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ICRI-HASS 2021

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Keynote 2: Language Education and Language in Education in Globalised World



Dr. Oksana Afitska

Department of Linguistics and English Language, Lancaster University

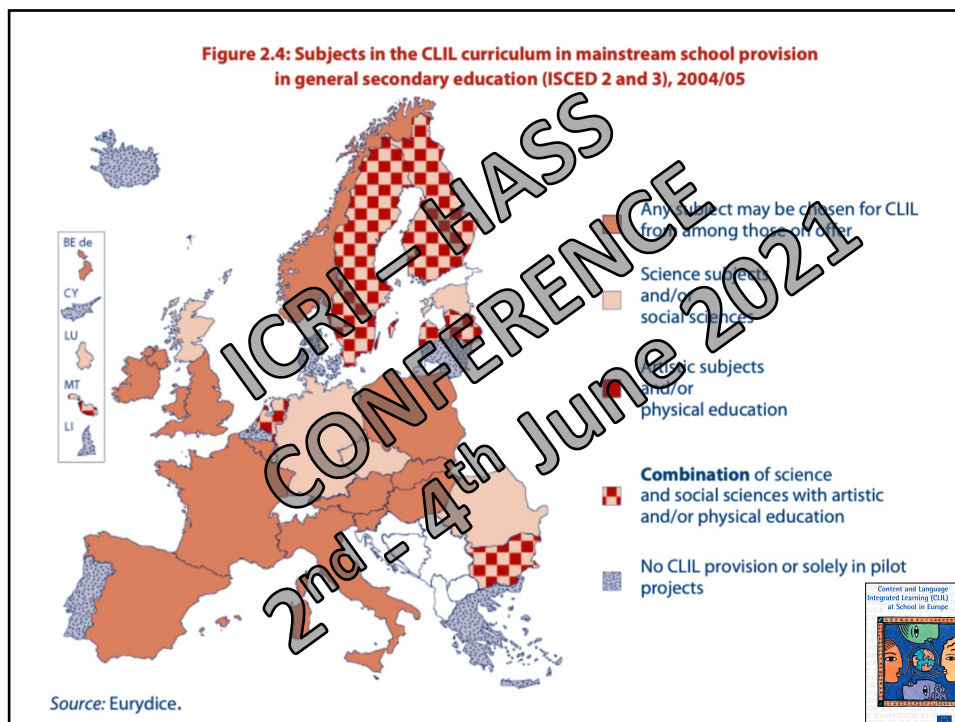
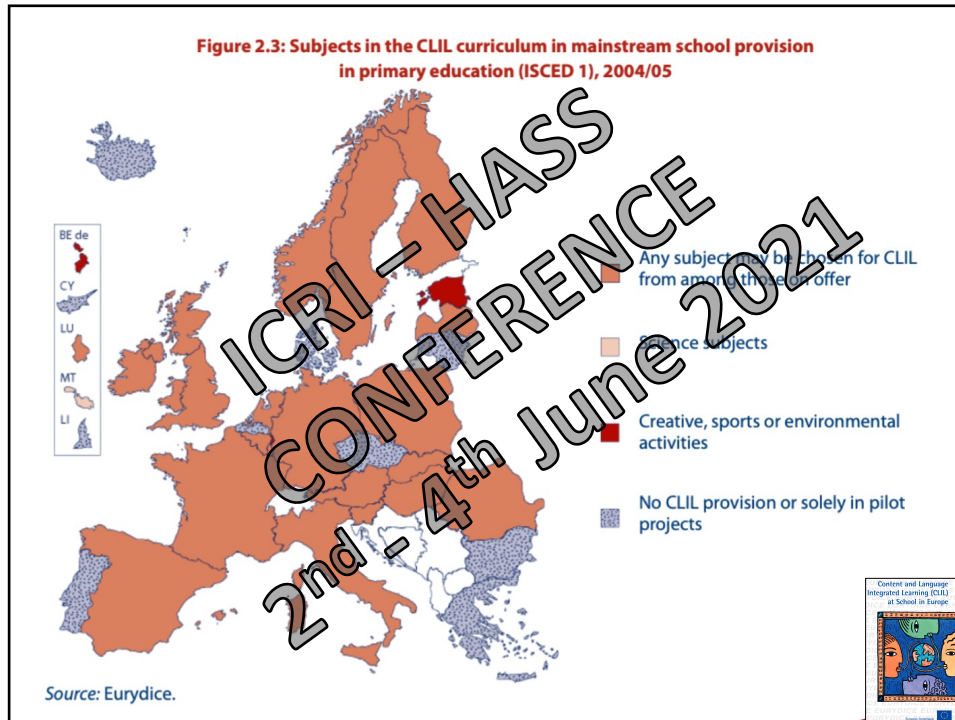
o.afitska@lancaster.ac.uk

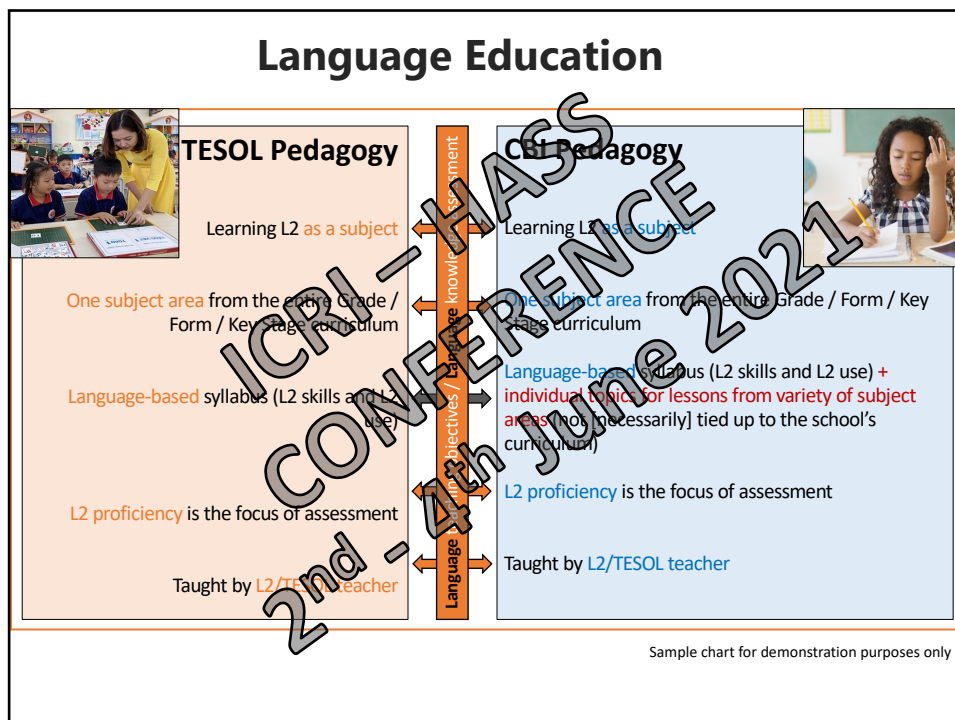
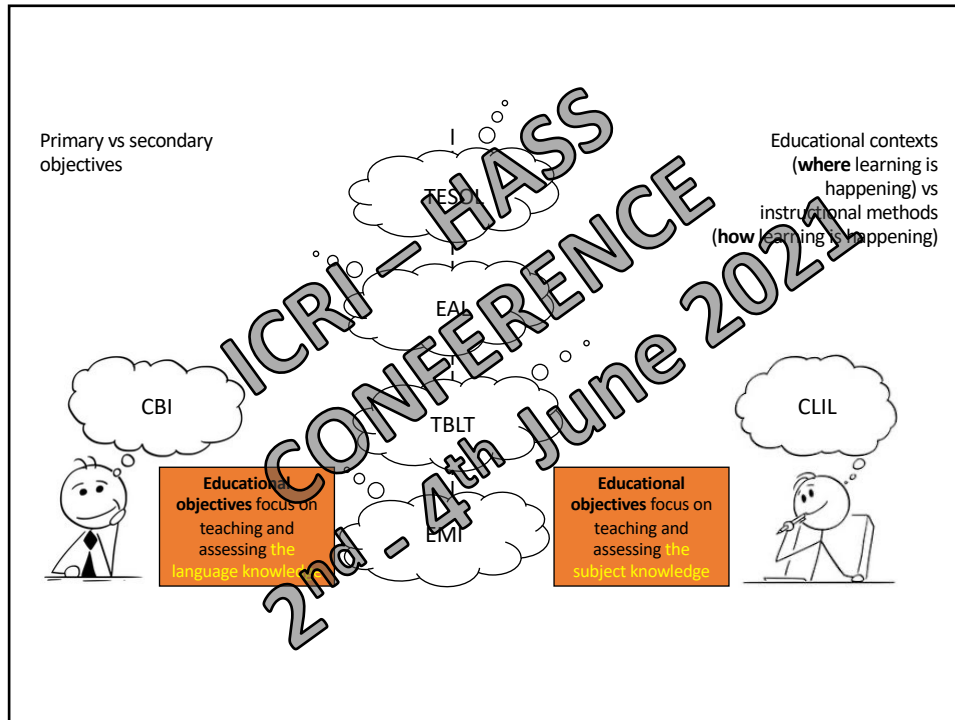
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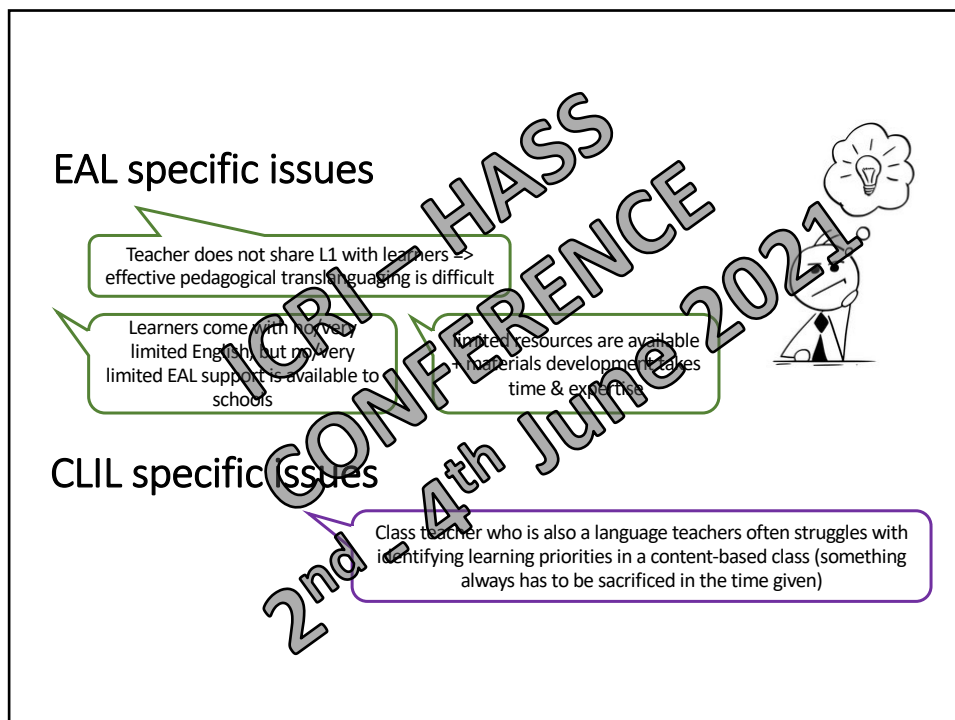
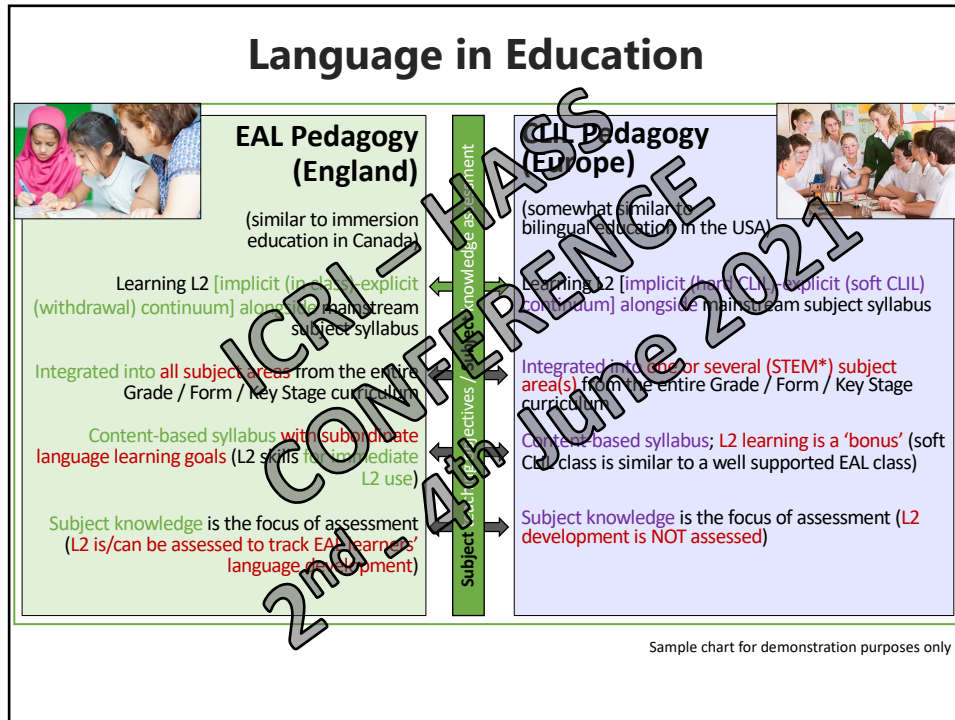
LANGUAGE LANDSCAPE IN COMPULSORY EDUCATION SECTOR IN ENGLAND

- EAL in **secondary schools** (8% in 2000, 15.7% in 2015, **17%** in 2019),
- EAL in **primary schools** (8.7% in 2000, 20.1% in 2015, **21%** in 2019) (DfE, 2019).
- **75%** of primary and **100%** of secondary schools have 'EAL' learners
- Approximately **350** different languages are spoken by pupils in mainstream schools

PLASC data (Schools Census, 2013); National Census data, 2011; DfE (School Census, 2019)







EAL-Science Booklets® - are materials for teaching language and science to bi/multilingual learners in mainstream primary classrooms.

They cover a selection of topics from the National Curriculum for Science for Key Stage 2.

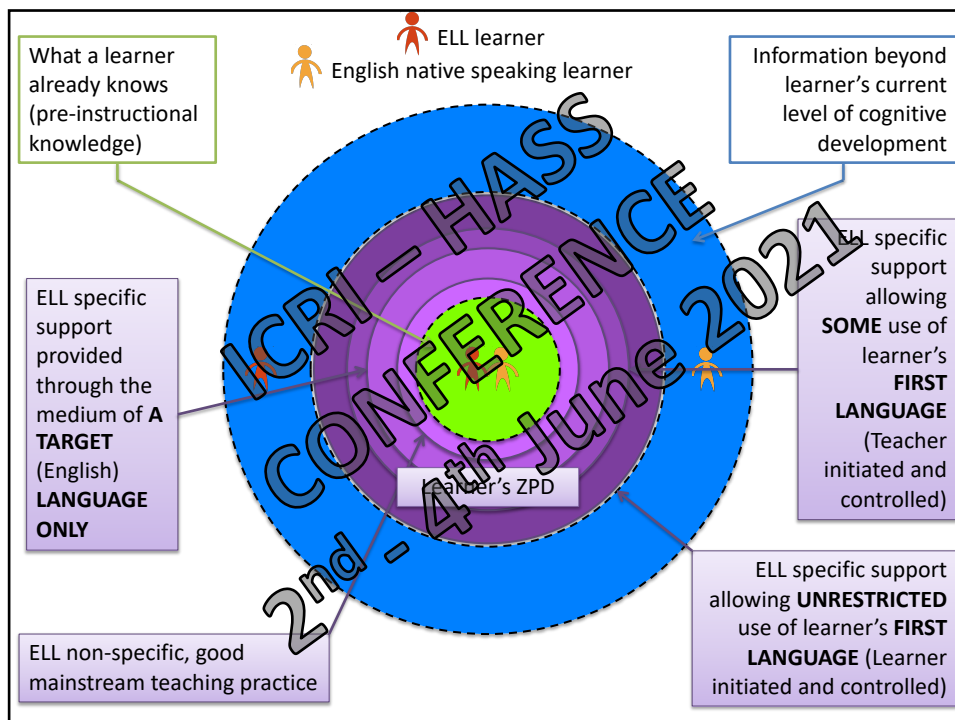
Topics covered are:

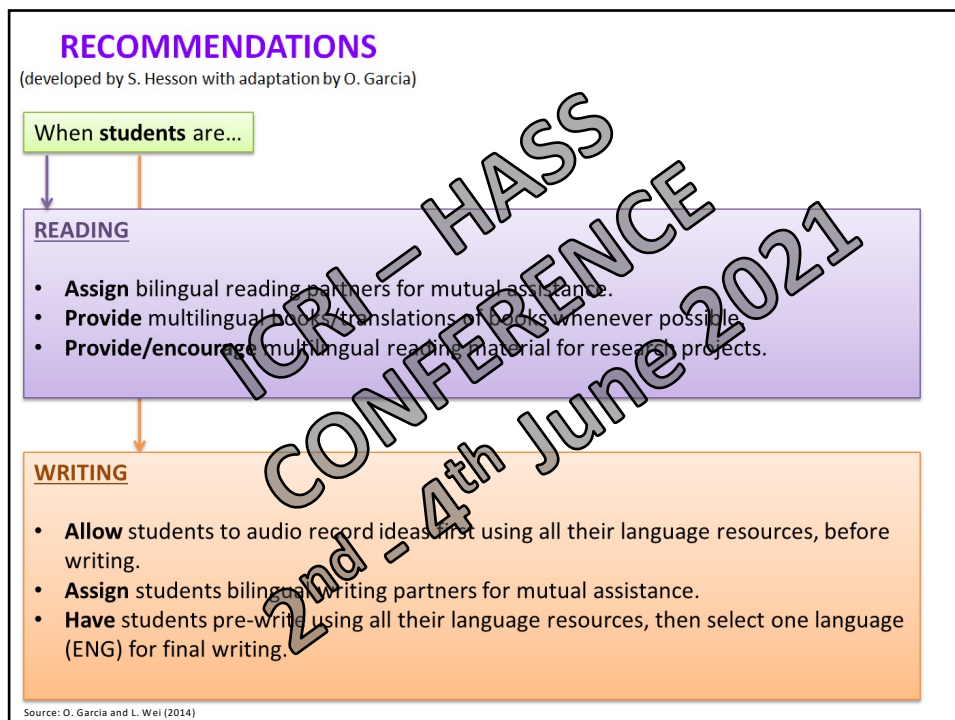
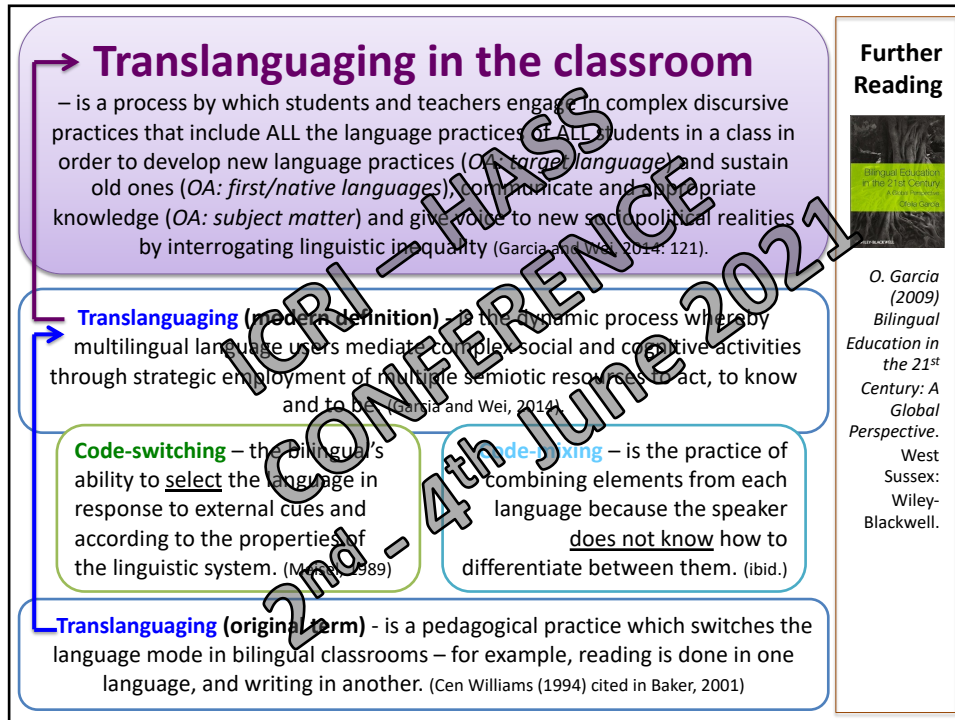
- (1) Teeth and eating
- (2) Growing plants
- (3) Magnets
- (4) Habitats and food chains
- (5) Separating solids and liquids
- (6) Changing state
- (7) Changing sounds
- (8) Changing circuits

The booklets:

- are **systematic**
- use **visuals** and **simple target language** to support learning
- allow **use of learners' first language** to facilitate comprehension
- are **personalised, interactive** and **flexible**
- have **content** that is **highly accessible**
- bring parents** into learning processes
- employ range of tasks** to support **language** and **subject knowledge development**
- are likely to **increase motivation** and **facilitate scientific enquiry**
- allow a **varied degree of teacher control** at any stage
- can be used as a helpful **resource** to **formative assessment**
- can be used **equally effectively** by **native English speaking learners** and **learners with EAL**

PDF copies of the Booklets can be downloaded here (free of charge):
<http://wp.lancs.ac.uk/eal-science-project/download-booklets/>





RECOMMENDATIONS

(developed by S. Hesson with adaptation by O. Garcia)

When teacher is...

READING

- **During** content area reading, give partners time to discuss difficult passages or words in home language or using all their resources.
- **Create** a multilingual interactive word wall (especially in content areas – Maths, Science, Social Studies).

WRITING

- **Write** instructions in as many languages as possible, using translanguaging in the written text.
- **Make** connections between words to build vocabulary and improve spelling, especially through cognates (for example, revolución → revolution; triángulo → triangle)

SPEAKING

- **Use** Preview (other language) – View (language of lesson) – Review (other language) to facilitate understanding/ language learning (via match, link, select).

LISTENING

- **Allow** students to explain/share ideas using all their languages (other student can translate if you or the class doesn't speak the language).

Source: O. Garcia and L. Wei (2014)

CLIL and EAL shared issues

Where class teacher is not a language teacher, teaching language or focusing on linguistic aspects of the discipline is difficult (impossible?)

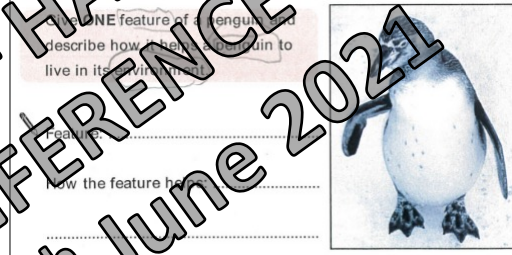
In Europe teacher training is provided for both content areas and English language; In the UK there are MA Programmes in EAL and there is an integration of EAL component into the Programmes, but this is still very limited and insufficient in breadth and depths of focus.

ELLs need to develop not only essential survival language skills (BICS, Cummins, 1979) but also CALP (including development of critical thinking skills and academic [+subject specific] language that comes with them)



ACADEMIC / SUBJECT-SPECIFIC LANGUAGE USE

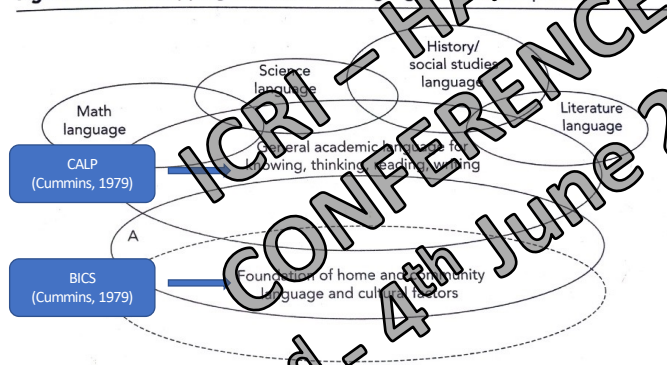
- Start teaching and **eliciting academic and scientific language** from learners **actively at lower stages of schooling** (primary school) - despite its largely 'optional' nature - in order to prepare learners better for later stages of schooling (secondary phase).



Our data suggested that many learners, both EAL and native speakers, did not know such subject-specific terminology and academic language as: *absorb, amount/of, attract, beaker, canine, molar, decay, condense, evaporate/evaporation, feature, grow/th, nutrition, producer, property, reproduce/reproduction, separate, type, vapour, water cycle*'.

THEORETICAL BACKGROUND

Figure 2.1 Overlapping Variations of Language That Develop over Time



Academic language proficiency is the abilities to construct meaning from oral and written language, relate complex ideas and information, recognize features of different genres, and use various linguistic strategies to communicate (Dutro & Moran 2003).

Academic language is the set of words, grammar and discourse strategies used to describe complex ideas, higher-order thinking processes, and abstract concepts (Zwiers, 2014: 22).

ELLs perform poorly in mainstream classes not only because they lack academic language preparation but also because their teachers lack preparation to teach them this language (Bartolome, 1998; Scarcella, 2003; Valdes, 2001)

Adapted from Zwiers (2014)

THEORETICAL BACKGROUND

In middle grades and early high school especially, students need to know and use many new terms on the abstract side of the continuum (Zwiers, 2014: 25).

One way to foster student abilities to get academic things done with language is to think of language as an evolving set of tools and skills used to construct and communicate ideas.

TOOLS:

- Words
- Phrases
- Grammar
- Message organization strategies

Words = content-specific/technical: *respiration, inhibit*
 Words and phrases = extend across the curriculum from concrete to abstract/philosophical and harder to visualize words):
phenomenon, democracy, balancing equations
 General but sophisticated words/tier 2 words, (Kucan, 2013) are used across a variety of domains and help mature users communicate complex thoughts: *feature, require, tend, dimension, reality, correspond, inevitable, represent, account, reflect*.

Importance of academic vocabulary knowledge (McLaughlin et al., 2000; Moats, 2000; Stahl, 1999). The danger is in **overfocusing on individual words**, particularly what focus is on accumulating definitions to do well on tests. When this happens, **connected and in-depth understandings of content concepts and practice in disciplinary thinking** get pushed aside. Learners must be able to work on their **SKILLS of communicating ideas**.

SKILLS:

- For constructing ideas → use various tools that logically and clearly connect sentences and paragraphs. E.g.: Connectives: *therefore, however, whereas, because*; prepositions: *behind, between, without*; pronouns: *each other, themselves, it*.
- Use terms that describe higher-order thinking skills (Scarcella, 2003): *differ, contrast, analyse, theory, estimate, filter, model, link, evidence, establish, consequences, aspects*.

Adopted from Zwiers (2014)

Partial Academic Word List

access	consumer	final	minorities	required
achieve	context	financial	negative	research
acquisition	contract	focus	normal	resident
adequate	contrast	formula	obtained	resolution
administration	contribution	framework	obvious	resources
affect	convention	function	occupational	response
alternative	coordination	goals	occur	restricted
analysis	core	granted	option	retained
apparent	corporate	hence	outcomes	role
approach	corresponding	hypothesis	output	scheme
appropriate	create	identified	overall	section
approximated	credit	illustrated	parallel	second
area	criteria	immigration	parameters	select
aspects	cultural	impact	participation	sequence
assessment	cycle	implementation	partnership	series
assistance	data	implications	perceived	shift
assume	debate	imposes	persistent	significant
attitudes	deduction	imposed	pleasant	similar
attribute	definition	indicate	possibility	site
authority	demonstrate	individual	policy	sought
available	derived	initial	positive	sought
benefit	design	institute	potential	sufficient
categories	despite			

Coxhead (2000) *Academic Word List in the Academic Corpus*

Frequently Used Terms and Tactics for Building Academic Sentences

To Describe Sequence	To Give an Example	To Soften a Statement	To Compare and Contrast	To Show Results or Conclusions
first, second, at this time, at this point, meanwhile, finally, concurrently, consequently, previously, simultaneously, subsequently, concurrently, while, following this	for example, for instance, consider the time, in this case, on this occasion, in this situation, to demonstrate, to illustrate, in fact, indeed, . . . in practice, such as	sometimes, many, few, seldom, rarely, can, might, most, occasionally, apparently, theoretically, probably, likely	whereas, nevertheless, however, on the other hand, in comparison, in contrast, although, even though, just as so	this led, hence, brought about by, conclusion as we have shown, therefore, accordingly, thus, as a result, consequently, ultimately, in view of this, due to

Frequently Used Terms and Tactics for Building Academic Sentences

Words	Sentence Samples
For dependent clauses: after, as, because, before, even though, if, rather than, since, unless, until, once, when, whereas, which, while	Given that the sum of the two angles must equal 180°, we can figure out the unknown angle by subtracting. As you analyze the structural formulas above, you will notice that every carbon atom forms four bonds. When Constantinople fell to the Ottoman Turks in 1453, the overland spice trade into Europe was cut off. The author is showing that each person cannot overcome the temptation to choose what is wrong rather than right, even if it is in a human society.
For relative clauses: whom, who, whom, that, whose, those, whoever, whenever	An excellent example of which releases energy in the form of heat has many practical applications. A triangle's angles and sides have relationships that can be proven. Maria Morelos, whose rebel army had some success, was captured and executed in 1815. And then the old man, who talked only when absolutely necessary, faced the window and cleared his throat.
For prepositional phrases: above, across, after, against, along, among, around, as, behind, below, besides, by, except, for, from, in, inside, near, next to, of, off, on, out, over, regardless, to, under, until, with	Regardless of the data they had gathered, they proceeded with the next phase of the project. Except for a handful of rebels concealed in the surrounding hills, all hope was lost. They wound their way through the forest, with some trepidation, for they had heard many stories of its dangers.

Coxhead, A. (2000) A new academic word list. *TESOL Quarterly*, 34(2), 213-238.

Adopted from Zwiers (2014)

Functions of academic language

- To describe complexity

Describe complex concepts as clearly as possible (Schoppevel, 2004). E.g.: *in science, there are complex relationships among the systems in the human body, complex combinations of chemical reactions, or complex geological forces that change the planet.*

- To describe higher-order thinking

Academic language is used to describe complex thinking processes (= higher order thinking skills). These include **cognitive processes** that are used to **comprehend, solve problems, and express ideas** (Pacione, 1990; Swartz, 2001).

Bloom's taxonomy of thinking skills (Bloom et al., 1956)

Knowledge → Comprehension → Application → Analysis → Synthesis → Evaluation

Extended list of cognitive functions (Valdez-Pierce & O'Malley, 1992; Wiggins & McGighe, 1998):

Analysing, seeking information, comparing, informing, explaining, predicting, classifying, justifying, hypothesizing, solving problems, synthesizing, persuading, empathizing, interpreting, evaluating and applying.

- To describe abstraction

Describe abstract concepts – ideas or relationships that cannot be easily acted out, pointed to or illustrated with images. E.g.: *On the other hand*, the two scientists had differing **views** on the topic of evolution. (views = thoughts which are abstract).

Adopted from Zwiers (2014)

Cognitive discourse Functions (CDF)

Dalton-Puffer (2016)

CDF – are patterns which emerge from the needs humans have when they deal with cognitive content for the purposes of learning, representing and exchanging knowledge

(Dalton-Puffer (2016) in Nikula, Dafouz, Moore and Smit, 2016: 31).

Table 1.1 List of CDF types and their basic underlying communicative intentions

Function type	Communicative intention
CDF 1 CLASSIFY	I tell you how we can cut up the world according to certain ideas
CDF 2 DEFINE	I tell you about the extension of this object of specialist knowledge
CDF 3 DESCRIBE	I tell you details of what can be seen (also metaphorically)
CDF 4 EVALUATE	I tell you what my position is vis-à-vis X
CDF 5 EXPLAIN	I give you reasons for and tell you cause/s of X
CDF 6 EXPLORE	I tell you something that is potential
CDF 7 REPORT	I tell you about something external to our immediate context on which I have a legitimate knowledge claim

Table 1.2 CDF types and their members

CLASSIFY	Classify, compare, contrast, match, structure, categorise, subsume
DEFINE	Define, identify, characterise
DESCRIBE	Describe, label, identify, name, specify
EVALUATE	Evaluate, judge, argue, justify, take a stance, critique, recommend, comment, reflect, appreciate
EXPLAIN	Explain, reason, express cause/effect, draw conclusions, deduce
EXPLORE	Explore, hypothesise, speculate, predict, guess, estimate, simulate, take other perspectives
REPORT	Report, inform, recount, narrate, present, summarise, relate

Features of academic grammar

Long sentences (often have multiple clauses)

Students must be trained to quickly and automatically break down long sentences and process and interpret the clauses. They must recognize what is **subordinate** and, more important, what is the main point of the sentence in the **main clause**. Many subordinate clauses begin with words such as *although, because, before, if, despite*.

Passive voice

Places more emphasis on the object than the subject. E.g.: *The radius is then plugged* [...by someone who is not named here...; so, the object is missing in this sentence] *into this formula for the area of a circle*.

Nominalisation (turning verbs or adjectives into noun phrases)

Purpose – to condense lengthy explanations into a few words. E.g.: *revolution, reduction, personification, cancellation, reunification*. *The virus adapts to survive outside the body. This mutation allowed it to be passed on by casual contact*.

Condensed complex messages

Because complex texts pack a lot of meaning into a word or phrase, students must process more ideas per sentence. This technique allows proficient readers to free up thinking space for processing the main points that the author or speaker intends to communicate. E.g.: *The word "photosynthesis" implies a complex process involving several components. If the author and the reader share the understanding, the processes do not need to be stated/described again*. One form of condensation is use of acronyms (CLIL, ELL, SEN, etc.)

Clarity

Expressing ideas efficiently and effectively without overcomplicating them.

Adopted from Zwiers (2014)

Language acquisition process

Stephen Krashen's *input hypothesis*, *i+1* (1985)

Learner must get **comprehensible input** (mixture of structures acquired [*i*] and structures not yet acquired, but just beyond learner's current level of competence [*i+1*]) in order to advance.

Lev Vygotsky *Zone of Proximal Development* (1978)

Swain's *Comprehensible Output Hypothesis*

'Comprehensible output' refers to the need for a learner to be 'pushed toward the delivery of a message that is not only conveyed, but that is conveyed precisely, coherently, and appropriately' (1985: 249)

Long's '*Interaction Hypothesis*' (1980)

Interaction hypothesis proposes that language acquisition is strongly facilitated by the use of the target language in interaction (which involves **negotiation of meaning**)

Negotiation of Meaning (Ellis) (1994)

Negotiation of meaning happens when the learner or the interlocutor – attempts to remedy breakdown in communication by engaging in interactional work to secure mutual understanding.

Analysis

50.	T: What is ice? Who can tell me what ice actually is? Cause I said how are ice cubes made?	Define [T1-D2]/Describe [T1-D3] Initiation, Passive voice
51.	[Student name] what is ice? Put your hand up if you do not know what ice is. [Student name] what is ice? You could not answer that question	Using prosody for emphasis
52.	S: [inaudible]	
53.	T: It doesn't matter, because it is part of science, it's part of our learning. Some of you might not know how you make ice, or what ice is. What's ice? OK. [Student name], what is ice?	Scaffolding via rephrasing Modal verb Hedging / qualifiers
54.	Water	
55.	[Student name] let's see if you can tell me what water is	Use (classroom) expression / organisational talk Everyday language
56.	S: Ice is like , like is putting , like ... water	
57.	T: What is ice? [Student name]	
58.	S: Water	
59.	T: So if I just got some water out of the tap OK, and I poured it onto your table, is that ice?	Yes , like that Scaffolding specialised language [T]
60.	Ss: No	
61.	T: So, you have to be very specific in what you're telling me. What is ice? [Student name]	Academic word Prompting explicit message Specialised language [S]
62.	S: Uhm, frozen water	
63.	T: No, that's not [inaudible]. Come on. Ice is	
64.	S: Ice is when you pour water in a container then that really could freeze and it will turn to ice	Modal verb Describe [S1-D3] Specialised and everyday language [S]
65.	T: Right, so in the middle of the north pole , OK, there is a freezer plugged into a wall , is there?	Scaffolding Specialised language
66.	Ss: NO!	
67.	T: No, all penguins walking around, and all polar bears but freezer is plugged into an electricity socket , we open it up and put the water in. Come on then, what is ice? [Student name]	Passive voice Describe [T1-D3]
68.	S: Uhm, water.	
69.	T: I'm looking for one word in particular .	Scaffolding Specialised language Using prosody for emphasis

[illegible]

Key findings

- Verbs – everyday language (make, turn, put, happen) – very common
- More specialised verbs (melting, pouring, freezing, boiling) – common
- Nouns – technical / specialised language (heat, temperature) – common
- Passive voice – adequate use / relatively common
- Use of modal verbs – relatively common (used more frequently by teacher)
- Words from the academic word list – uncommon (our, specific)
- Teacher modelling language, directing language – common (prompts, when... because... speak in full sentences... offering sentence starters...)
- **CDF progression:** Define/Describe (definition) → Describe (exploration via scaffolding) → Define (definition / confirmation) → Explain (deeper understanding) → Report (wider application / making connections). Next task is to Explore [E6] (outline measuring / estimating temperature of objects)
- Working within learners' L2 language and subject-content scaffolding through interaction; comprehensible input (more so for ENS than for ENNS learners)
- Key focus is on **acquisition of subject-matter** rather than on academic language development. **Higher-order thinking skills'** development is well supported. Focus on development of (supportive, K2 words) **discipline-specific vocabulary** is evident.

THANK YOU

FOR YOUR ATTENTION!

o.afitska@lancaster.ac.uk