Good morning!

April 2019

1

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1

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April 2019

1

High-performance + well-being in a collaborative bilingual education environment

Peeter Mehisto
University College London Institute of Education

2

Intended outcomes

I hope you will have:

- an increased interest in exploring one driving theoretical principle
- picked up something practical for later use.

Structure

some unexpected research results

assessment literacy

outcomes

scaffolding & cognitive load

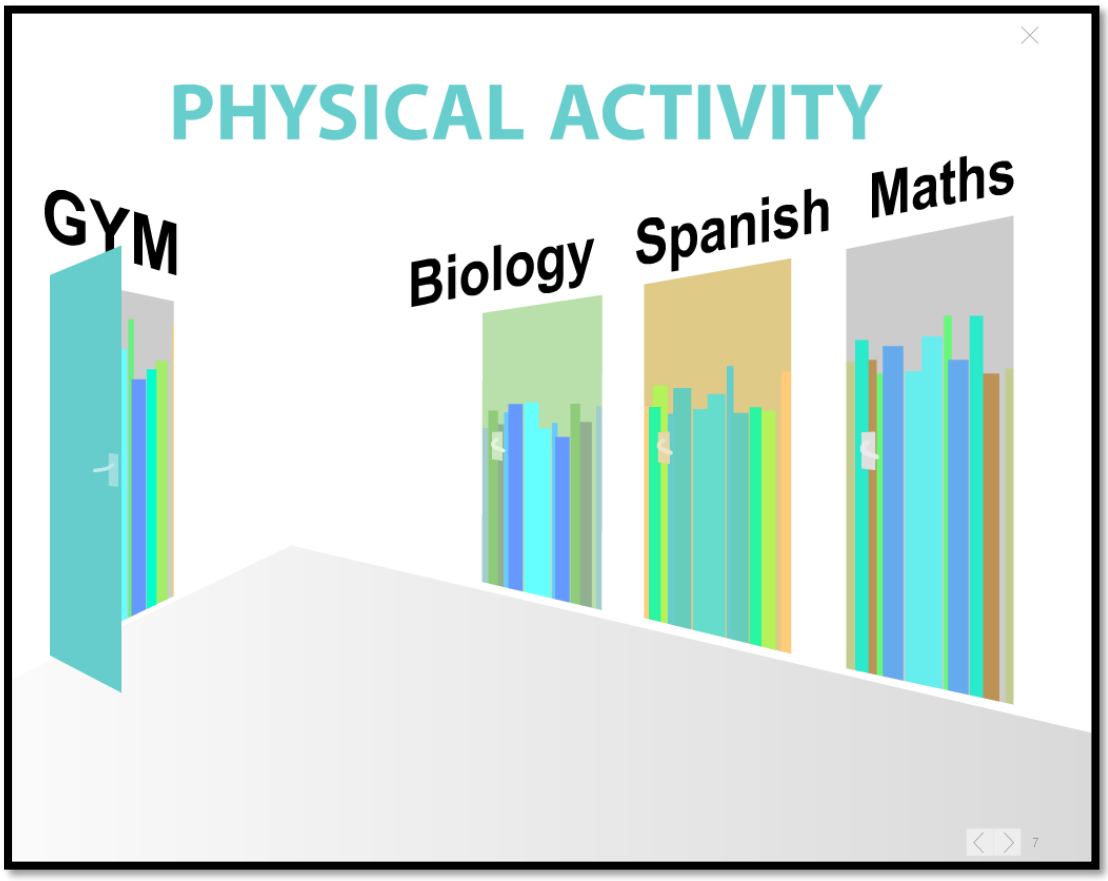
Bilingual education does not operate in a vacuum.

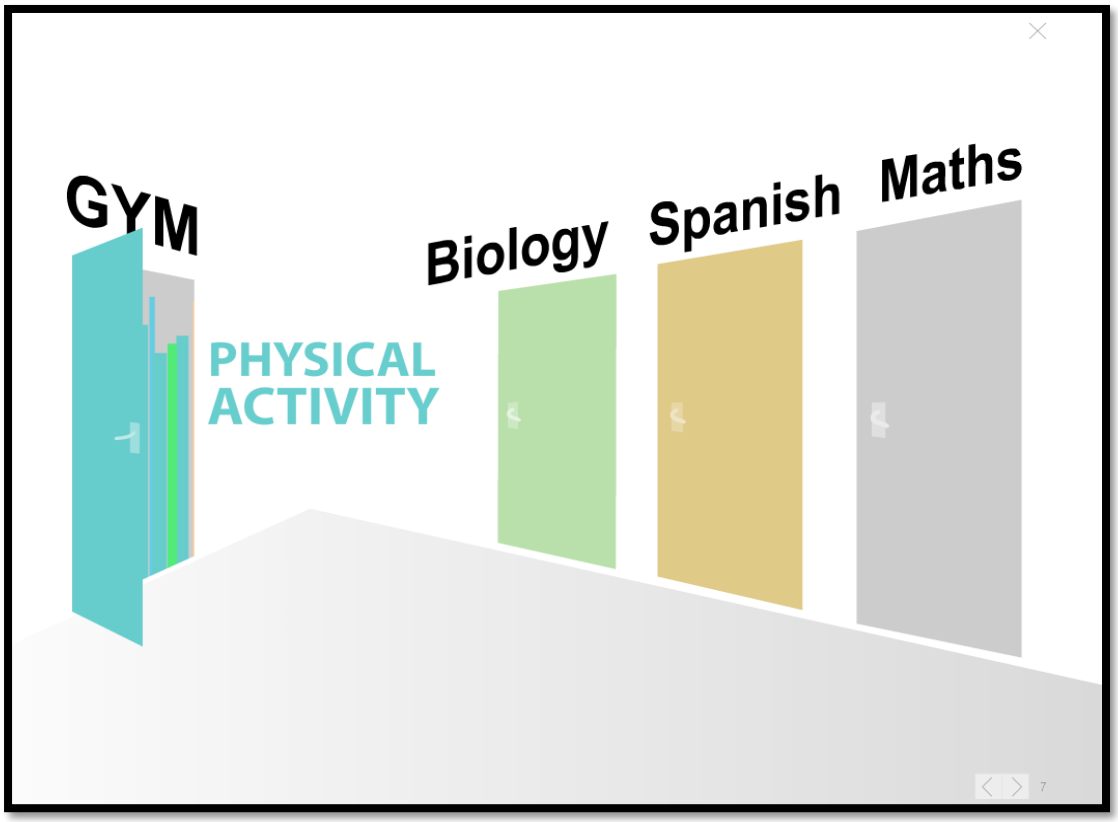
5

some unexpected research results

well-being

6


PHYSICAL ACTIVITY
GYM
Biology
Spanish
Maths


GYM
PHYSICAL ACTIVITY
Biology
Spanish
Maths

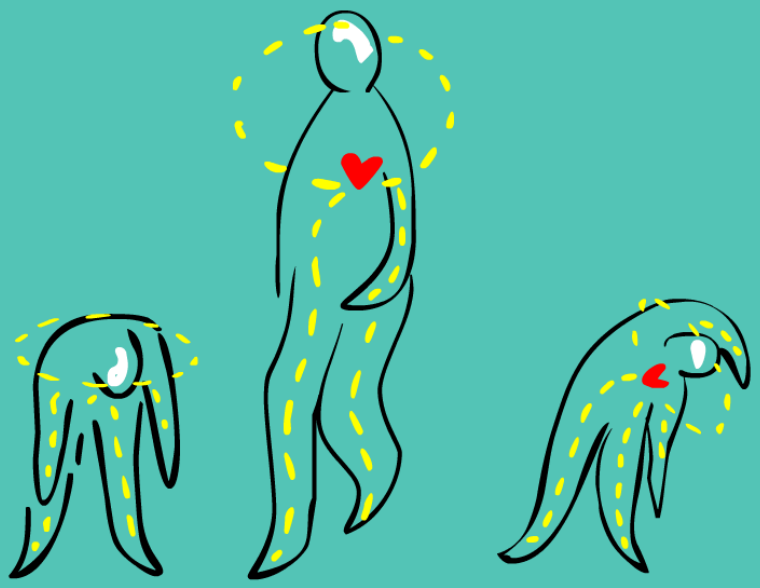
WHY? – 1

Evidence suggests that physical activity enhances learning and educational achievement.

Bailey (2018), Donnelley et al. (2016), Cone et al. (2009), Young-Overby et al. (2005).

8

The body aids, expresses and extends thinking.



(Immordino-Yang and Damasio, 2007; Bailey et al., 2018)

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WHY? – 2

MODERATE-TO-VIGOROUS PHYSICAL ACTIVITY

- increased on-task behaviour by 5.5%
  (Goh, 2017)
- increased on-task behaviour by 10.5%
  (Howie, 2014)

WHY? – 3

Increase in:

- intrinsic motivation
- perceived competence, and
- effort.

No increase in:

- perceptions of pressure
- negative view of lesson.

(Vazou et al., 2012)

WHY? – 4

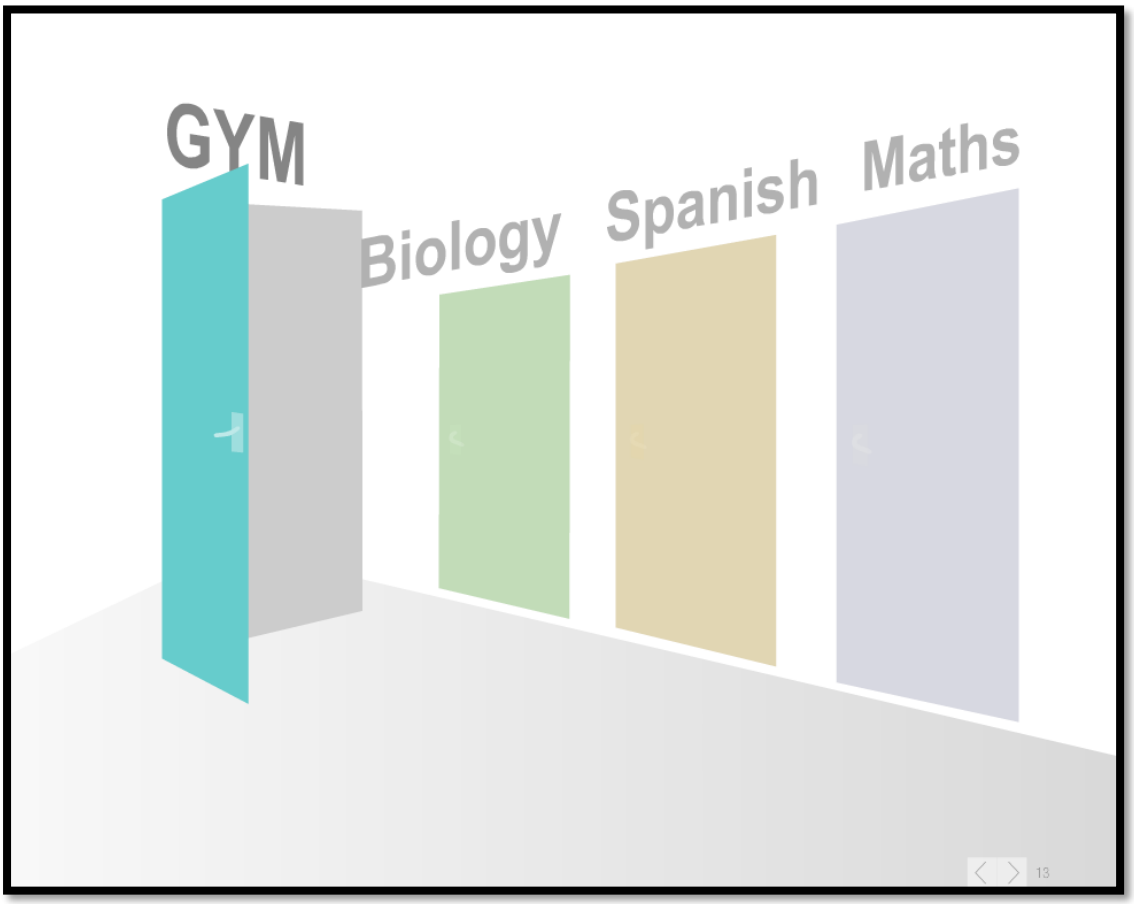
Data from 105 countries

- 4/5 of adolescents did not reach recommended levels of physical activity

(Hallal et al., 2012).

- 60% of world population exposed to health risks due to inactivity

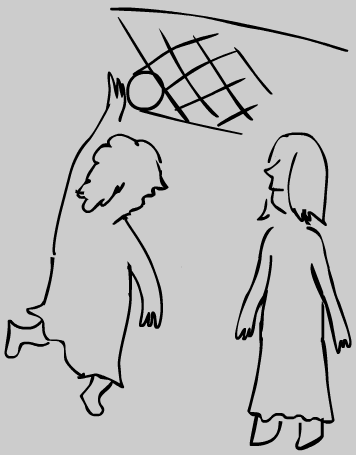
(World Health Organisation, 2017)



CO-OPERATIVE PHYS. ED.

13

CO-OPERATIVE PHYS. ED.



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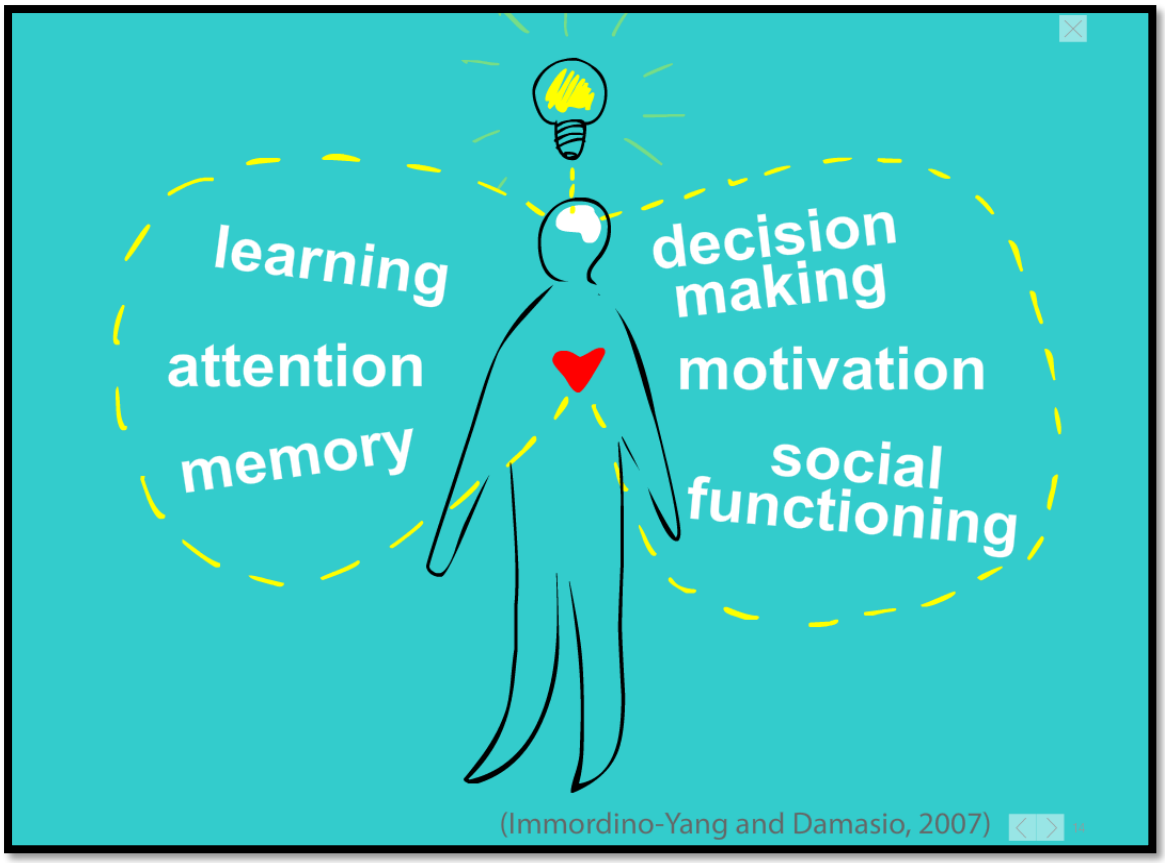

WHAT ARE SOCIAL & EMOTIONAL SKILLS?

- self-awareness
- self-management
- social awareness
- relationship skills
- responsible decision making

(CASEL, 2013)

BENEFITS OF SOCIAL & EMOTIONAL SKILLS

- 11% increase in academic achievement
  (Durlak et al., 2011, Sklad, et al., 2012)
- + improved physical health
  + less substance dependence
  + better personal finances
  + less criminal offending
  (Moffitt et al., 2011)

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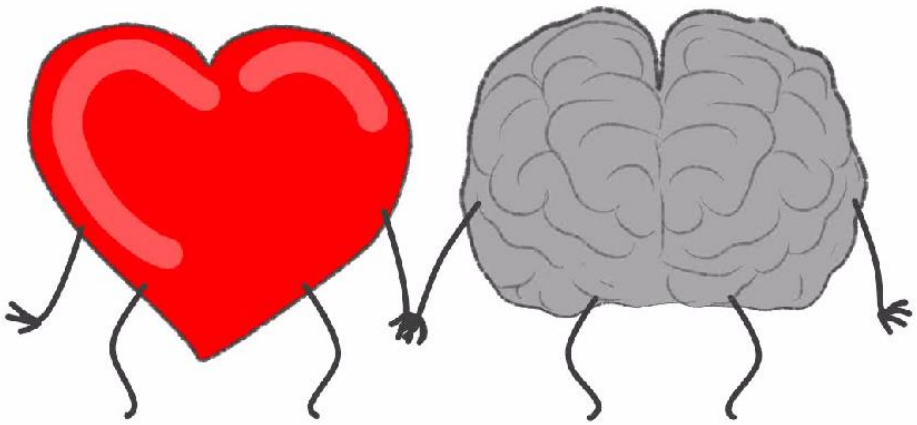

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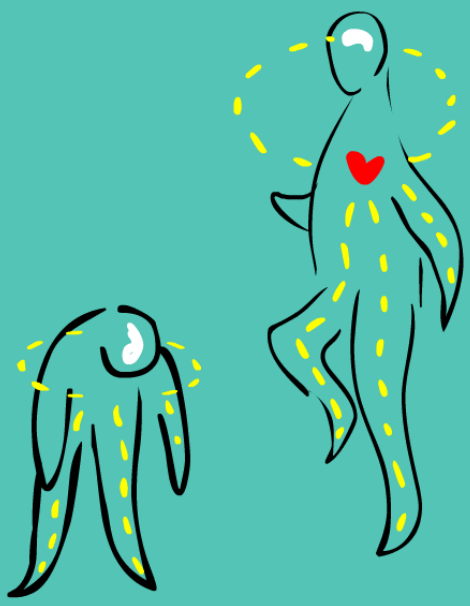

(Immordino-Yang and Damasio, 2007; Bailey et al., 2018)

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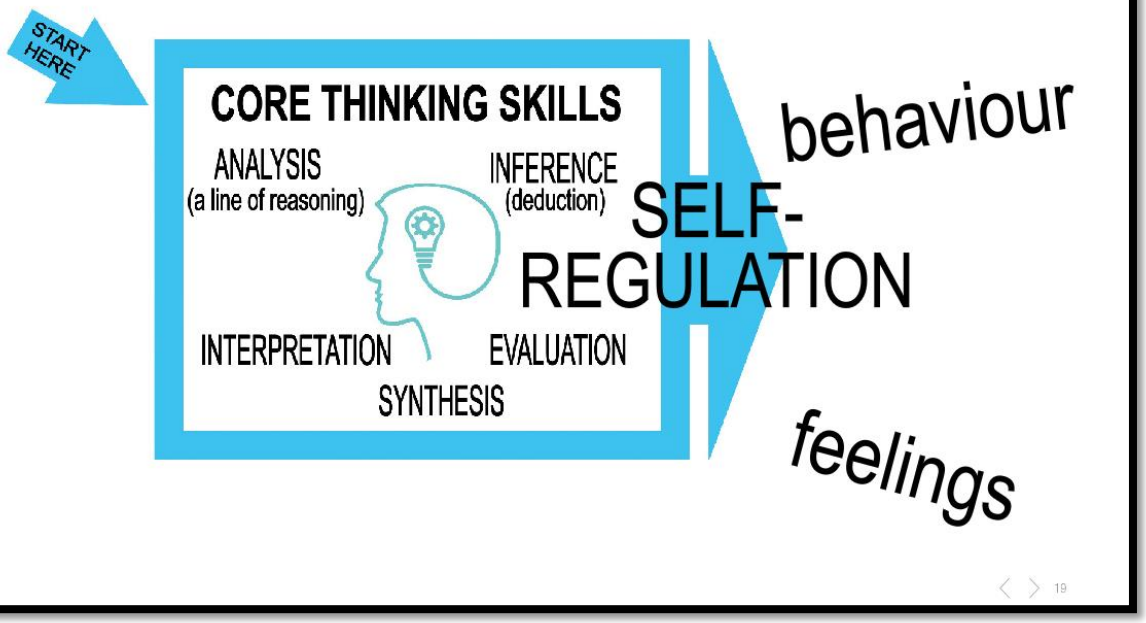

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HOW DO YOU SELF-REGULATE?

- self-determined goals & standards (what, why, how)
- self-management of time (what, why, how)
- self-monitoring (what, why, how)
- self-evaluation (what, why, how)
- self-rewards (what, why, how)

(Durlak et al., 2011; Sklad et al., 2012)

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TEACHING EMOTIONS

21

YALE CENTER FOR EMOTIONAL INTELLIGENCE

Yale Ruler for Emotional Literacy

R ecognizing emotions in self and others

U nderstanding the causes and consequences of emotions

L abeling emotions accurately

E xpressing emotions appropriately

R egulating emotions effectively

more unexpected research results

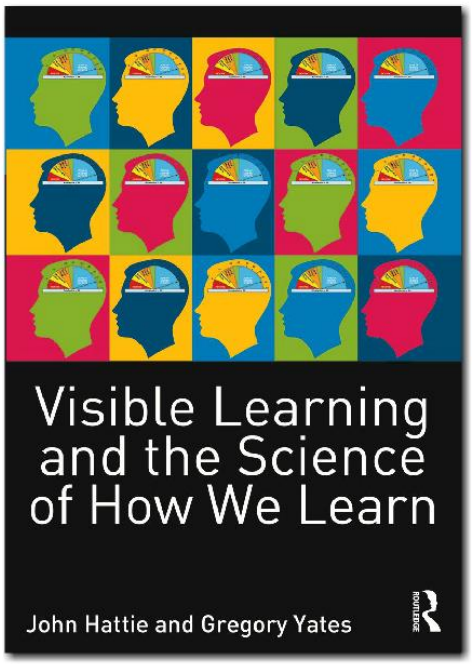
24

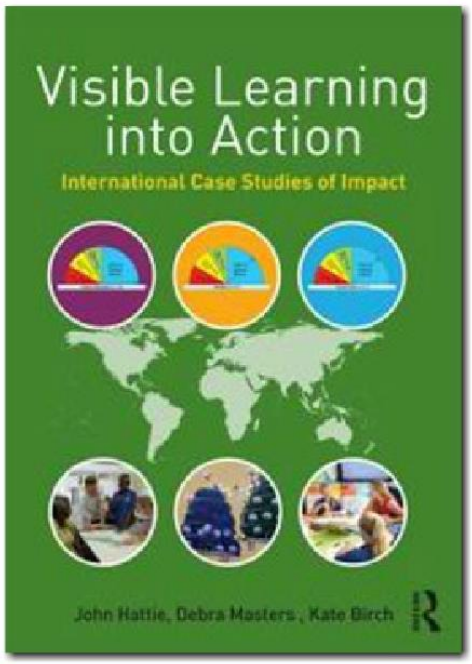
1,200+
Meta-studies

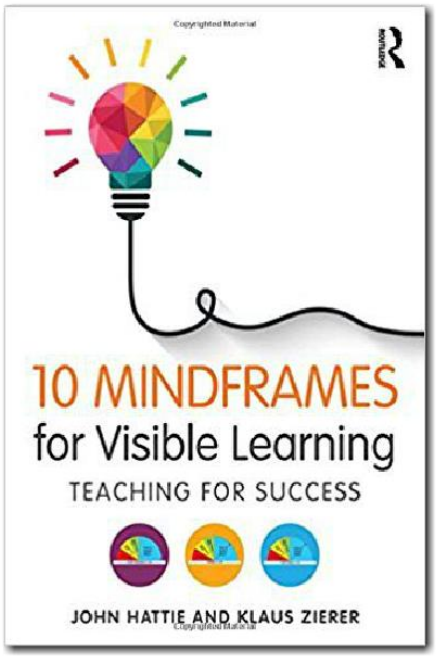
80,000+
Research articles

200,000,000+
Students

25


Visible Learning and the Science of How We Learn
John Hattie and Gregory Yates


Visible Learning into Action
International Case Studies of Impact
John Hattie, Debra Masters, Kate Birch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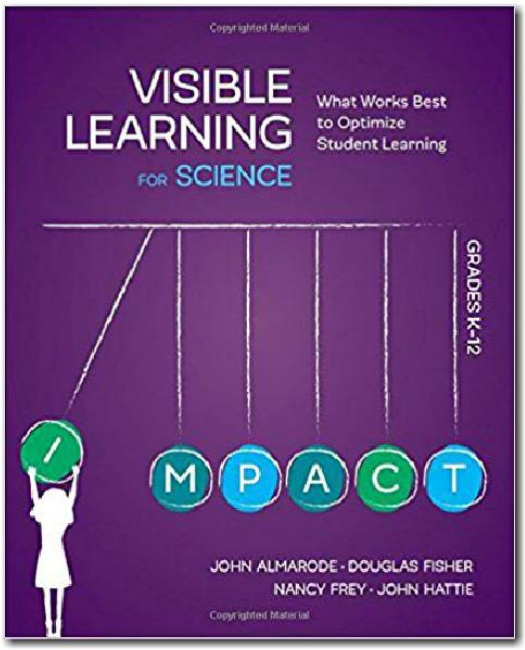
10 MINDFRAMES
for Visible Learning
TEACHING FOR SUCCESS
JOHN HATTIE AND KLAUS ZIERER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VISIBLE LEARNING
What Works Best to Optimize Student Learning
FOR SCIENCE
GRADES K-12
I
M P A C T
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Which are the most powerful?

increasing indvidualised instruction

providing feedback to learners

students assigning own grades in cooperation with teacher

effective teacher co-operation

Hattie (2009, 2012, 2015, 2018)

Which are the most powerful?

(1.57) effective teacher co-operation

(1.33) students assigning own grades in cooperation with teacher

(0.70) providing feedback to learners

(0.23) increasing indvidualised instruction

Hattie (2009, 2012, 2015, 2018)

TEACHER COLLECTIVE EFFICACY 1.57

Teachers who are involved in collaborative learning report using innovative pedagogies more and being more satisfied with their jobs.

(OECD 2014a)

TEACHERS RUNNING WELL-STRUCTURED MONTHLY MEETINGS

- focussed on formative assessment
- 75 minutes each

(Wiliam, 2018)

SIX STEPS

1. intended meeting outcomes (5 min)
2. warm-up (5 min)
3. feedback on what each person tried (25 min)
4. new learning (20 min)
5. planning to be better next month (15 min)
6. conclusions (5 min)

(Wiliam, 2018)

STUDENTS ASSIGNING THEIR OWN GRADES IN COOPERATION WITH THE TEACHER
1.33

STUDENTS ASSIGNING THEIR

assessment literacy

content **language**

TEACHER
1.33

Exemplars of work that:

- fully meet,
- partly meet, or
- do not meet criteria.

HANDOUT # 1

ANALYSING 3 INTRODUCTORY PARAGRAPHS

Which is the best introductory paragraph and why?

Paragraph #2

- 1st sentence explains problem & grabs attention
- 2nd sentence explains:
  - the goal of paper
  - its structure
- does not begin to discuss the topic
- concise and unemotional language

A MAJOR ASSIGNMENT

Step 1: intro to idea

Step 2: analysis of exemplars in groups + co-creation of criteria

Step 3: creating 1st draft + analysis against criteria

Step 4: peer review

Step 5: improving work

Step 6: handing in draft + analysis against criteria

Step 7: teacher 'feedforward'

Step 8: improving work

Step 9: handing in work again + analysis against criteria

Step 10: getting a mark + 'feedforward'

Why bother

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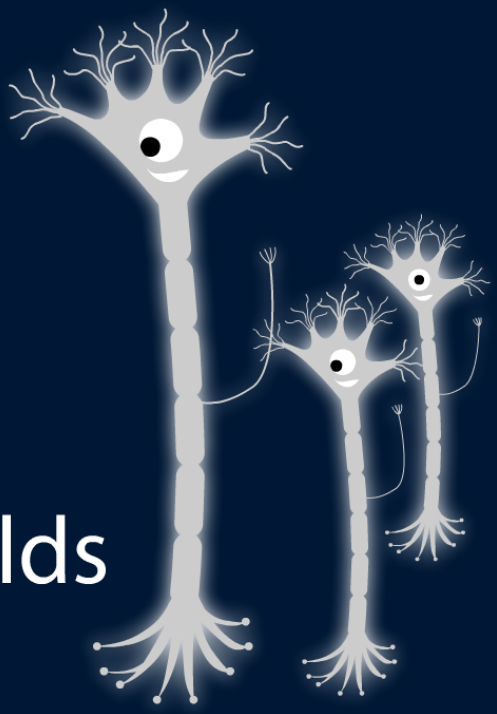
Neuron!

prefrontal cortex

10-23-yr-olds

(Paus, 2005)



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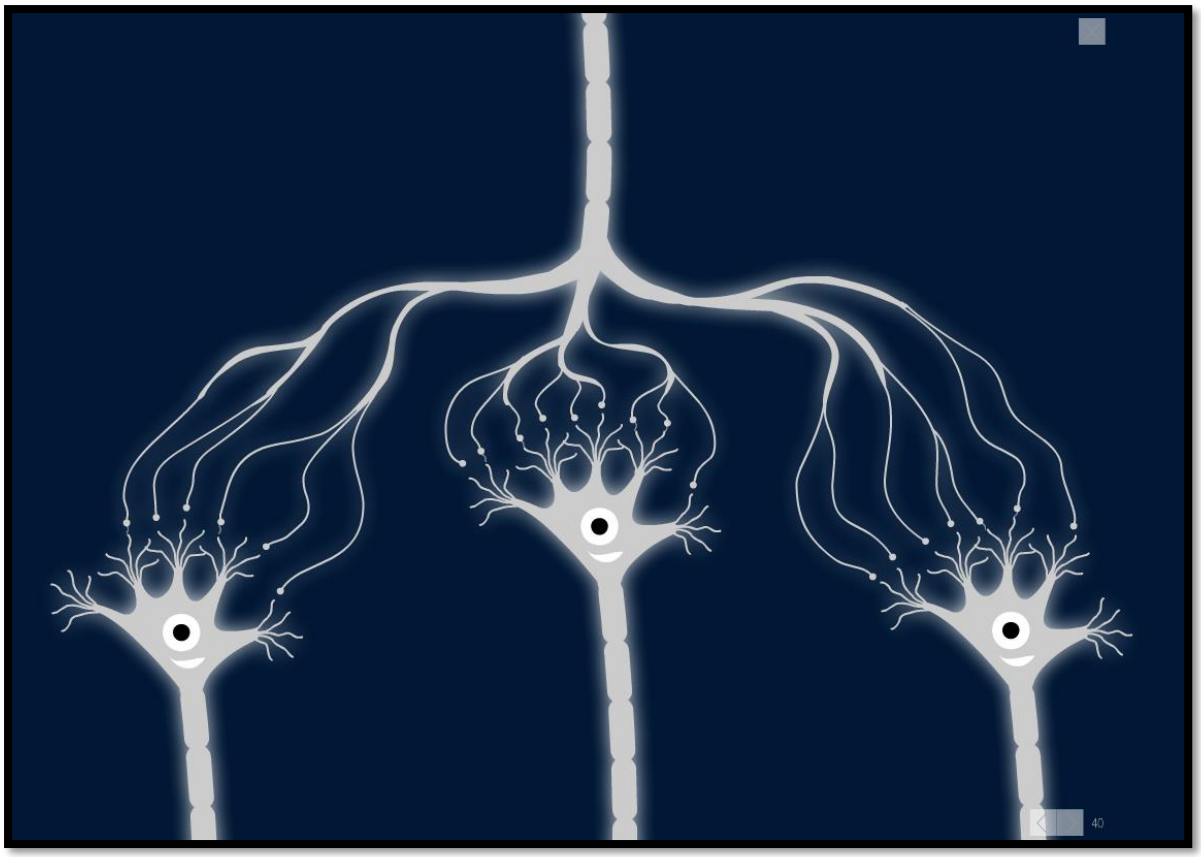
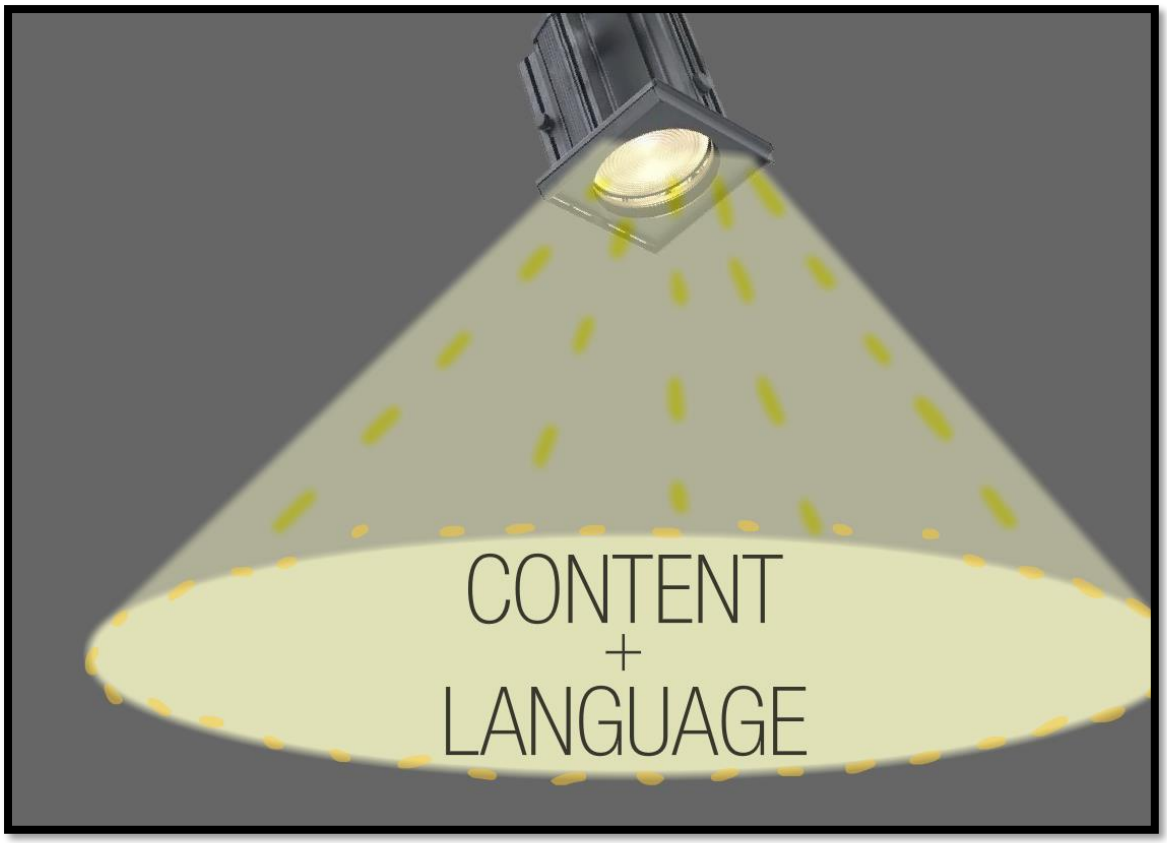


Not assessed, not addressed!



no assessment → plateauing

language development

assessment → development

language development

Some more practical ideas for assessing language in content classes

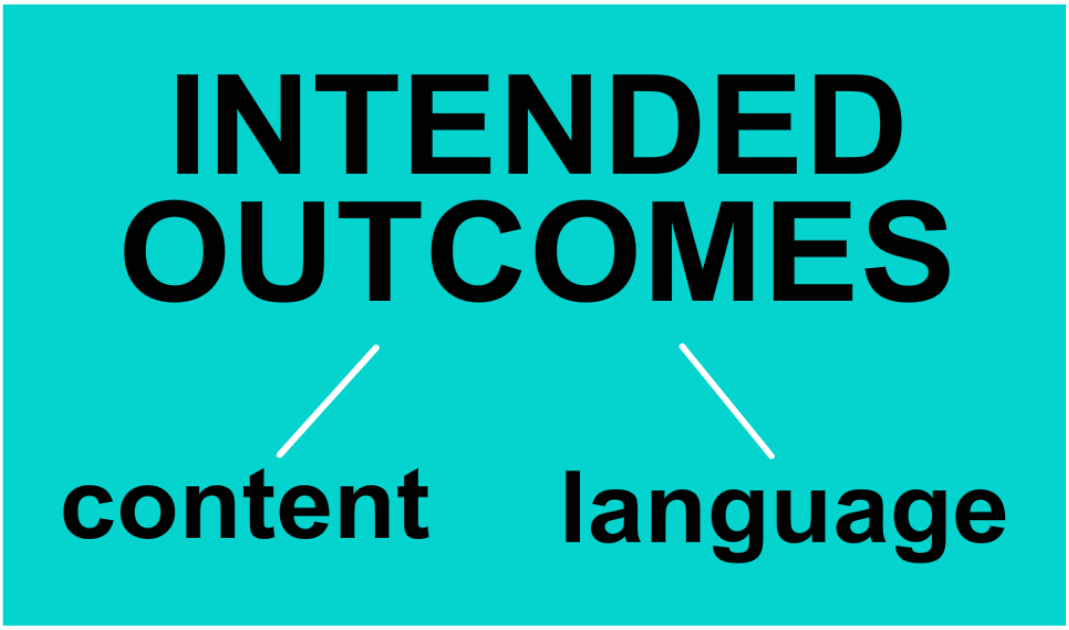
Just providing feedback on language.

You have made a lot of progress in writing. Very few spelling and grammar mistakes – can you explain how you proofread your work before handing it in.

FEEDFORWARD *versus* FEEDBACK

(Goldsmith, 2007)

- assigning marks for language, but not including those in the final grades
- assigning 10% of all marks for language on content assignments, but students can get marks back if they fix errors



Critical thinking

Both about content and language

48

school level

Making content and language learning outcomes visible!

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Grade 3

Researching the weather

Outcomes

The children will do a rain experiment, and talk about what they did.

activity not outcome

Grade 3

Researching the weather

Outcomes

The children will do a rain experiment, and talk about what they did.

Grade 3

Researching the weather

The children will be able to:

Content outcomes

- create and fill in an observation sheet about changes in the weather
- create their own rain experiment
- draw conclusions from the experiment.

Grade 3

Researching the weather

The children will be able to:

Language outcomes

- read and summarise in English a short text in English
- read a longer text in English and summarise it in Finnish
- group words and phrases about the weather
- create their own word and phrase bank for speaking about the weather.

Grade 3

Researching the weather

The children will be able to:

Content outcomes

- create and fill in an observation sheet about changes in the weather
- create their own rain experiment
- draw conclusions from the experiment.

Language outcomes

- read and summarise in English a short text in English
- read a longer text in English and summarise it in Finnish
- group words and phrases about the weather
- create their own word and phrase bank for speaking about the weather.

Content outcomes - Grade 12

Students will know: ?

- the injuries caused by cold (sign and symptoms of hypothermia)
- the assessment and treatment of a hypothermic patient
- the materials related with the treatment of a hypothermic patient.

Content outcomes

Students will be able to assess and treat a patient with hypothermia. This includes:

- describing the signs and symptoms caused by hypothermia
- listing the materials used for treating a hypothermic patient and explaining why these materials are used
- demonstrating their knowledge of the treatment of hypothermia.

Language outcome

- writing a **clear** and **concise** logical step-by-step treatment for hypothermia using the correct **scientific language**.

Students will be able to assess and treat a patient with hypothermia. This includes:

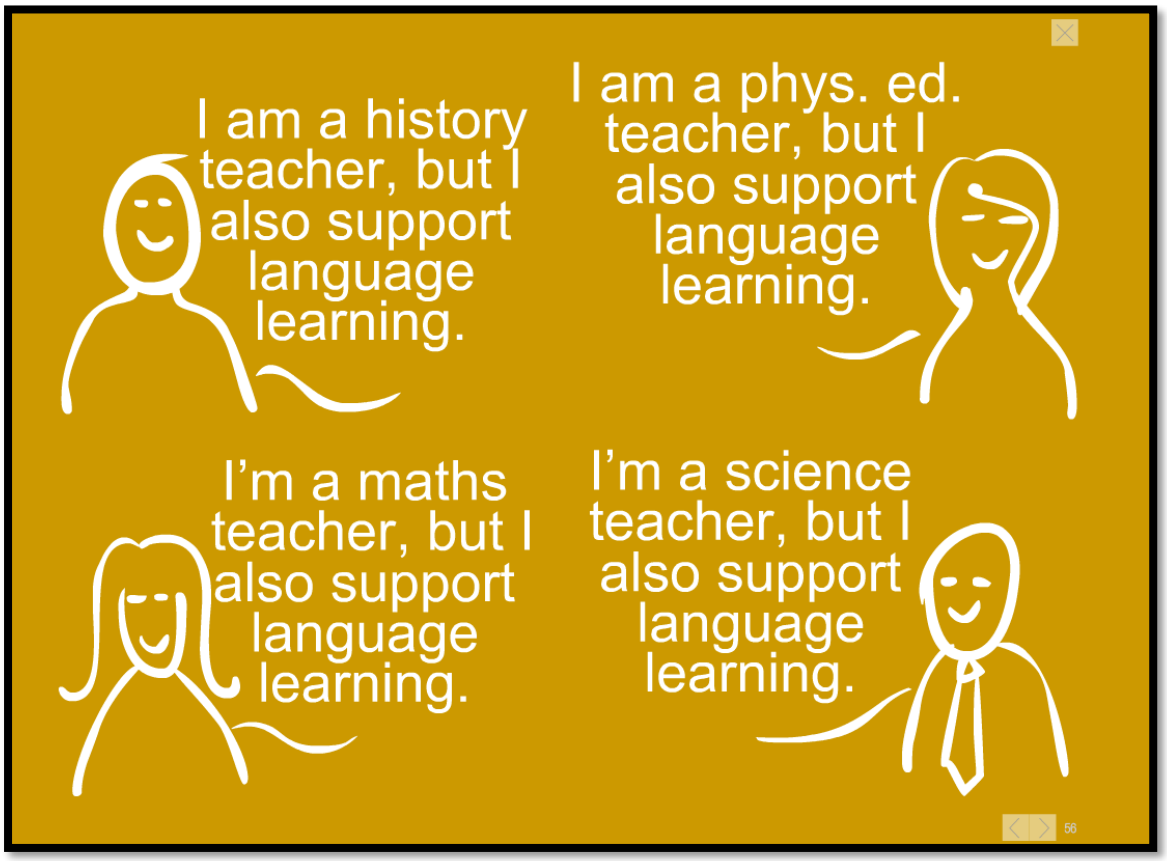
Content

- describing the signs and symptoms caused by hypothermia
- listing the materials used for treating a hypothermic patient and explaining why these materials are used
- demonstrating their knowledge of the treatment of hypothermia

Language

- writing a **clear** and **concise** logical step-by-step treatment for hypothermia using the correct **scientific language**.

55



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FOCUS OF LANGUAGE OUTCOMES

- language use (e.g. academic vs social, grammar, common functions)
- communication awareness
- language learning skills
- intercultural competence

HANDOUT # 2

Strong or weak language outcomes?

Strong or weak language outcomes?

1. **to organise a written report under the following headings:**
   - purpose of the experiment
   - hypothesis
   - variables and constants
   - equipment
   - method
   - findings conclusion.

Strong or weak language outcomes?

2. **to read and understand an article on cultural differences.**

Strong or weak language outcomes?

3. to remember all the new terminology.

Strong or weak language outcomes?

4. to manage your voice (volume, intonation, enunciation, tone) when making a presentation.

Strong or weak language outcomes?

5. to back up your claims with examples, with details and/or with evidence.

Strong or weak language outcomes?

6. to maintain a consistent and precise use of terminology and other scientific vocabulary throughout a written text.

Strong or weak language outcomes?

7. to explain the 10 most important political/military events in Polish history of the 20th century.

Strong or weak language outcomes?

7. to explain the 10 ortant political/mi ts in Polish histor 20th century.

content outcome

Strong or weak language outcomes?

8. to remember all the new words in the chapter.

Strong or weak language outcomes?

9. to write a credible analysis of how your attitude regarding English may be influencing the learning of this language.

Strong or weak language outcomes?

10. to build on or challenge another student's ideas.

Strong or weak language outcomes?

11. to read a description of a parallelogram.

Strong or weak language outcomes?

12. to ask for clarification and/or additional information.

scaffolding & cognitive load

Scaffolding

- support structures that help students to go further than they could on their own

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Scaffolding ideas

teaching planning / feedback on plans

connecting to previous knowledge

brainstorming language you think we may need in today's experiment

removing extraneous information

providing students some of the language needed to do a task

breaking texts & assignments into smaller pieces

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WHY IS SCAFFOLDING SO IMPORTANT IN BILINGUAL EDUCATION?

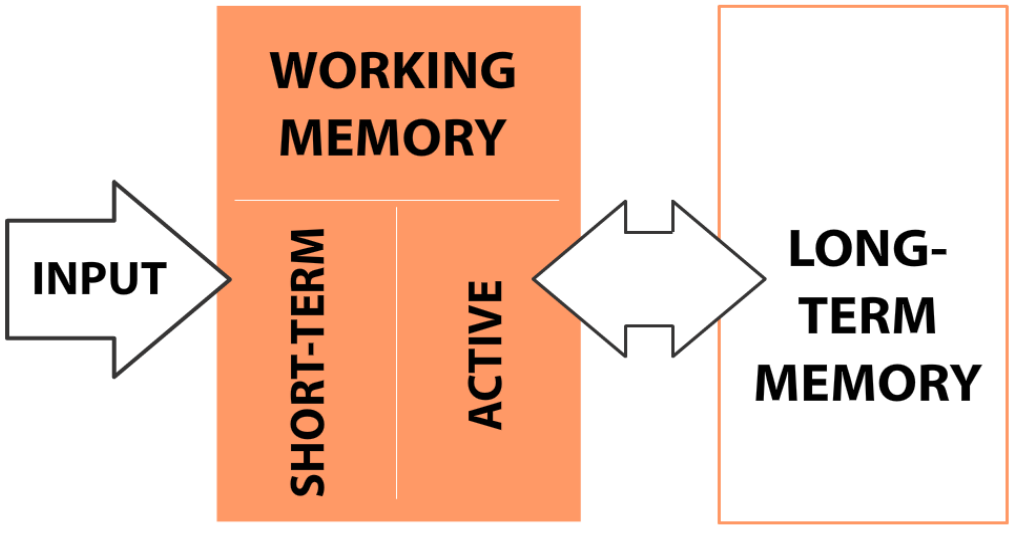
The use of an L2 by a non-fluent speaker:

- slows down the processing of new information
- reduces the capacity of working memory to process new content.

(Harrington and Sawyer, 1992).


COGNITIVE
LOAD
BILINGUAL
EDUCATION

65


WORKING
MEMORY
INPUT
SHORT-TERM
ACTIVE
LONG-
TERM
MEMORY

66

7 digits

6 letters

5 new words

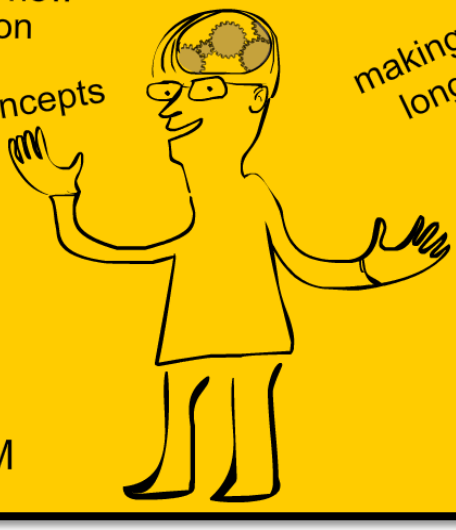
2 chunks of new information

OR

1–3 concepts

decisions re: how to structure & process new information

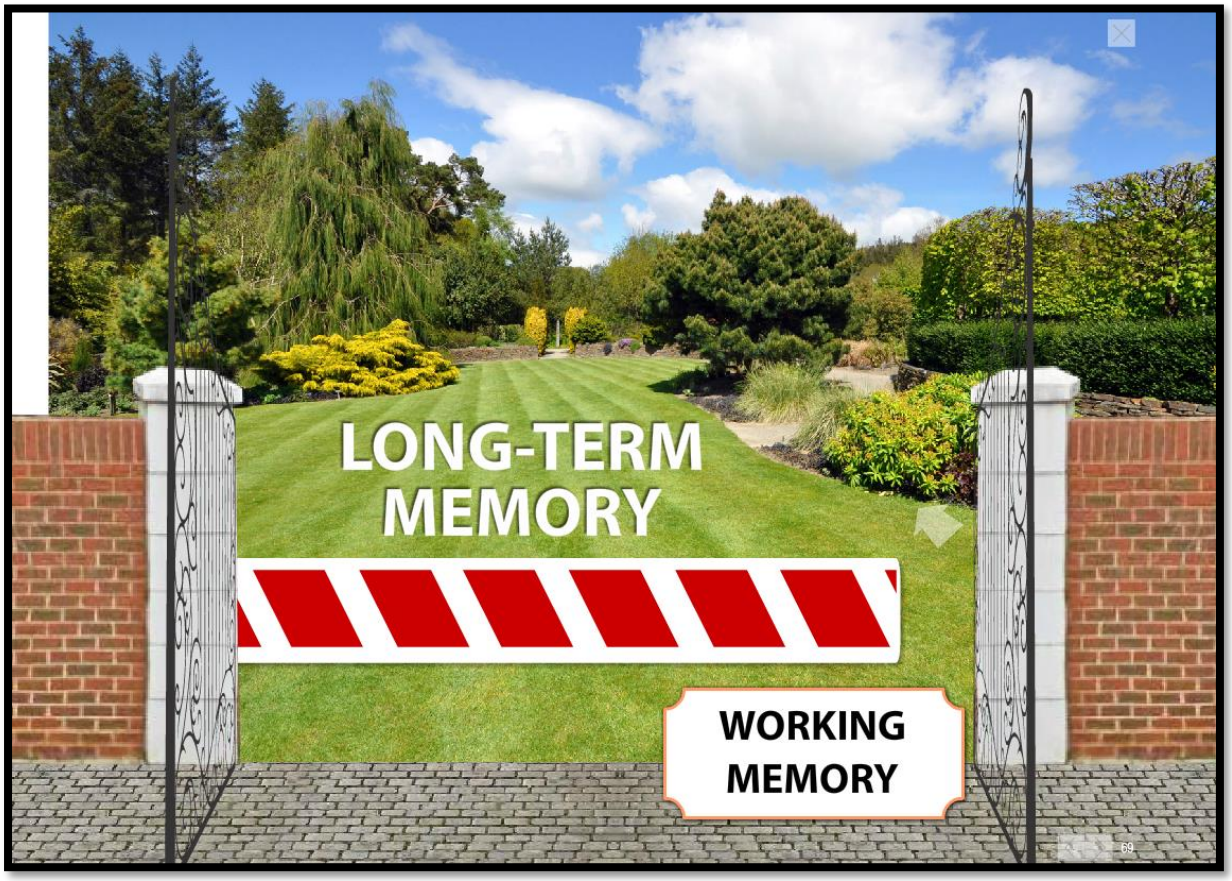
making connections to long-term memory



SHORT-TERM

ACTIVE

67



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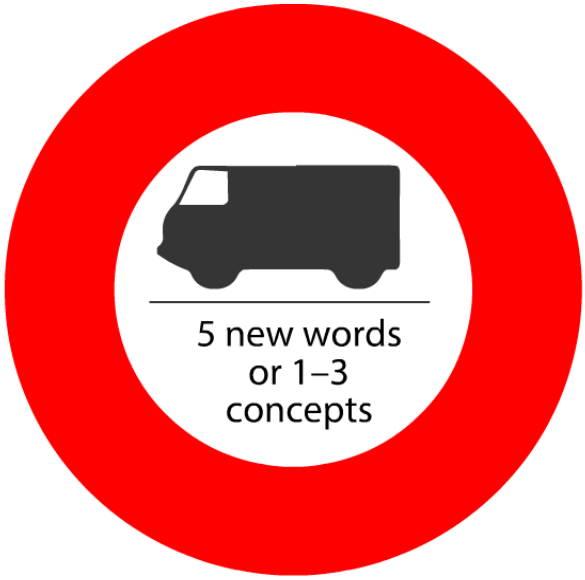
Maximum cognitive load for working memory



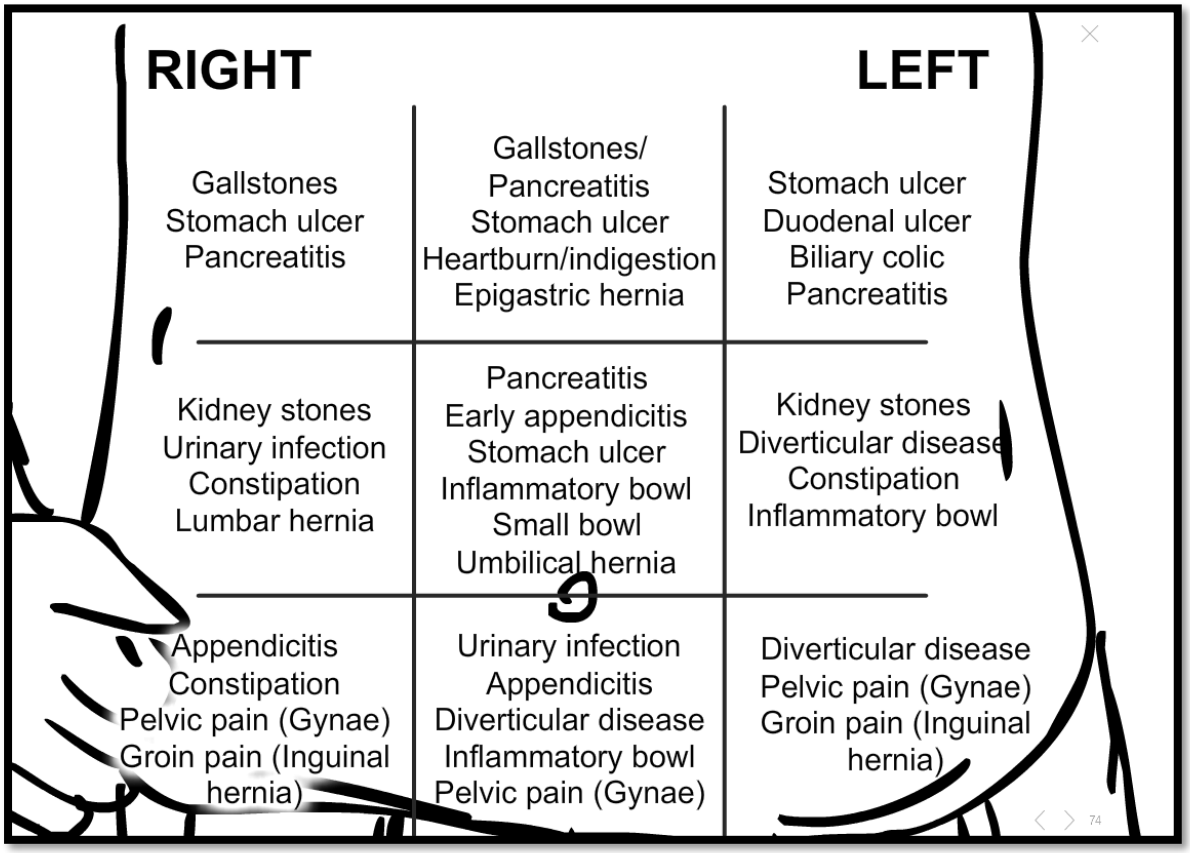
2 examples of scaffolding from content classes

What can you:

- say for certain
- infer?

WHERE IS THE SCAFFOLDING?

See handout # 3

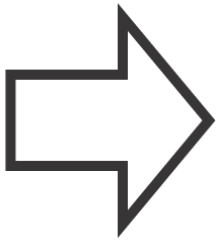


Blood from the body enters the heart at the **right atrium** via a vein called the **Superior Vena Cava**. This blood from the body is rich in carbon dioxide waste produced by cells in the body.

When the atria contract, blood is pumped from the right atrium into the right ventricle, through a one-way valve called the **tricuspid valve**. When the ventricle contracts, this one-way valve prevents **CO_2**-rich blood from flowing backwards to the atria. When the right ventricle contracts, blood is pumped out of the heart to the **lungs**. This **CO_2**-rich blood is carried from the heart to the lungs via the **pulmonary artery**.

(Ting, 2015)

75

	information	labels for your diagram
1	**Blood from the body enters the heart at the top of the right atrium via a vein called the Superior Vena Cava.** Draw an arrow to represent the superior vena cava and position this arrow in the correct location on Figure 1: The human heart.	

(Ting, 2015)

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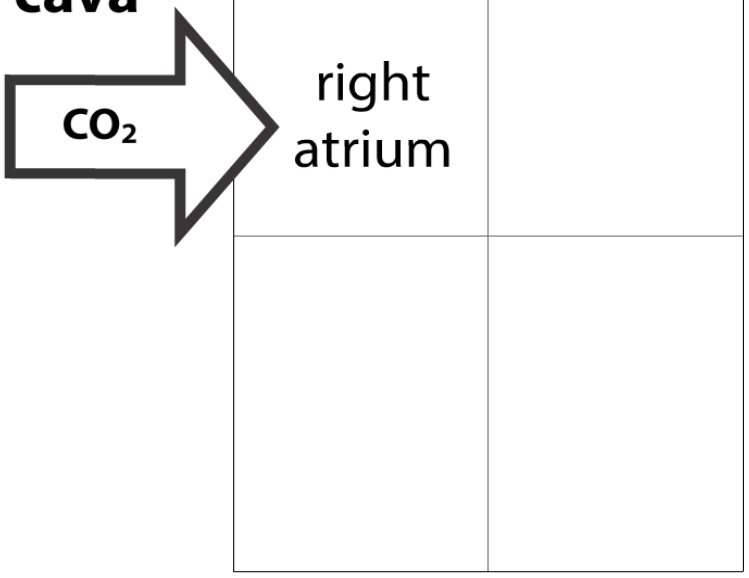
1. superior vena cava

FROM BODY



78

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(Ting, 2015)

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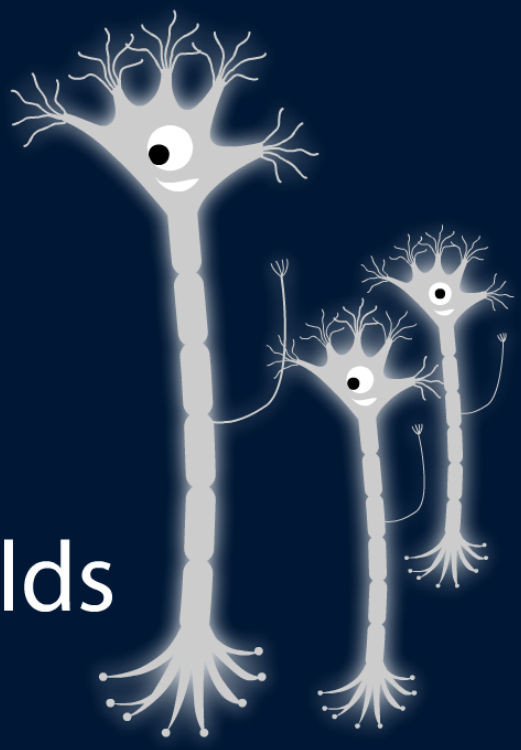
FINAL THOUGHTS

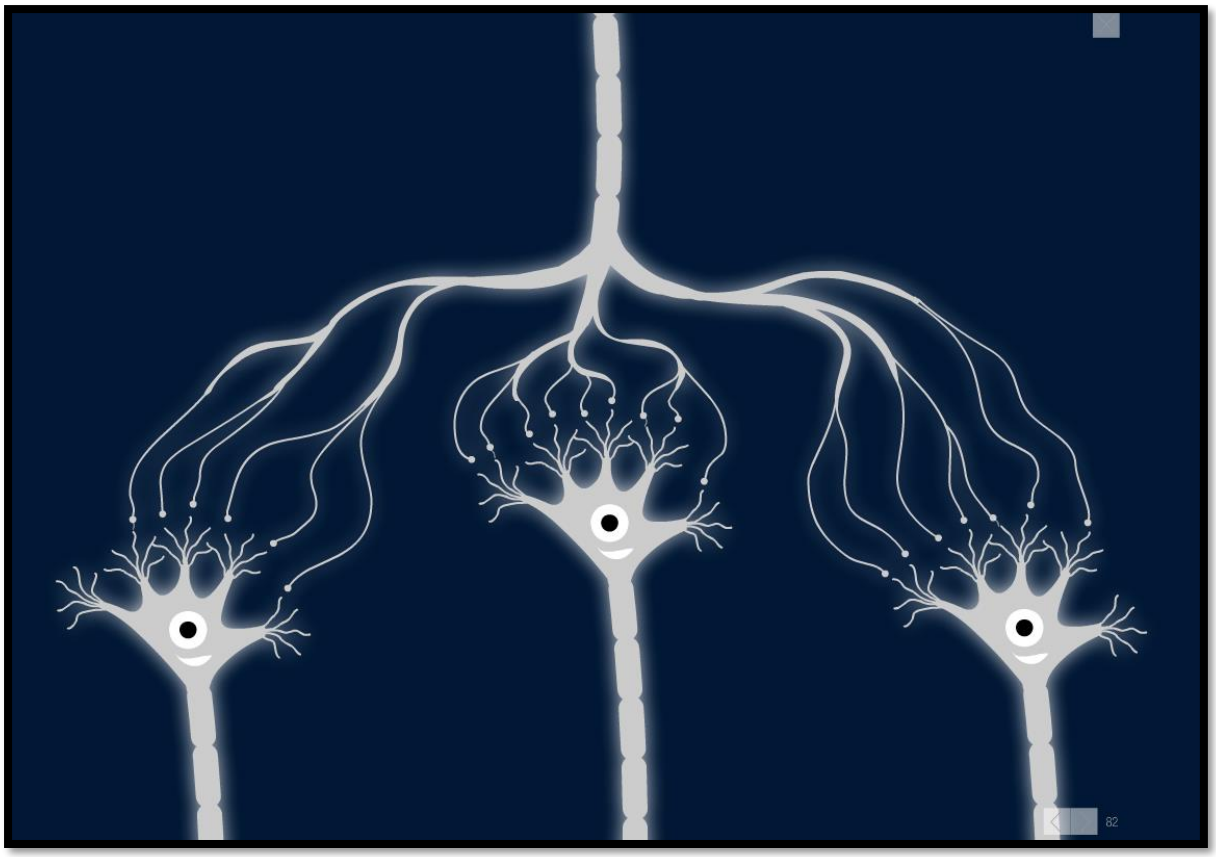
Neuron!

prefrontal cortex

10-23-yr-olds

(Paus, 2005)

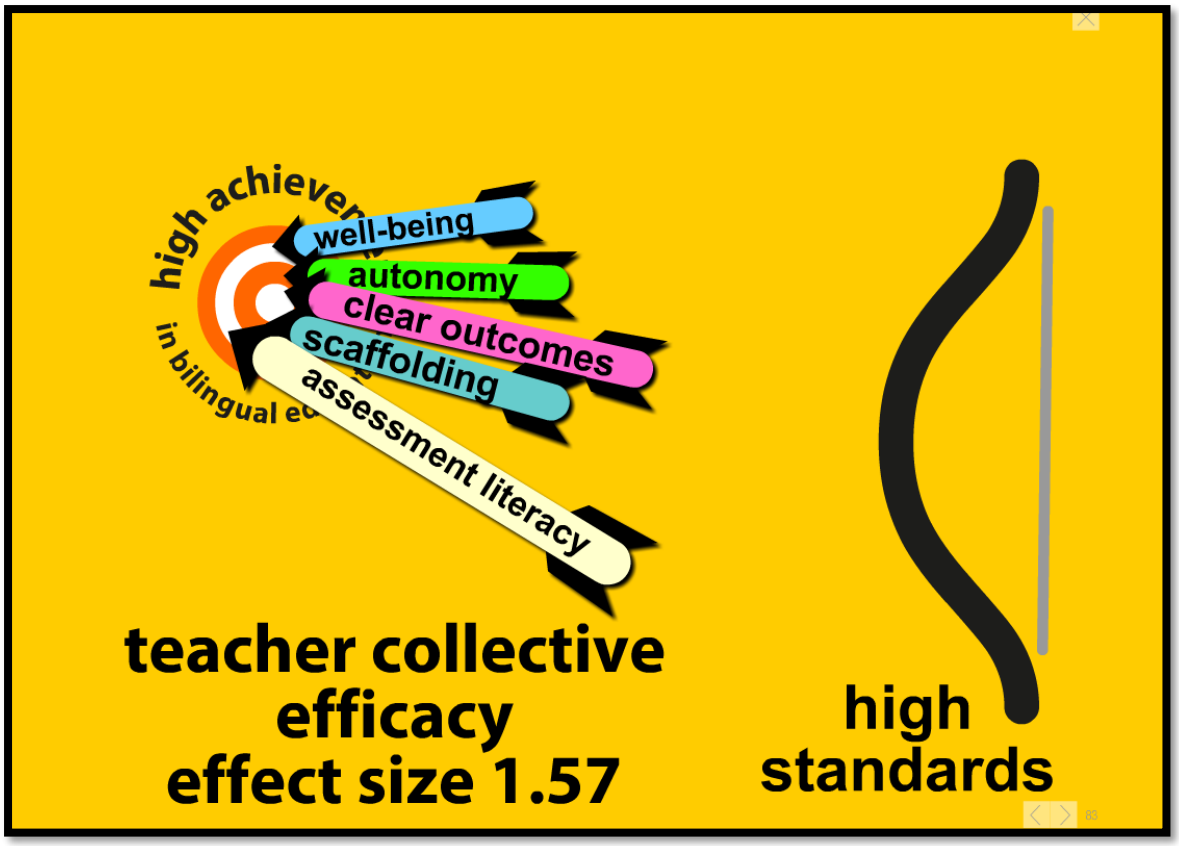




high achievement in bilingual education

well-being

high standards



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Thank you!

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