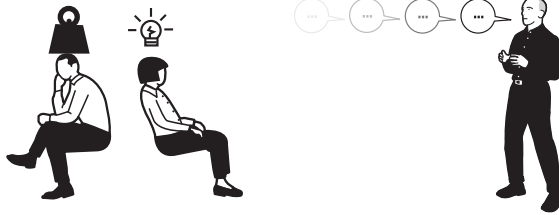
People learn better from graphics and words than from words alone.

RICHARD E MAYER, FORWARD TO GRAPHICS FOR LEARNING, CLARK & LYONS, 2004



CONCLUSION

PROBLEM 1



THE TRANSIENT INFORMATION EFFECT

Whenever a teacher orally explains something to a class or a pupil, whenever pupils talk to each other or hear speech, the information presented is transient. By its very nature, all speech is transient.

JOHN SWELLER
COGNITIVE LOAD THEORY
SWELLER, AYERS & KALYUGA
2011



Modern Europe Project

Jenny is head of the Humanities faculty. Fatima is the head of the History department. Tom, Joe and Sue work for Fatima. Harry is the head of the Geography department. Jo, Chaz and Tarnia report to Harry. Sue, Jo, Chaz and Harry are working together on the joint Modern Europe Project



Which people are not involved with the Modern Europe project?

COMPUTATIONAL INEFFICIENCY

Diagrams provide 'computational advantage' compared to text because they support information search and enable viewers to extract information by relying on automatic, perceptual processes.

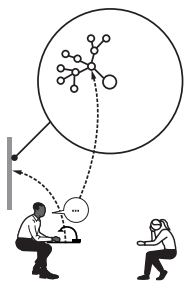
IONNA VEKIRI
WHAT IS THE VALUE OF GRAPHICAL DISPLAYS IN LEARNING? EDUCATIONAL PSYCHOLOGY REVIEW, Vol 14, No3 Sept 2002 REVIEW, Vol 14, No3 Sept 2002



PROBLEM 2

A SOLUTION

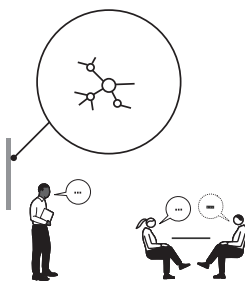
1



**TEACHER
CONSTRUCT AND EXPLAIN
YOUR VISUAL**

Draw a graphic organiser a branch at a time. As you construct it, explain your thinking regarding its connections and hierarchy. When the branch, or part, of the diagram, is complete direct your students to copy it into their books.

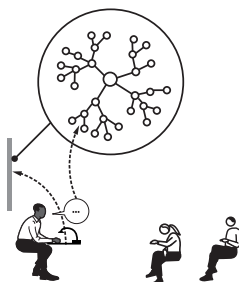
2



**STUDENTS
EXPLAIN THE BRANCH**

Direct students to work in pairs, one explaining the diagram to the other. Establish a rule of each keyword on the visual having to be explained with a minimum of two, or three, full sentences. Pairs swap roles, with the explainer now becoming the listener, and vice versa.

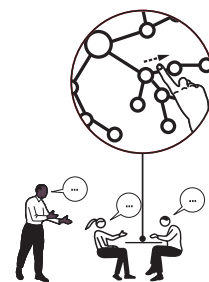
3



**STUDENTS
CONTINUE AND COMPLETE
THE PROCESS**

Continue to explain the topic at hand, its underlying structure and how it is arranged spatially in the diagram. Repeat the process where the students copy the branch and explain it back to their peer, until the whole diagram is complete in this way.

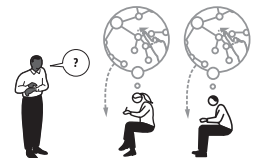
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**STUDENTS
RECOUNT THE WHOLE
VISUAL**

In pairs, students recount the whole visual to their partner. When complete, the pairs switch roles. The listener can ask question, the How? and Why? of elaborative interrogation. Direct the students to trace the line with their index finger as they elaborate on the key words.

5



**STUDENTS
REDRAW THE VISUAL
FROM MEMORY**

Ensure all copies of the map — yours and theirs — are put away, not in view. Direct the students to work alone and redraw the map completely from memory. Suggest they can attempt to replay their explanations in their minds, as well as tracing their index finger on the paper, to trigger recall.

MODEL, RECOUNT AND REDRAW