



# **EFFECTIVE LEARNING & TEACHING USING ENGLISH AS THE MEDIUM OF INSTRUCTION**

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## Areas to be covered in the talk

- The primary role of a subject teacher when the lesson is done in English
- The kind of support that should be given and how the support could be done
- How to make a lesson effective: 2 domains
- Domain A: Clear and systematic delivery of knowledge by making use of multiple ways of making meaning
- Domain B: Appropriate scaffolding so that students can demonstrate their knowledge in both spoken and written form in English
- Weaknesses observed when a lesson is conducted in English
- Useful links

What is your primary role when your subject is offered as an EMI subject?

To help students improve their English proficiency

**OR**

To enable students to learn your subject well in English

The primary purpose for content subject teachers: teach the content effectively, but as the learning and teaching are done in English, *giving the right kind of support at the right time* is crucial to the success of EMI learning and teaching.

# Teaching English as a subject or teaching English as a subject language?

English as a subject	English as subject language
English teachers	Content subject teachers

# An example of support that is more like an exercise in subject English rather than for Integrated Science

## Corrosive nature of acids

Fill in the following blanks with the correct word

(a) corrosion   corrode   corrosive

(1) Acids are \_\_\_\_\_.

(2) They \_\_\_\_\_ some metals.

(3) The \_\_\_\_\_ damages metal containers.

(b) reactive   reacts   reaction

(1) \_\_\_\_\_ metal, like magnesium, \_\_\_\_\_ quickly with acid.

(2) Copper has no \_\_\_\_\_ with acid.

# An example of support that is more suitable for content subjects

## In an experiment of pumping air into a balloon

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T: The balloon is getting bigger, so what's a technical term for getting bigger?

S: It expands.

*(Teacher keeps on pumping)*

T: So what's happening here?

S: The balloon is expanding.

*(Teacher pumps more air into the balloon until it bursts.)*

T: So what's the effect of this expansion to the balloon?

S: The expansion causes the balloon to burst.

- In talking about the content knowledge, all the grammatical forms of a word could be used – expand, expanding, expansion.
- Notice how the language in the dialogue develops from the everyday language of 'getting bigger' to the more technical terms of 'expand' and 'expanding' and finally to the technical and abstract term of 'expansion'



## Importance of interaction in the classroom

- Students learn best through interaction.
- They get both a deeper understanding of content knowledge and a better grasp of the subject language in interaction.

## A possible follow-up activity to consolidate what students have learned in the above activity

- Give them a text about the same topic.
- Ask students to identify the different forms of specialised or technical words in the text.
- Teacher could ask questions that would provide opportunities for students to make use of the different forms.

By *visualizing* the terms in context, *using* them when interacting in the class, students are able to *use them in context* and at the same time *put them into their long-term memory*.

# How to make a lesson effective when English is used as a medium of instruction

## Two main domains

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- A. Clear and effective delivery of knowledge so that students can understand and apply it.
- B. Appropriate scaffolding so that students can demonstrate their knowledge in both spoken and written form in English.

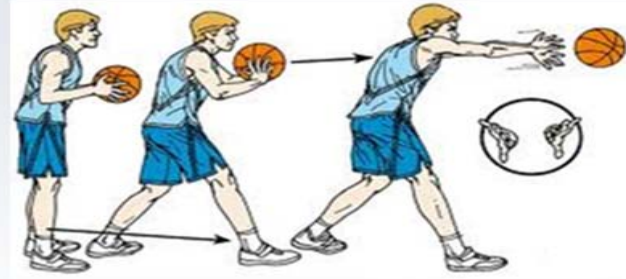
# Domain A: Clear and effective delivery of knowledge so that students can understand and apply it.

To enable students to access the meanings by multiple ways of making meaning

Main	Ancillary	Examples
<i>language</i> <i>visuals</i>	<i>sound</i> <i>movement</i> <i>colour</i> <i>drawing</i> <i>real-life</i>	<ul style="list-style-type: none"><li>• spoken and written texts</li><li>• real objects or photos of real objects</li><li>• drawings, copies or cross-sections</li><li>• diagrams, tables, graphs, equations</li><li>• hand and other body movements</li><li>• simulations and animated diagrams</li><li>• videos and time-lapse photographs of real-life and non-real-life events</li></ul>

# Multiple ways of making meaning — action & language

**PE**  
Chest passing



T: 'This part of the body is our chest' (*while pointing to his chest*).  
Because we pass it at the level of the chest, (*demonstrated the action*)  
we call it chest passing.' (*mentioned the term*)

Then the teacher could demonstrate chest passing and ask the students to say what he did. For example:

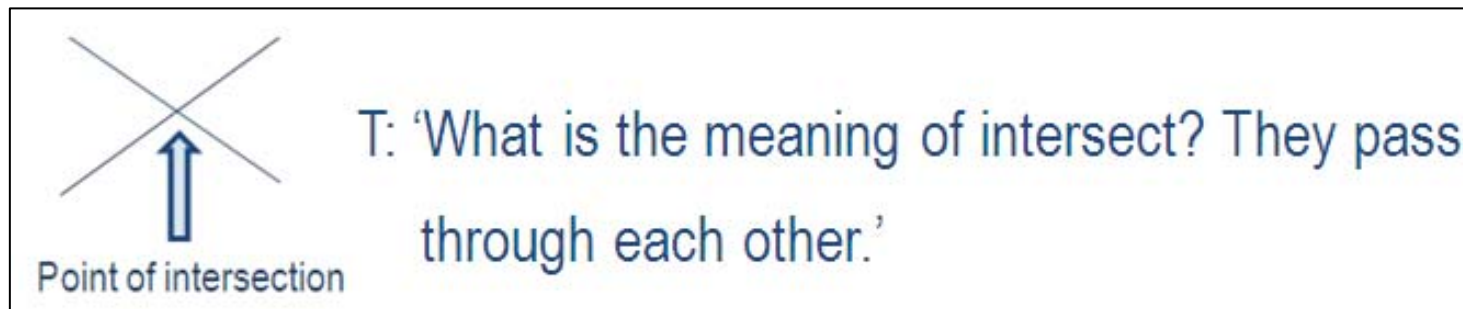
T: What kind of passing did I do?

Ss: Chest-passing.

## Multiple ways of making meaning — combining ways

### Mathematics—point of intersection

The teacher started with the more concrete process of 'intersect'.



Students were able to see the diagram, and the visual representation of language (writing), and hear the teacher say it at the same time.

## Further improvement – simultaneous use of language, visual and recycling of vocabulary

When two lines cross each other like this (*draws the two lines*), these two lines are intersecting; they are passing through each other. Now, the point at which they intersect (*points to the intersection*) is called the 'point of intersection' (*writes it down underneath and draws an arrow to the point as well*).

So then the dialogue between the teacher and a student can be, eg:

T: So what are these lines doing?

S: They are intersecting.

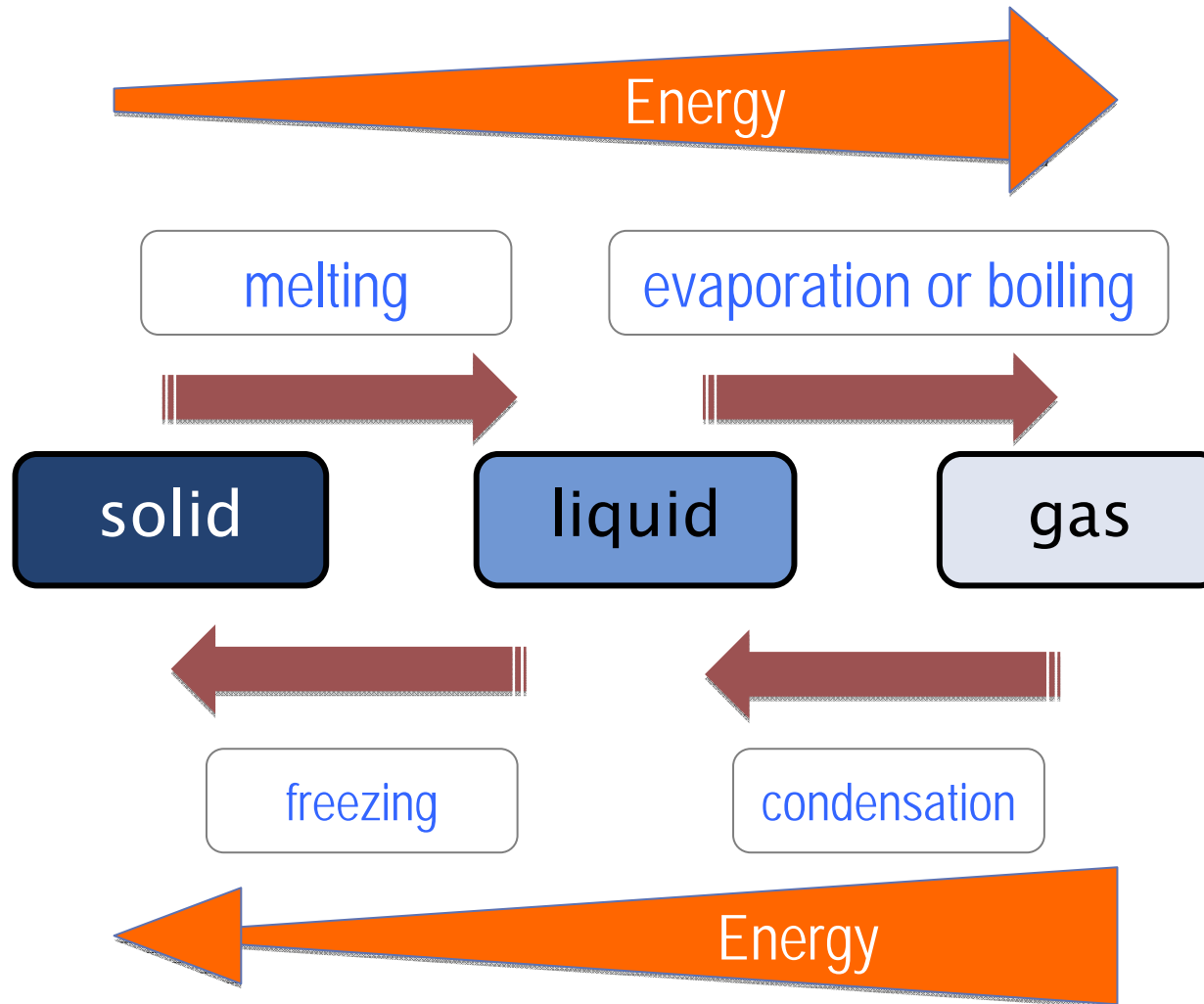
T: Good. And what do we call the point where they intersect?

S: The point of intersection.

T: Excellent, the point of intersection, because that's where they intersect.

# Multiple ways of making meaning — visuals

## Change of state








# Multiple ways of making meaning

Clear and systematic delivery of knowledge by visual representation

State of matter	solid	liquid	gas
How can the particles be represented visually?			
How are the particles arranged?			
How close are the particles?			
Can the matter be compressed?			

State of matter	solid	liquid	gas
How can the particles be represented visually?			
How are the particles arranged?	Arranged regularly	Arranged irregularly	Arranged very irregularly
How close are the particles?	Very close	Close but not as close as solid	Sometimes particles are very far apart, sometimes they are close
Can the matter be compressed?			

# Multiple ways of making meaning

## Simulation



Students represent particles in the three different states of matter.

Particles are arranged in a regular shape. They are not allowed to move around. They can only vibrate (shake) around their fixed position.

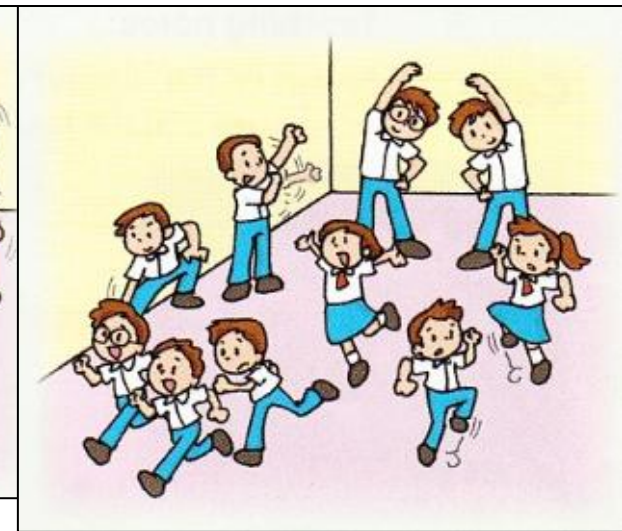
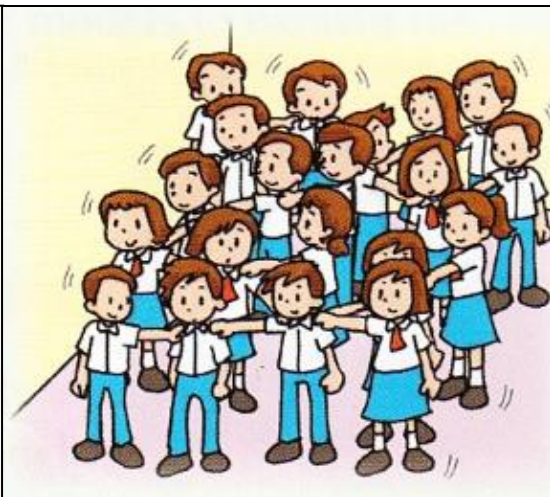
This shows the solid state.

Particles are allowed to move around and their positions are not fixed. But they are still close to each other.

This shows the liquid state.

Particles can move freely—they are not restricted. They can be far apart from each other or they can collide with each other.

This shows the gas state.



## Domain B: Appropriate scaffolding so students can demonstrate their knowledge in both spoken and written form in English

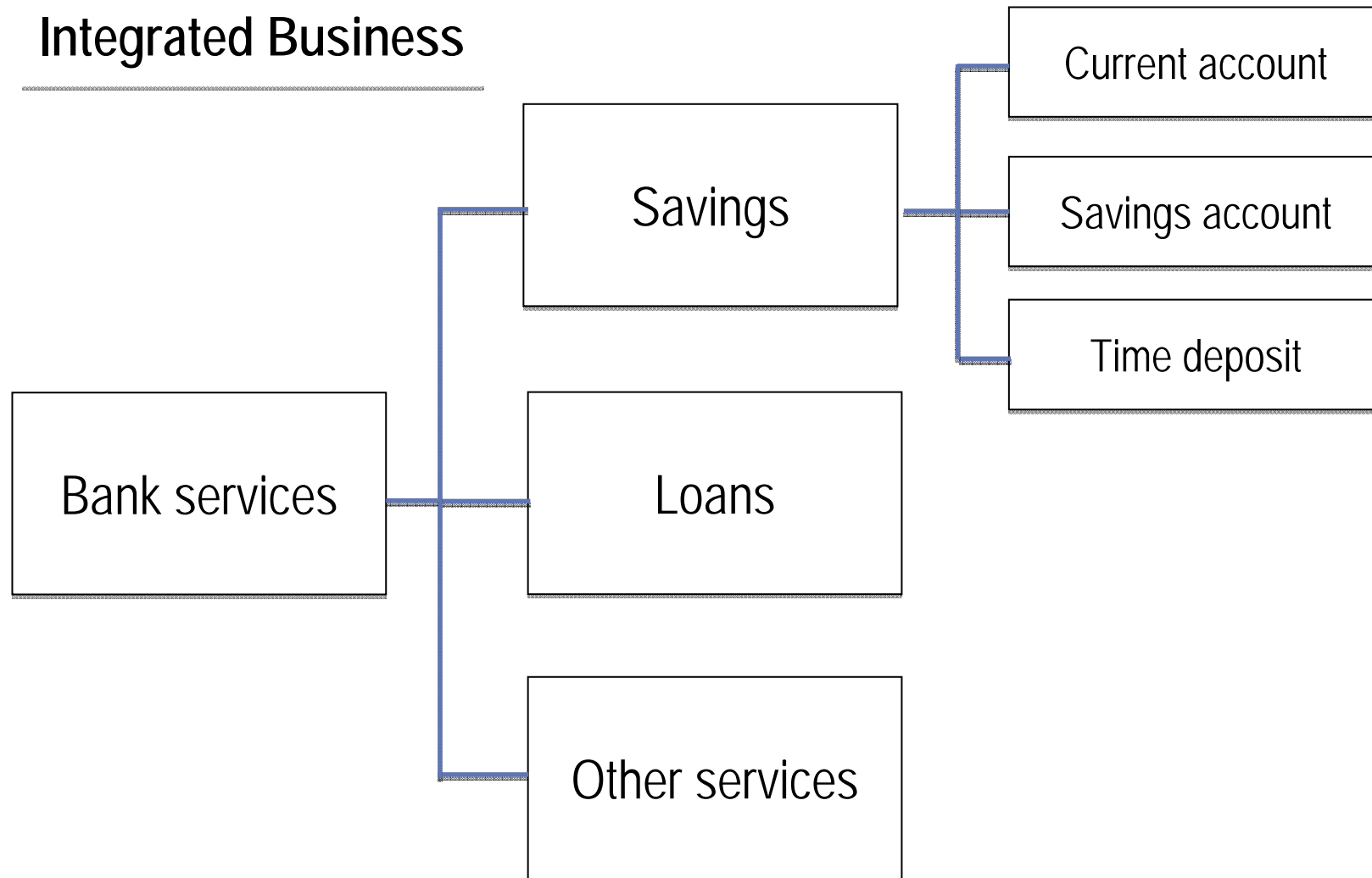
Clear and systematic presentation of knowledge and scaffolding for talking and writing about the content knowledge:

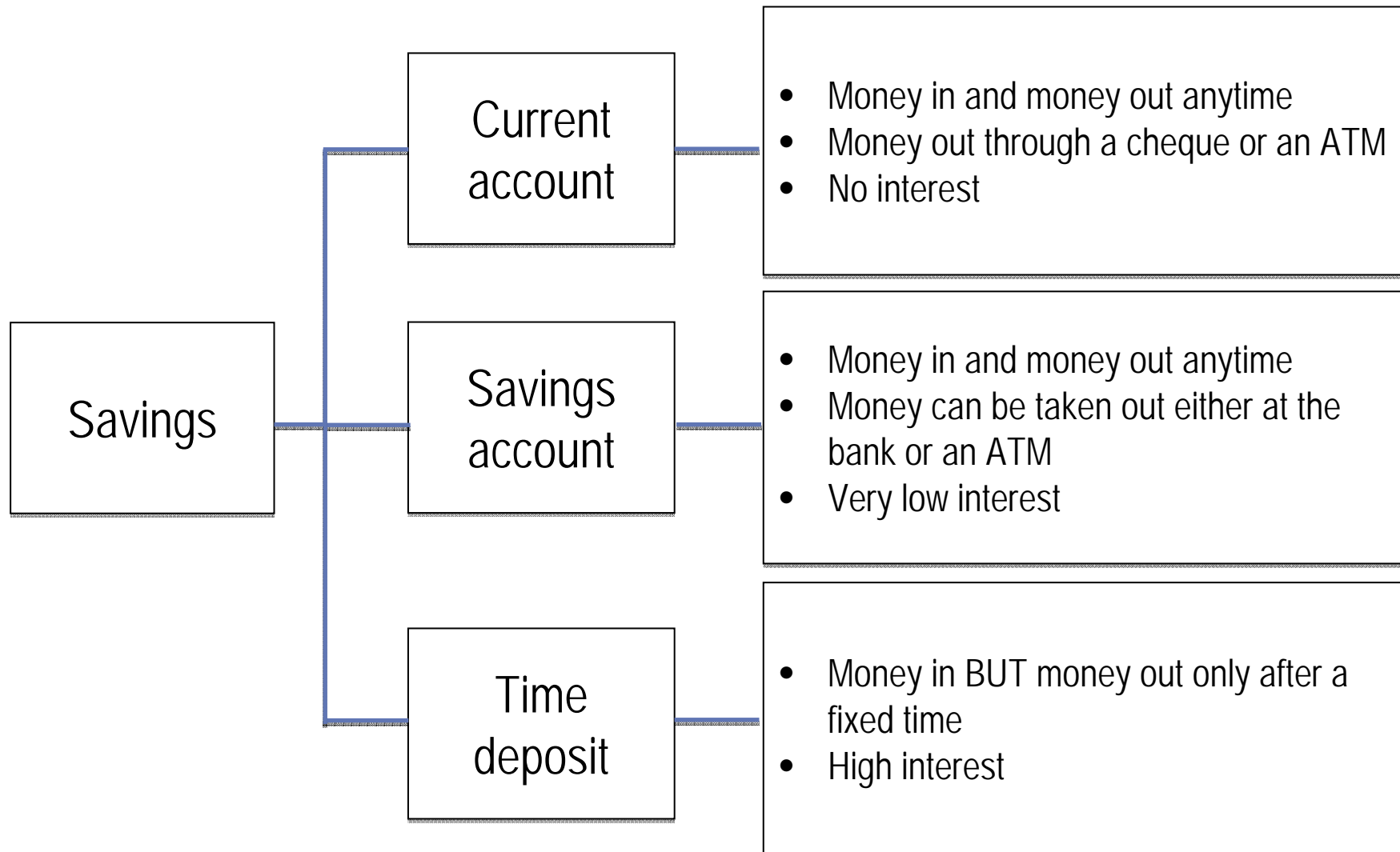
- Integrated Business
- Integrated Science

# Clear and systematic presentation of knowledge

## Integrated Business

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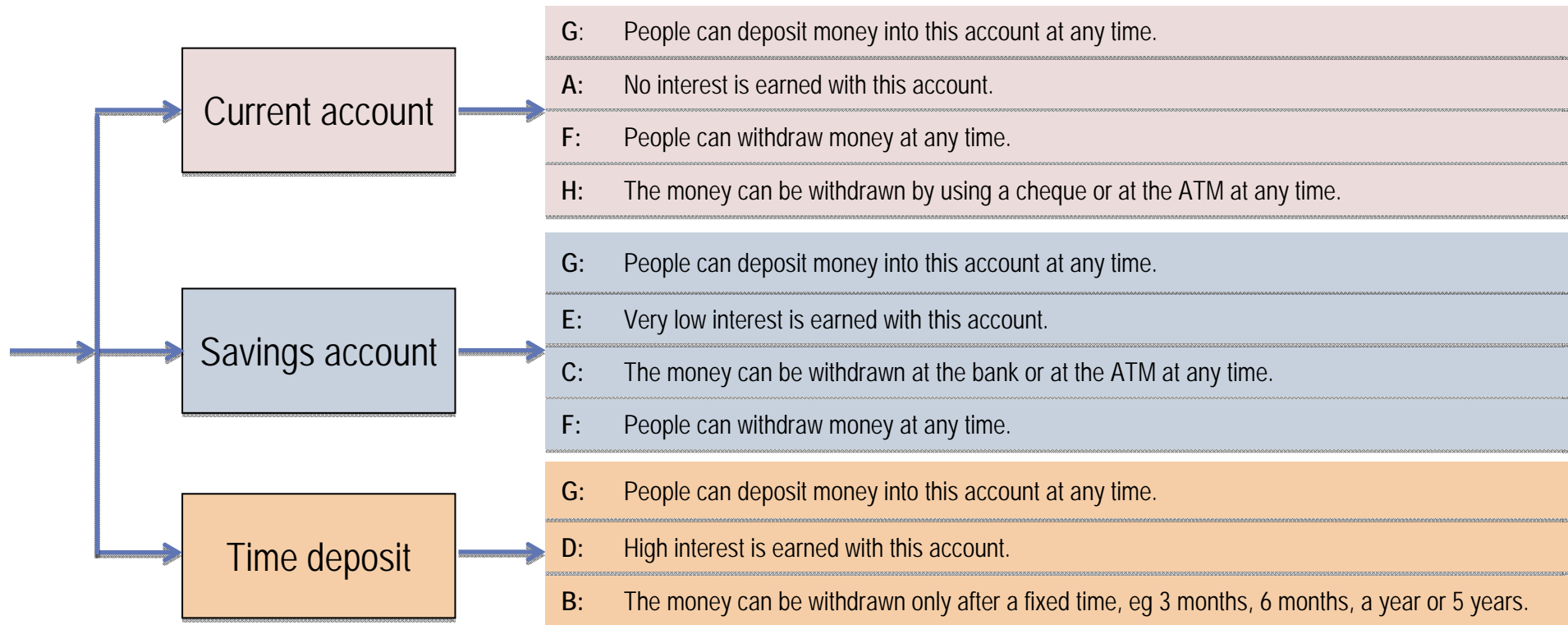




## Clear and systematic presentation of knowledge

- Use of simple language
- Use of effective visuals





A:	No interest is earned with this account.
B:	The money can be withdrawn only after a fixed time, eg 3 months, 6 months, a year or 5 years.
C:	The money can be withdrawn at the bank or at the ATM at any time.
D:	High interest is earned with this account.
E:	Very low interest is earned with this account.
F:	People can withdraw money at any time.
G:	People can deposit money into this account at any time.
H:	The money can be withdrawn by using a cheque or at the ATM at any time.

## Current Account

Customer: I want to put my \$200 into a bank account. What kinds of bank accounts can I choose?

Banker: We provide 3 types of accounts: Current Accounts, Savings Accounts and Time Deposits. Which one would you like?

Customer: OK! I think I'll put it into the current account.

<1 minute later>

Customer: Good morning, I want to take out my money and I need to do it now!

Banker: Yes, you can take out your money whenever you want but you will need to write a cheque or you could do it through the ATM.

Customer: Oh, of course. I have my cheque book with me. (writes a cheque)

Banker: (Gives the customer the money back) Here you are.

## Savings Account

<Day 2>

Customer: I'd like to put \$500 into my savings account.

Banker: Fine. (Takes the \$500)

<2 months later>

Customer: I have to get my \$500 to pay my phone bill!

Banker: OK, but you'll have to use your bankbook or, if you have your card, you can use the ATM!

Customer: Oh, I've forgotten to bring my card so I'll use my bank book. I need all \$500 plus any interest I have earned.

Banker: Here you go. (Gives \$500 + 5 cents) The 5 cents is the interest you have earned!

## Time Deposits

<Day 3>

Customer: This time I want to deposit my \$500 into a time deposit.

Banker: OK, how many months would you like it for?

Customer: Six months.

Banker: Fine.

<2 months later>

Customer: Hi! I want to get my money back!

Banker: No! I'm sorry but you cannot take it and keep the interest. You can take the money out but you will lose all the interest gained.

Customer: Why???

Banker: Because, for time deposit, you can get it after a fixed time period only. Because you have set it for 6 months, you will have to come 6 months after the opening date – that's 4th March. On that date, you will get your \$500 + \$50 as interest.

Customer: Oh, OK.

# Scaffolding students' content knowledge through speaking and writing

We can scaffold students' spoken and written demonstration of content knowledge by asking them to:

- put the points into the right column
- write the points down
- talk about the points.
- do role play

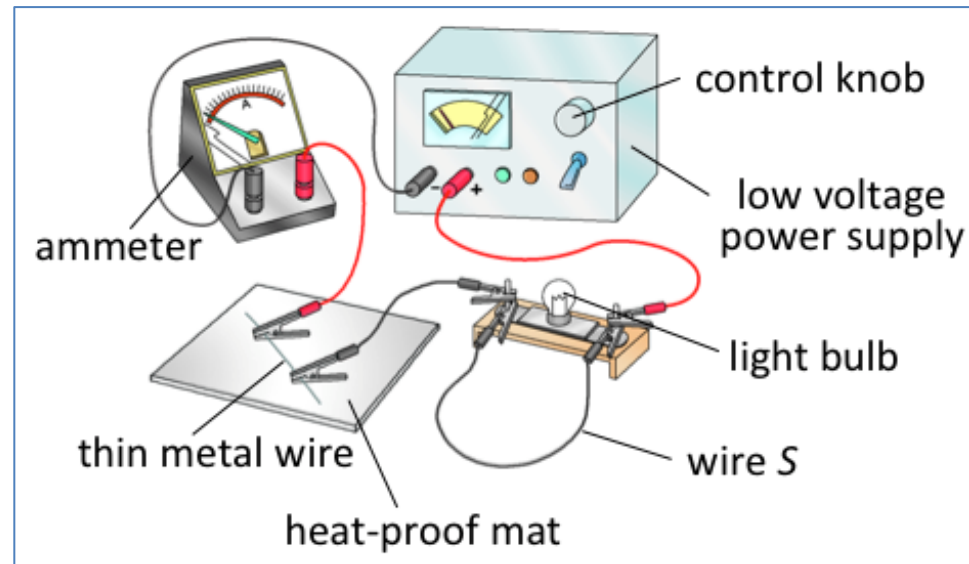
# Patterns of teaching according to the patterns of the knowledge being taught (Pedagogical Resonance<sup>1</sup>)

The different kinds of bank services are constructed as a classification, so the content knowledge is presented as a classification. Everything the teacher does is to reinforce this classification, so students' minds have already been moulded according to this classifying framework. If the students are asked to discuss and write about the different kinds of bank services in a classifying report, they would have already been scaffolded into constructing the classification through the way they were taught.

Polias J (2010) "Pedagogical resonance: improving teaching and learning". In C Coffin (ed.) "Systemic Functional Linguistics". Special edition of the **National Association for Language Development in the Curriculum (NALDIC)**, Quarterly, Autumn 8(1), United Kingdom.

## Another example of scaffolding students in writing a causal explanation in an Integrated Science lesson

How can we answer "Why" questions better?  
S2 Integrated Science



Why doesn't the light bulb glow in the circuit when we add wire S?

The light bulb does not glow because the current flowing through it is too small. Now, nearly all of the current flows through wire S since it has a much lower resistance than the light bulb.

# Why doesn't the light bulb glow in the circuit when we add wire S?

What do you observe?

The light bulb does not glow

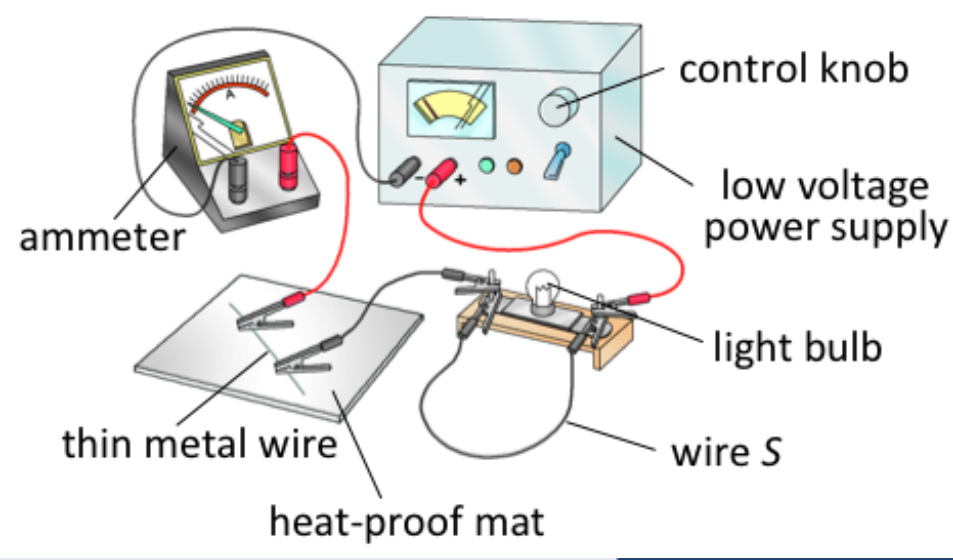
because

the current (th

because

now nearly

because



Why doesn't the light bulb glow?

Is the current too small?

Why does nearly all the current flow through wire S?

wire S has a much lower resistance than the (wire in the) light bulb.



## Why doesn't the light bulb glow in the circuit?

The light bulb does not glow because

the current (that is) flowing through it is too small because

now nearly all of the current flows through wire S because

wire S has a much lower resistance than the (wire in the) light bulb.

The words in grey are extra. They are not always necessary for the reader to understand. So we can leave them out.

# Why doesn't the light bulb glow in the circuit?

We can make some more changes so the writing is improved.

The light bulb does not glow **because**

There is too much information in one sentence so let us stop after 'too small'. So we need a full stop and we need a capital letter for 'now'.

the current flowing through it is too small. **because**

It is better if we do not always use 'because'. For example, we can use 'since' instead.

Now, nearly all of the current flows through wire S **since**

it has a much lower resistance than the light bulb.

Also, it is better that we do not always repeat the same words when we use a pronoun. Instead of repeating 'wire S' we can use 'it'.

Let us now write it with all the changes.

## Why doesn't the light bulb glow in the circuit?

The light bulb does not glow because

the current flowing through it is too small.

Now, nearly all of the current flows through wire S since

it has a much lower resistance than the light bulb.

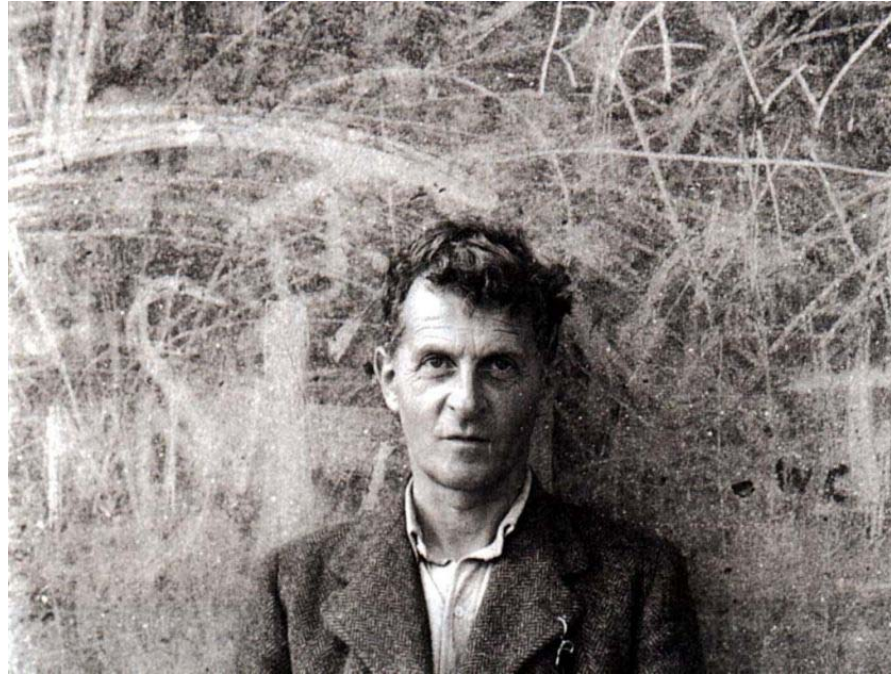
## Why doesn't the light bulb glow in the circuit?

And here it is all together. This is the best way to answer the question. It has all the correct information and it is written accurately and it 'flows' well.

The light bulb does not glow because the current flowing through it is too small. Now, nearly all of the current flows through wire S since it has a much lower resistance than the light bulb.

## Weaknesses observed in lessons

- a. Failing to enable students to understand what is delivered
- b. Lecturing, depending mostly on language
- c. Not enough micro interaction with students to maximize their learning
- d. Testing students or asking them to do a task without giving them enough support beforehand (high expectation, low support) - Usually no or not enough support for speaking when students are asked to do pair or group work and no or not enough support for writing
- e. Using Chinese to explain
- f. Speaking too fast, sometimes with numerous OKs inserted
- g. Incorrect pronunciation of key words



“The limits of my language mean the limits of my world.  
All I know is what I have words for.”

Ludwig Wittgenstein (1889-1951)

## Useful links

Language Support for EMI Education



<http://www.edb.gov.hk/index.aspx?nodeID=4771&langno=1>

拋磚集 - 李金嘉倩教學語言系列



<http://www.hkptu.org/education/?cat=178>

Thank you