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ICRI-HASS 2021

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



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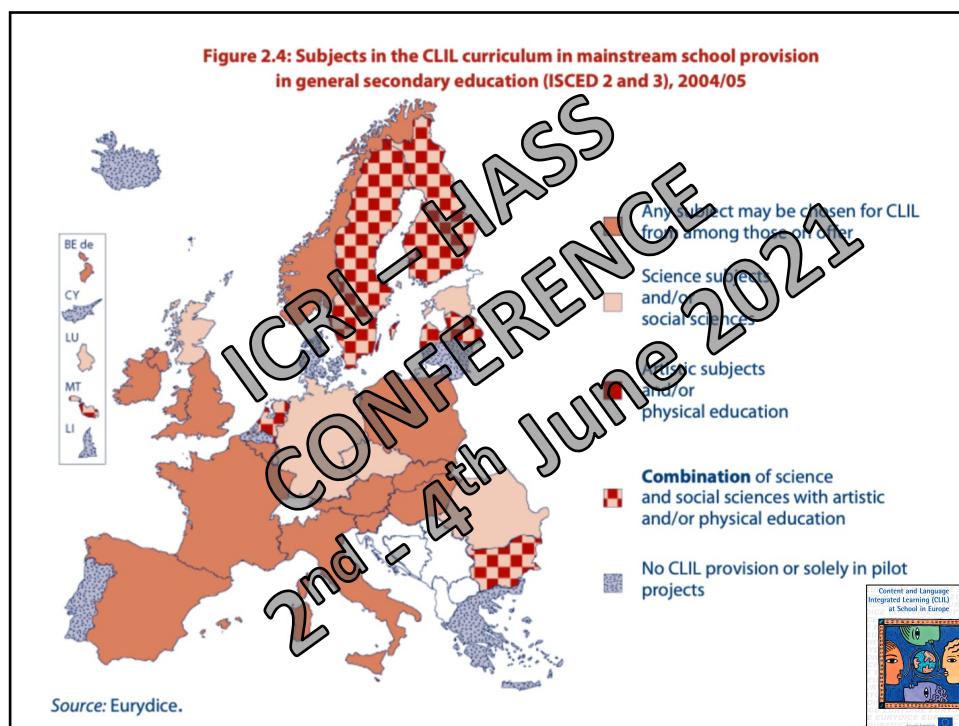
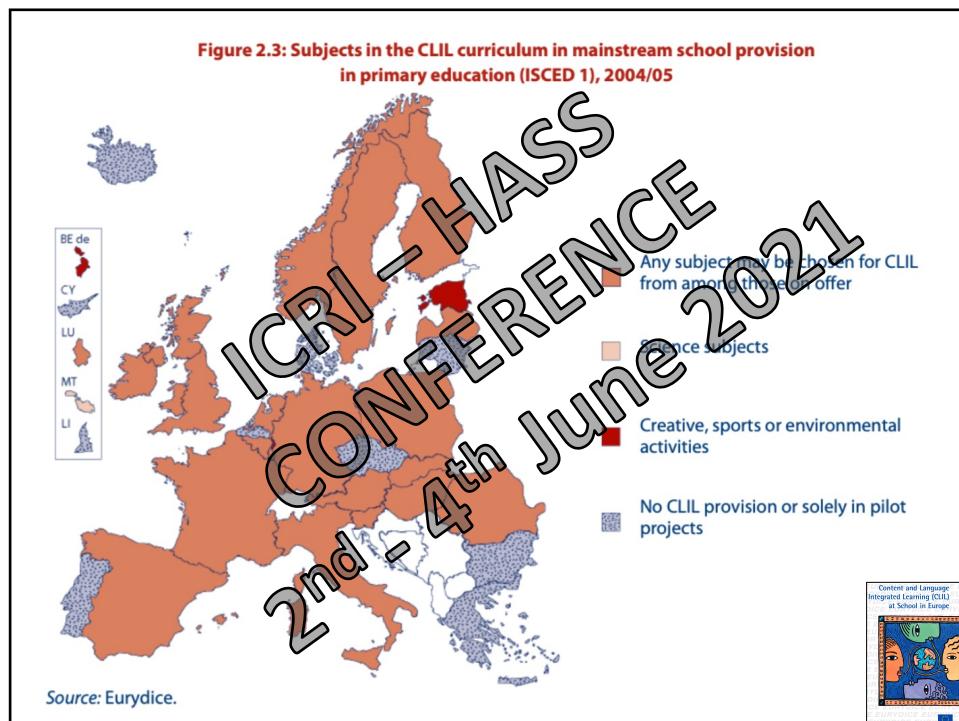
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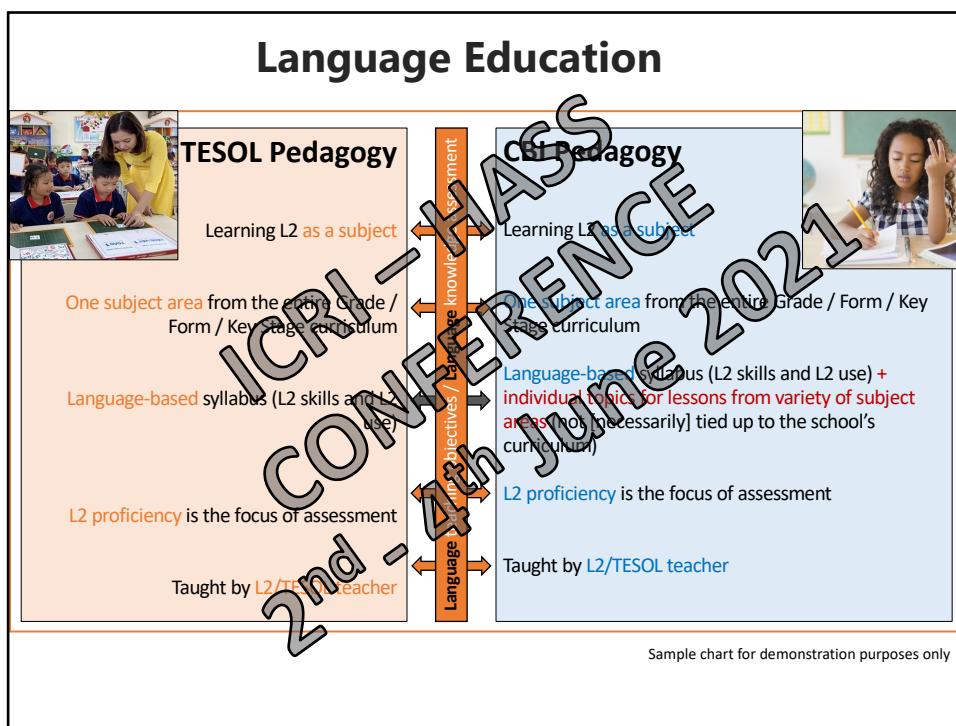
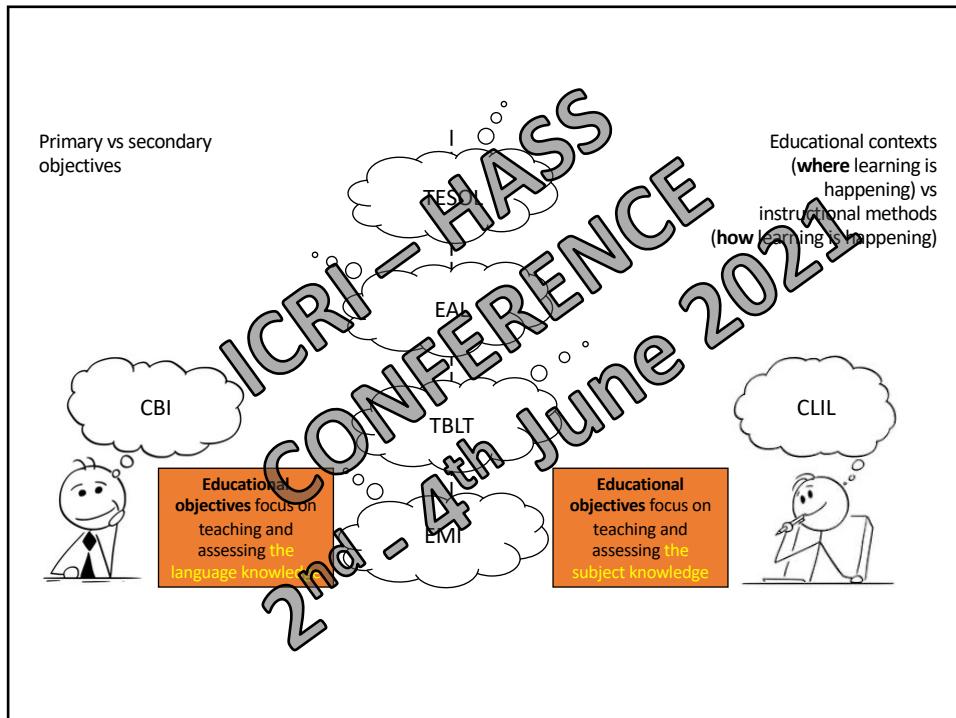
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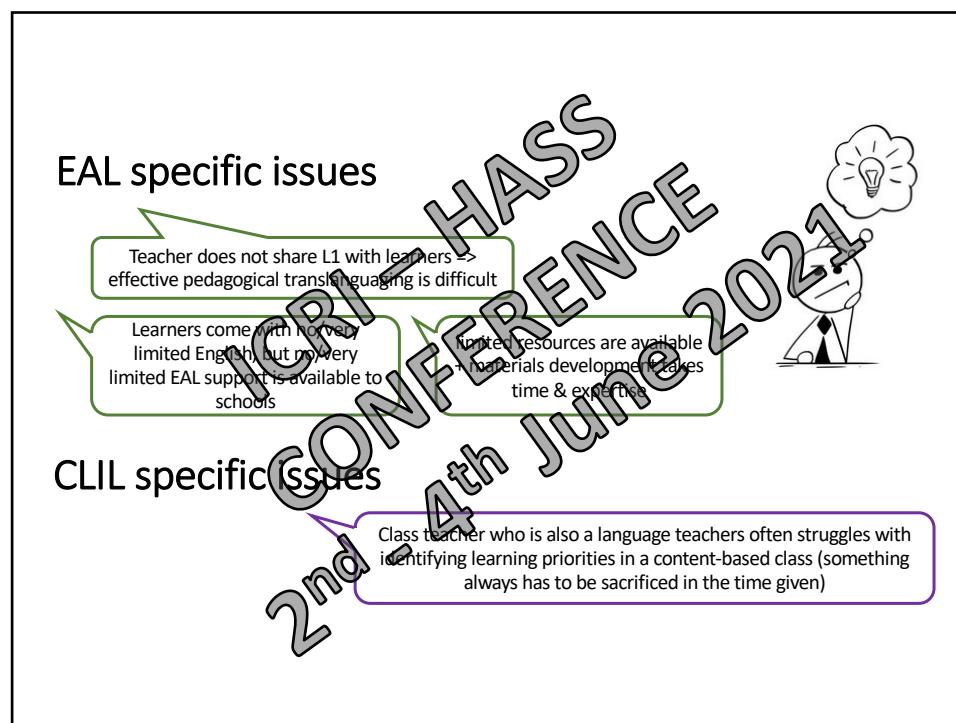
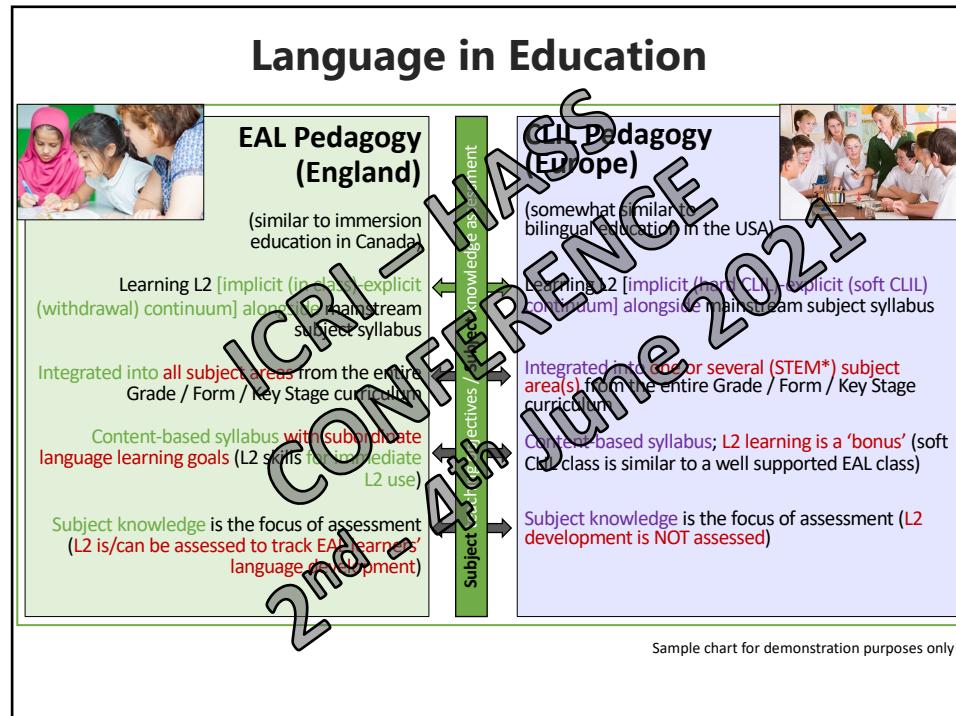
LANGUAGE LANDSCAPE IN COMPULSORY EDUCATION SECTOR IN ENGLAND

- EAL in **secondary schools** (18% 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)







ICRI - HASS CONFERENCE 2nd - 4th June 2021

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

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

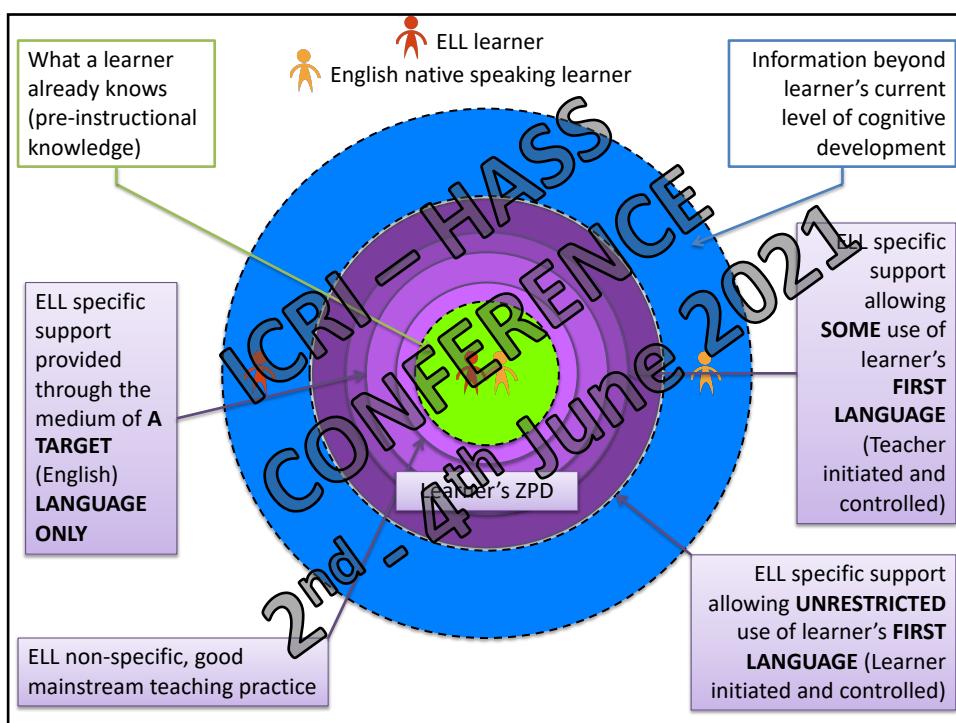
Topics covered are:

- (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 for 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/>



→ Translanguaging in the classroom

– is a process by which students and teachers engage in complex discursive practices that include ALL the language practices of ALL students in a class in order to develop new language practices (OA: *target language*) and sustain old ones (OA: *first/native languages*), communicate and appropriate knowledge (OA: *subject matter*) and give voice to new sociopolitical realities by interrogating linguistic inequality (Garcia and Wei, 2014: 121).

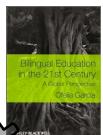
Translanguaging (modern definition) – is the dynamic process whereby multilingual language users mediate complex social and cognitive activities through strategic employment of multiple semiotic resources to act, to know and to be. (Garcia and Wei, 2014)

Code-switching – the bilingual's ability to select the language in response to external cues and according to the properties of the linguistic system. (Marsch 1989)

Code-mixing – is the practice of combining elements from each language because the speaker does not know how to differentiate between them. (ibid.)

Translanguaging (original term) – is a pedagogical practice which switches the language mode in bilingual classrooms – for example, reading is done in one language, and writing in another. (Cen Williams (1994) cited in Baker, 2001)

Further Reading



O. Garcia (2009) *Bilingual Education in the 21st Century: A Global Perspective.* West Sussex: Wiley-Blackwell.

RECOMMENDATIONS

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

When **students** are...

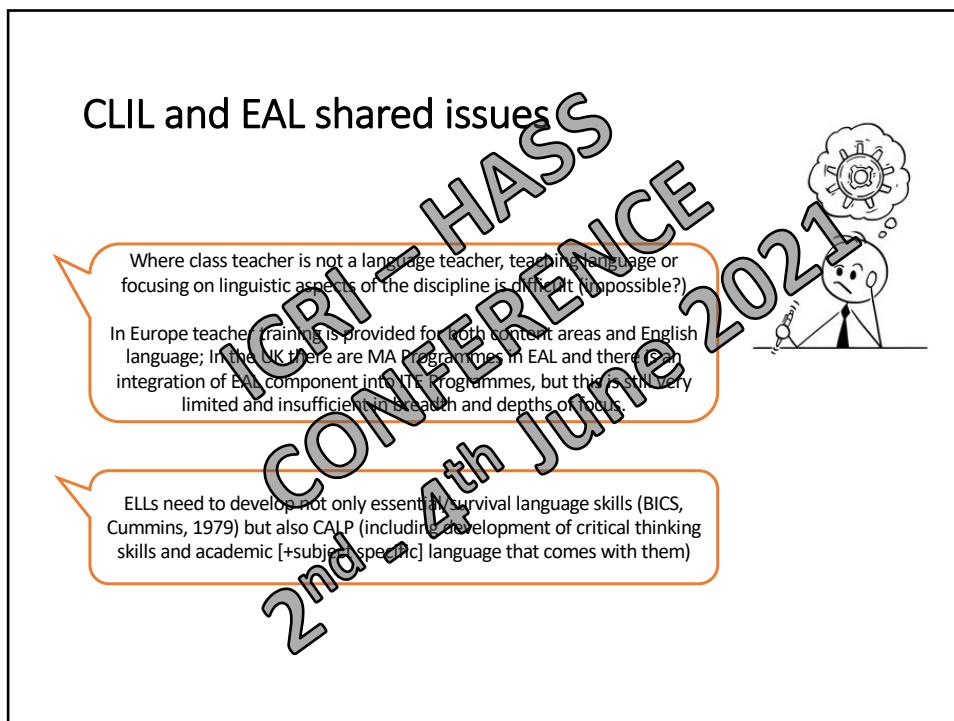
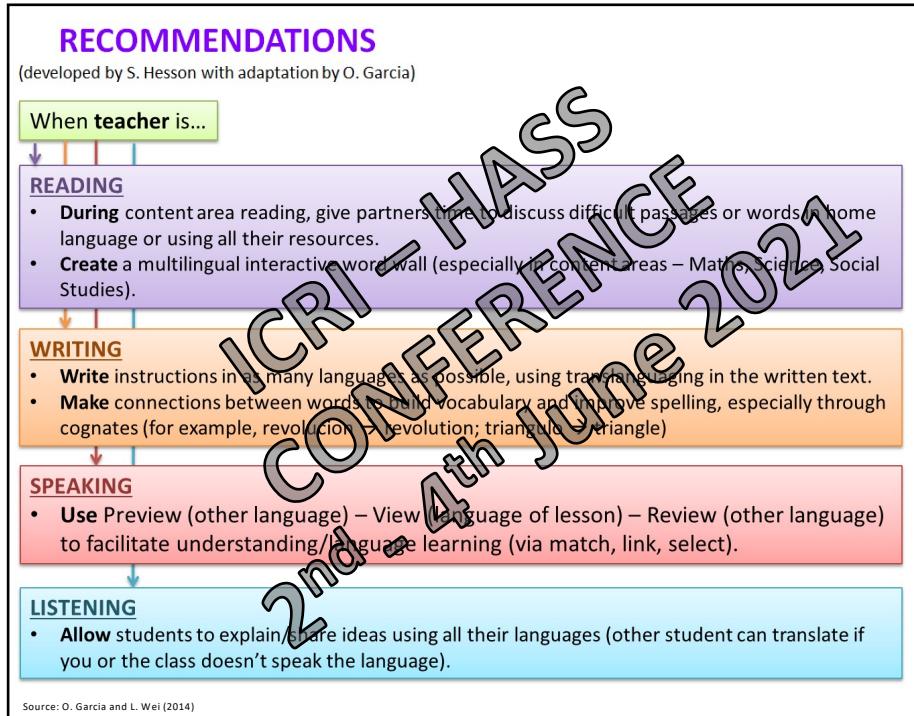
READING

- Assign bilingual reading partners for mutual assistance.
- Provide multilingual books/translations of books whenever possible.
- Provide/encourage multilingual reading material for research projects.

WRITING

- Allow students to audio record ideas first using all their language resources, before writing.
- Assign students bilingual writing partners for mutual assistance.
- Have students pre-write using all their language resources, then select one language (ENG) for final writing.

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



ACADEMIC / SUBJECT-SPECIFIC LANGUAGE USE

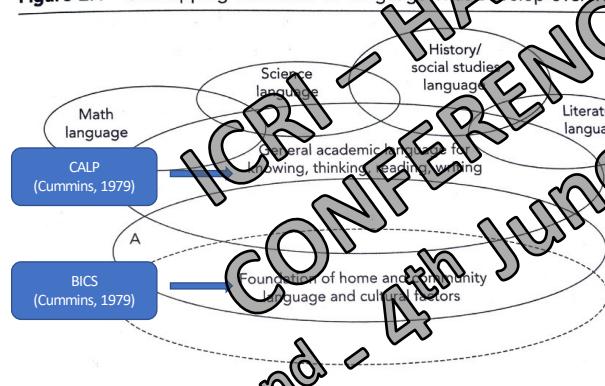
- Start teaching and **eliciting academic and scientific language** from learners **actively at lower stages of schooling** (primary school) - despite its largely 'optional' nature - in order to prepare learners better for later stages of schooling (secondary phase).



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)

Adopted 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, habitat*
 Words and phrases = extend across the curriculum from concrete to abstract (philosophical and hard to visualize words): *photosynthesis, 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 if that 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 (Scarsella, 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	seen
approximated	credit	illustrated	parallel	security
area	criteria	immigration	parameters	select
aspects	cultural	impact	participation	sequence
assessment	cycle	implementation	partnership	shift
assistance	data	implications	perceived	significant
assume	debate	implies	percent	similar
attitudes	deduction	imposed	plausible	site
attribute	definition	indicates	imposture	sought
authority	demonstrate	individual	political	specific
available	derived	initial	policy	strategies
benefit	design	instinct	positive	structured
categories	despite	intrinsic	potential	structured

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

Frequently Used Terms and Tactics for Building Academic Sentences

Words

For dependent clauses:

after, even though, as,

because, before, even

if, or, if, rather

then, given that, since,

unless, until, once,

when, whereas, whether,

which, as, even though,

to, relative clauses:

that, who, whom, that,

whose, those, whoever,

whichever, whenever

Sentence Samples

Given that the sum of the two angles must equal 180°, we can figure out the unknown angle by subtracting.

As we analyze the structural formulas above, you will see that every carbon atom forms four bonds.

When Constantinople fell to the Ottoman Turks in 1453, the overland spice trade to Europe was cut off.

The author is showing that if each option cannot

overcome the tomination, to choose what is wrong

rather than right will result in a human society.

An exothermic reaction which releases energy in the

form of heat has many practical applications.

A triangle's angles and sides have relationships that

have been 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.

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

danger.

Frequently Used Terms and Tactics for Building Academic Sentences

To Describe Sequence

first, second

at this time

at this point

meanwhile

finally

concurrently

consequently

previously

simultaneously

subsequently

concurrently

while

following this

To Give an Example

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

might

most

occasionally

apparently

theoretically

probably

likely

compared to

although

even though

in contrast

just as so

whereas

nevertheless

however

on the other hand

on the contrary

consequently

therefore

accordingly

thus

as a result

consequently

ultimately

in view of this

due to

prepositional

phrases:

above,

across,

against,

along,

among,

around,

as,

behind,

below,

besides,

by,

except,

for,

from,

in,

inside,

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next to,

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Functions of academic language

- To describe complexity

Describe complex concepts as clearly as possible (Schimpff et al., 2004). E.g.: *in science, there are complex relationships among the systems in the human body, complex calculations of chemical reactions, 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 (Racione, 1990; Swartz, 2001).

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

Knowledge → **Comprehension** → **Application** → **Analysis** → **Synthesis** → **Evaluation**

Extended list of cognitive functions (Velozz-Pierce & O'Neil, 1977; Wiggins & McTighe, 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).

Function type	Communicative intention
CDF 1 CLASSIFY	I tell you how we can comprehend the world according to certain ideas
CDF 2 DEFINE	I tell you about the extension of this object or 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 with respect to 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 virus is then plugged* [...by someone who is not named here...; so, the object is missing in this sentence] *into the human for the asexual cycle*.

Nominalisation (turning verbs or adjectives into noun phrases)

Purpose – to condense lengthy explanations into a few words. E.g.: *revolution, extinction, personification, cancellation, reunification*. *The virus adapted 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 Vigotsky *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)

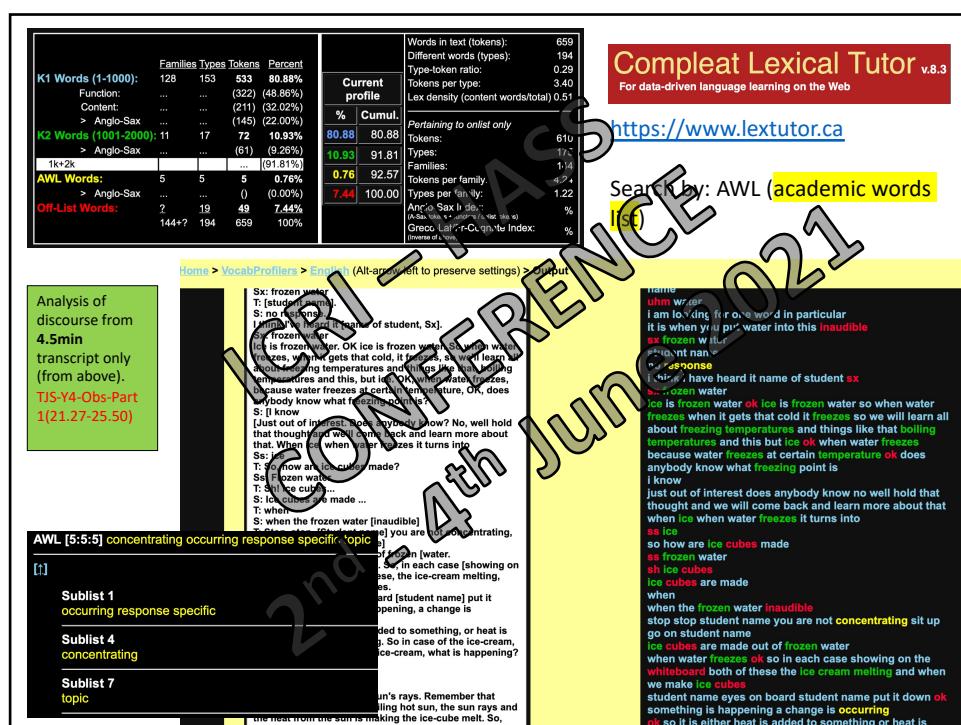
Long's 'Interaction Hypothesis' (1983)

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.

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. <i>Some of you</i> might not know how you make ice, or what ice is. What is ice? OK. [Student name], what is ice?	Scaffolding via rephrasing Modal verb <i>Hedging / qualifiers</i>
54.	Water	
55.	[Student name] let's see if you can tell me what ice is.	Set (classroom) expression / organisational task
56.	S: Ice is like, like is putting, like ... water	Everyday language
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 wanted to put it on your table, is that ice?	Describe [T1-D3] 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
62.	S: Uhm, <i>frozen</i> water	Specialised language [S]
63.	T: No, that's not [uhm]sville. Come on. Ice is	
64.	S: Ice is when you pour water in a container and when it reaches 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 are living 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



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 (occur specific)
- Teacher modelling language / directing language – common (prompts when... because... speak in full sentences... offering sentence starters...)
- **CDF progression:** Define/Describe (initiation) → Describe (exploration via scaffolding) → **Define** (definition / confirmation) → **Explain** (deeper understanding) → **Report** (wider application / making connections). Next task is to **Explore** [E6] (outlines measuring / estimating temperature of objects)
- Working within learners' EPPD 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!

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