Thinking Skills for Successful CLIL – 1) Brainstorming Ideas and 'Seeing' Language

By Keith Kelly

Introduction

Teaching thinking is not a new thing in education and it is possible to find plenty of subject curriculum guidelines that lay out critical thinking, scientific thinking, creative thinking, and life or soft skills which incorporate many of the 'thinking' referred to across the curriculum.

In some very rare cases there are even links made to the language needed to meet the demands of the thinking being taught, but at the time of writing this continues to be extremely rare in mainstream education. CLIL, on the other hand, puts thinking centre stage. It is the very focus on subject curriculum objectives (and the concepts and procedures they entail) which take us to the language students will need to 'do' what is asked of them in the curriculum.

While subject teachers may turn to their curriculum guidelines to find the 'thinking' to teach in their subject, language teachers may also refer to these same guidelines in order to cherry pick the skills (and thinking) they can make use of in their own language classrooms. 'Interpreting data in graphs', for example, gives us 'interpretation of information', where learners may be asked to describe what 'numbers' show in graphical form, what numbers 'mean', and what conclusions can be drawn from the data, all of which are relevant for a language classroom which carries out surveys on habits and routines, say, to do with food and eating habits. Other sources, such as Bloom's Taxonomy of Thinking, also offer language teachers a go to 'curriculum' of thinking to choose from.

This piece is the first of a series I've entitled 'Thinking Skills for Successful CLIL' which will describe a number of areas of thinking which appear broadly across the curriculum and which can therefore be of interest to both the subject teacher and the language teacher. Additionally, the series will offer examples of investigating and making visible essential language related to the key areas of thinking which are presented. In this particular case, we start with group brainstorming leading to discussion on a given theme. What may be of particular interest to the CLIL teacher in this article is the attempt I've made to 'make language visible'.

'Talking through' Concept and Mind Maps

Figure 1: Factor cards related to building the Three Gorges Dam

I recently discovered the great books 'Thinking through Geography' and highly recommend them as reading for any colleagues looking at developing thinking skills in Geography, but also in any subject.

A suggestion given is using mind maps for promoting discussion in groups around a theme. A good example is the discussion on the factors around the building of the Three Gorges Dam.

Students are asked to brainstorm factors and discuss the links between them, the causes-effects, the consequences etc. The suggestion in the materials is that the students brainstorm their own factors, but sample factors are given as indicators, with blanks for extra factors.

The crucial thinking involved in this activity occurs during discussion of the relationships between the factors. The Teachers' Notes go further with suggestions for consideration of a variety of consequences such as 'long', 'medium' and 'short' term consequences, also 'local', 'regional' and 'global' consequences, with a hint for teachers to consider extending discussion to include 'social', 'environmental' and 'economic' consequences. This is all very clearly rich and significant thinking and discussion opportunity around this theme (factors to consider for the building of the Three Gorges Dam). Where it gets me excited is as an instrument for developing the general academic language of 'cause-effect' including a host of sub-functions of language to do with cause and consequence.

So, how does the activity actually go about developing this general academic language? It does so in a very simple way, it instructs students to draw lines linking two, or more, factors and to express along the lines the nature of the relationship between the factors. Imagine that for a moment. You have small groups of students with the factor cards to stick onto a larger sheet, where groups are instructed to identify links and discuss the relationships between the linked factors. Next, the students write on the lines 'phrases for cause and effect' explaining the links. It is a CLIL activity without knowing it!

I say this without intending to diminish the talent of the author of the original resource. But I would like to add more language to make it more CLIL. In the same way the author recognized that the students could have benefitted from the factors on cards to work with, in a CLIL context it would make a lot of sense to offer phrases for describing cause-effect relationships between the factors.

There is plenty of evidence of this language within the other resources given and the links to film online.

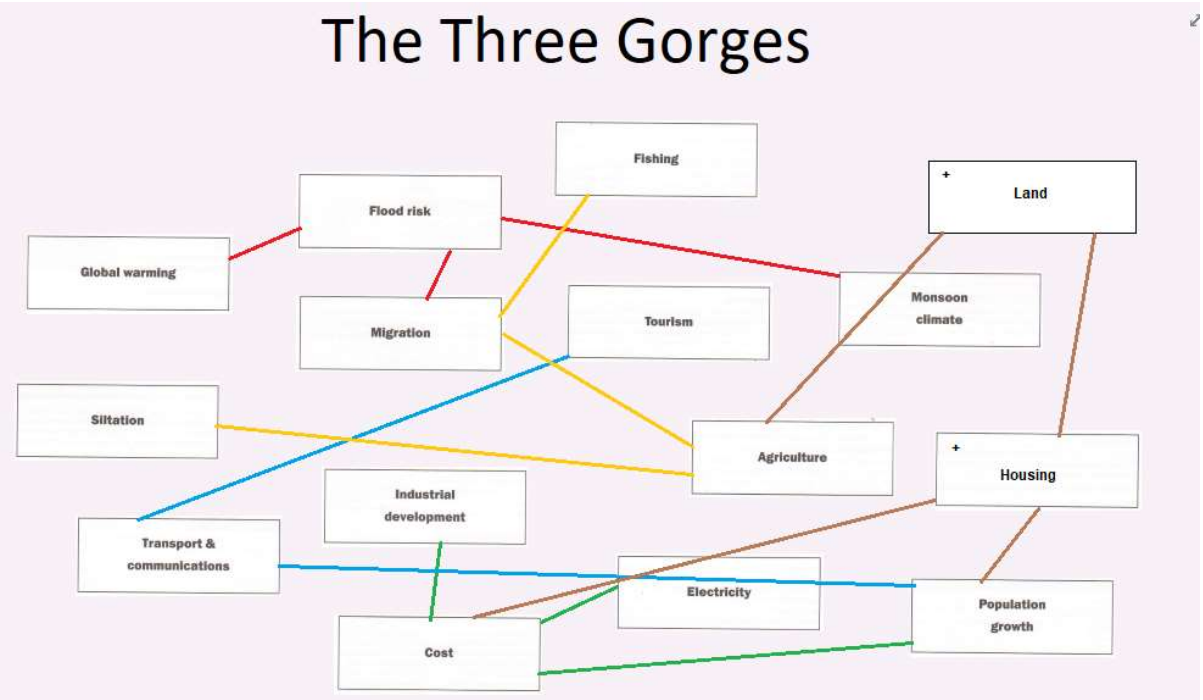

Figure 2: Linking factors related to building the Three Gorges Dam

In this brainstormed mindmap, you can see that I've added a couple of terms to blank cards (+), namely 'Land' and 'Housing'. The coloured lines represent links between factors impacted by the building of the Three Gorges Dam.

You can see, for example how the red lines link 'global warming', 'flood risk', 'monsoon climate' and 'migration'. I'm assuming from the activity that there is no one 'right answer' of course and that the whole point of this exercise is that the students discuss and create their own links. What you have here are links which stood out to me without the benefit of a group to discuss them with! Here's a sentence I'd give to associate some factors with the red lines :
'There is a clear link between a monsoon climate being characteristic for the region, the risk of flooding and migration since if people's homes are continuously inundated during monsoon season, they are likely to pack up and move somewhere else.'

If you follow the yellow lines, I've created links between 'fishing', 'migration', 'agriculture' and 'siltation' and a sentence linking three of these factors could be:
'Lowland agricultural areas can tend to be unusable due to silt deposits left after flooding and this may have the knock-on effect of forcing people to find somewhere else to live'.

These two sentences offer examples of language for describing 'characteristics', 'speculation', 'cause-effect', 'tendency' and these 'functions of general academic' language tick boxes and get grades in the mark scheme.

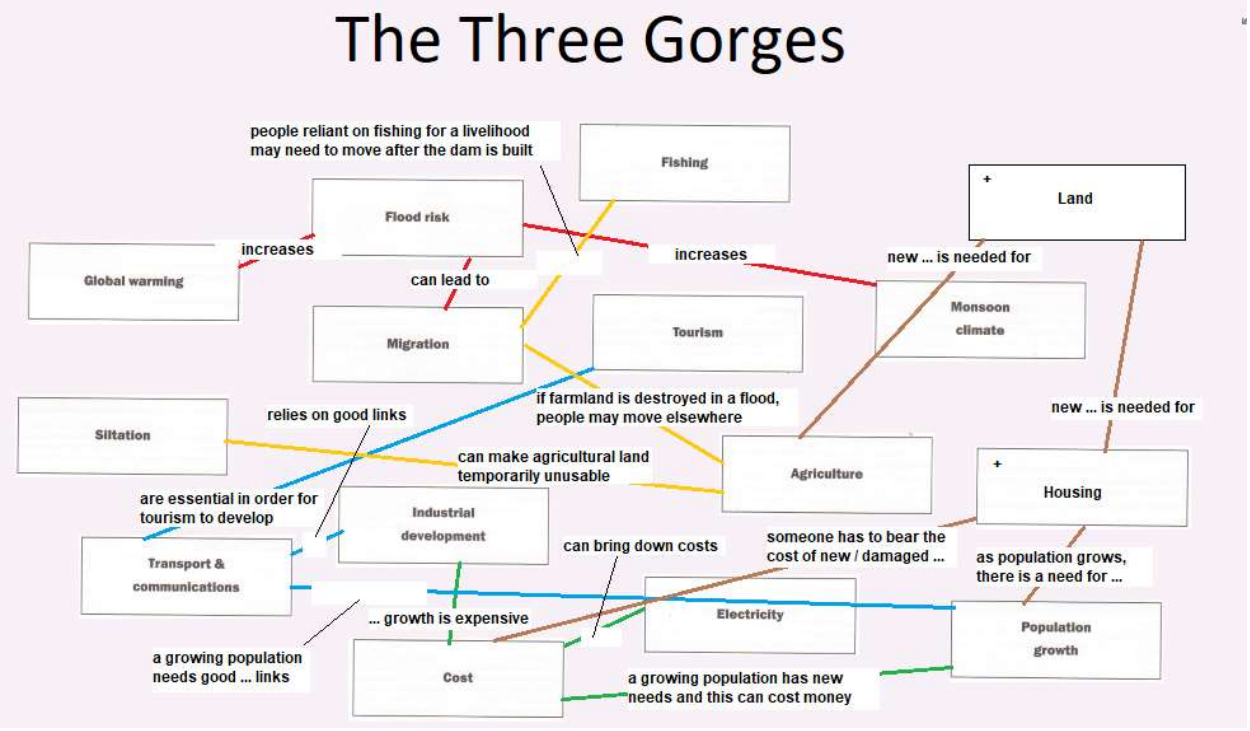

Figure 3: Describing links between factors related to building the Three Gorges Dam

Now, there are many sentences you could create based on these factors and the links between them. Let me repeat, there aren't any 'answers' offered here. More importantly, what I suggest is useful for teachers to try to do is predict their own 'answers', or record the answers from their own students and

identify common strutures that can then be given *in advance* of a task being given and it is my claim that by doing this we can actively develop our students' thinking AND academic English in-task. What we now have is the beginning of a language bank which feeds into a discussion around factors related to building the Three Gorges Dam.

Thinking about language

Let us now take a look at some of the language and structures that can be found in the materials themselves and see how we can apply them to the task. The first place to look, I always advise teachers about this, is the curriculum guidelines. Interestingly, Thinking through Geography, does exactly this and take assessment criteria at different levels and shows what language is needed to get specific level grades, giving examples of specific sentences and structures. Fabulous!

In short, the simpler, less accurate less explored ideas, the lower the grade. Conversely, the more complext the structure, the more detail, the more exploration of ideas, the higher the grade.
At level 4, the lowest grade we are offered, learners 'are beginning to describe geographical patterns. They also recognise and describe physical and human processes.' Sentences are simple with 'is', 'are', 'means' but little else. At the higher grades 7 and 8, we see 'work that explains complex interactions within and between human and physical processes, perhaps involving a number of factors simultaneously. They use a wide range of factors to explain and predict change over time (ie causes and consequences).'

A summary of the 'functions' of language identified in the materials for 'The Three Gorges Dam' follows.

- Giving explanations:
One reason for this may be…
An explanation of this may be…
This can be explained by…
… because …
As …, … can be …
Thanks to …, not many …, although / however (juxtaposing one characteristic with another / qualifying statements)

- Describing tendency / susceptibility (to flooding, damage, loss):
are often
are likely to be
can frequently be
can tend to be
may be prone to …
((Note – making reference to 'local', 'regional', 'global' characteristics - *because of the altitude and fast drop of the river in the area… given the lowland need for raised river banks / dykes to protect from flooding … this is likely to continue to get worse* - and giving degrees of of generality, abstractness, and conditionality … *considering the ongoing tendency for melting ice cover and extreme weather patterns generally…*))

- Giving examples from personal experience, background knowledge:
as some are around (the Amazon basin)…
as they might in …

as we have seen in (India) …
as has been seen in …

Multiple clauses (complex interaction):
… which may be …

Giving additional information, adding characteristics/traits (complex interactions):
and / also / additionally / furthermore / at the same time

Comparing with other similar / contrasting with other (complex interactions / describing factors simultaneously):
while… , whereas … / similarly / likewise / equally / not unlike / as with

Speculating:
If they … they …
It could be possible / It may be possible / It might be possible

Putting language into the task

We've actually worked through the task ourselves and this has lead us to a set of sample discussion comments around the factors related to the building of the Three Gorges Dam. It's useful now to consider how we might embed some of this language and other phrases discovered in the supplementary resources within the task so that the students have to do with brainstorming and discussion themselves but are supported by our language provision.

One way of doing this would be to give the task as is so that students arrange factor cards around a poster sheet and then draw coloured lines between related factors. Add to this a collection of phrases for 'linking factors', 'giving examples', 'adding details', 'speculating', describing consequences' etc, as listed above and inserting a step that has students place the phrases on their mind map as they discuss in small groups. This means that when the teacher asks individual groups to feed back, they have 'complete descriptions' to offer.

can lead to	can cause	as a result
may result in	(can) increase/s	(can) descrease/s
is / are needed for	rely / relies on	a need for … means people may
is / are essential for	consequently	additionally
such as	therefore	furthermore

Figure 4: Phrases for linking factors related to building the Three Gorges Dam

It makes good sense to be selective in providing students with language support like this. More or less support will depend on your students' needs. Nevertheless, the focus of the support must come from

the task itself. In this case language support is provided to enable students to discuss a range of factors related to the building of the Three Gorges Dam.

Additional differentiation can be explored a) by not providing factor cards, b) by providing factor cards, c) by providing factor cards linked with coloured lines, d) providing the factor cards and the linking phrases embedded along the links, or e) providing the factor cards and a list of linking phrases to choose from to place on the mind map.

It goes without saying that CLIL students who experience this language support, where language is explicitly linked to 'curriculum thinking skills', will quickly develop their academic language. A CLIL teacher who is constantly looking for opportunities to embed language in task in this way, can work towards this academic development and know that they are helping their students success both in academic thinking but also academic language.

References:

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