ACADEMIC LANGUAGE: RAISING AWARENESS OF SUBJECT-SPECIFIC LITERACIES

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Abstract

This both theoretical and empirical inquiry examines how academic language as a specific language register is addressed in classrooms at elementary level and how language acquisition of especially English language learners is supported in the U.S. The purpose of this extensive report is to function as a reference and basis for a series of PP presentations and a practice-oriented publication aimed at Finnish pre- and in-service teachers engaged in teaching learners studying through Finnish as their second language and/or learners in bilingual Finnish-English instruction known as CLIL in Europe. Consequently, the report is a collection of various more or less theoretical approaches to academic language, subject-specific as well as multiple literacies, pedagogical recommendations for implementation of language-responsive teaching and actual observations made during school visits in Indiana and Colorado.

The starting point for language-aware teaching is that the fundamental difference between social language and academic language is recognized. Furthermore, it is important for teachers to realize that different subject areas employ their own languages, which requires acknowledgement of multiple literacies. The main theoretical premises for language-aware or language responsive content teaching advocate content-area language analyses which are based on knowledge of language functions, forms and subject-specific vocabulary. Enhancing the development of academic, subject-specific language necessitates gradual, explicit instruction of language functions and forms starting from elementary years and placing emphasis on written language similarly as on spoken production, for achieving fluency requires practice.

Several scholars stress the importance of reading in acquisition of academic language proficiency. Consequently, literacy in its all forms has an utterly strong role in the U.S. education which can be seen both in learning standards and classrooms. In classrooms, there were signs of taking academic language and subject-specific vocabulary into account, even scaffolding academic-type language use, but no far-reaching conclusions can be made based on those signs in terms of structured teaching of academic language. One needs to remember that not only English language learners but all students benefit from language responsive instruction which entails more than instruction of general literacy or subject-specific vocabulary. Therefore, language responsive content instruction addressing academic language is important.

Contents

1. Introduction

The importance of good language proficiency for school attainment has always been recognized, but especially in the recent years, developing adequate academic language skills and content-area literacy has been more widely acknowledged as a decisive factor contributing to the academic achievement of all students, not only second language learners (e.g. Wyatt-Smith & Cumming 2003; Vukovic & Lesaux 2013). Terms such as 'language awareness', 'multiliteracy' and 'subject-specific literacy' have become topical in the educational discourse also in Finland. The current Finnish National Core Curriculum for Basic Education (2004) is being reformed and it will come into effect in 2016. The principles that guide the reshaping and development of the operational cultures in future schools include endorsing cultural diversity which manifests itself, for instance, in multilingualism and raising linguistic awareness which in turn refers to scaffolding the acquisition of multiple literacies, recognition of textual features and concepts that are specific to various school subjects (NCC Draft 2014, 21-22). The draft (ibid.) also posits that instruction advances linguistically from basic, everyday language toward more academic, conceptual, academic language (see e.g. Cummins 2008; Cummins & Man 2007).

It is thus the national prerequisite that a more linguistically aware approach to content teaching is adopted in Finland - a principle that is assumed to be beneficial to all students regardless of background, mother tongue or prior education. The NCC is the educational framework that legally binds education providers throughout the country and guarantees uniform, equal instruction. The document does not, however, specify *how* more linguistically responsive instruction is implemented and realized in practice, for this largely depends on the given educational contexts. Therefore, each municipality and school composes their own local curricula drawing from the NCC, and the execution of language responsive instruction is also determined taking the specific needs of the school demographics into account.

My home institution, the Teacher Training School of Turku University, houses three different school levels under one roof (grades 1-12), and provides the instruction of the Turku International School which is funded by the City if Turku, while the rest of the school is administered and funded by the university. The school is part of the department of Educational Sciences. It is one of the

most culturally and linguistically diverse educational establishments in Finland; more than half of elementary level (grades 1-6) students (58%) speak another language than Finnish as their first language; Finnish is thus their second language. At the middle school level (grades 7-9), 61% of students are Finnish language learners (FLLs), and in the high school (grades 10-12) the corresponding percentage is 42%. In the Turku International School, a part of the school corporation, the percentage of FLLs is also naturally high (57%, 58% and 74%, respectively). On average, the percentage of FLLs in basic education was 3.9% in 2010 (Finnish National Board of Education 2014). In my home institution, hence, the majority of students learn content matter through a language which is not their first.

Considering the facts stated above, there is an urgent need to examine the nature of academic, subject-specific language and the process of teaching language in addition to content matter to students learning through an additional, second language. Since the United States has, according to the National Center of Educational Statistics (2014), more than double the amount of English language learners (ELLs) or English as a new language (ENL) learners (9.1% in 2011-2012) than Finland, long experience in schooling children with immigrant background and a substantial body of research into bilingualism and content-based second/foreign/new language instruction and learning, the logical is to seek more profound theoretical understanding of the topic and find examples of good instructional practices in the U.S. in order to import the deepened understanding on academic language to Finland and particularly my own context.

Furthermore, Finland has been credited of being the birth country of bilingual content instruction aka *content and language integrated learning* (CLIL) in the European contexts. CLIL denotes teaching and learning of school subjects through a foreign language either totally or partially with varying degrees (see e.g. Coyle, Hood & Marsh 2010, Wewer 2014). Most often the language combination in bilingual education is Finnish–English. Insights on how to incorporate academic language into CLIL instruction to enhance the content learning of those ELLs is also valuable. One has to bear in mind, however, that the focal point of bilingual instruction in Finland is to educate students simultaneously adding a new, foreign language into their linguistic reservoir, whereas the ultimate objective of Finnish as a second language instruction is to help students cope with the linguistic demands needed to operate adequately in the surrounding society, the dominant language of which is Finnish, and assimilate in that environment.

The outcomes of this capstone project inquiry can thus be capitalised in two different language learning circumstances in Finland; they are intended to serve both the linguistic and academic achievement of children with an immigrant background learning content through Finnish language in mainstream instruction as well as children with various backgrounds learning content through English in CLIL instruction.

1. Issues and questions guiding the inquiry

Foregrounding academic language, subject-specific literacies and multiliteracy as a prerequisite in future schooling in Finland (NCC draft 2014) has given premise for this capstone project in addition to my personal interest to explore the literature and research pertaining to academic language and the wish to find good practices in scaffolding the development of academic language in elementary classrooms. These issues led me to formulate the following questions ranging from theoretical to practical I strive to answer in this report:

1. What kind of issues and aspects does current Anglo-American literature and research reveal of the nature and development of academic language?
   1.1. What do subject-specific literacies and multiliteracy denote in connection to academic language?
2. What kind of methodologies and approaches to the scaffolding of academic language do experts, scholars and policy makers recommend in the United States?
3. What good academic language practices do elementary schools and teachers implement to enhance the learning of their students?

I will answer the first question leaning on the available literature. Building a more solid theoretical background knowledge of academic language and subject specific-literacies is an essential part of this inquiry. Therefore, the literature review is considerably extensive. To answer the second question, I will rely on pedagogical literature, well-known academic language frameworks, teaching approaches and educational platforms implemented in the U.S., my WIDA conference visit as well as standards documents. My school visits in Indiana and Colorado have informed the

observations I provide as findings for the third question. The information and findings obtained through answering the three inquiry questions will form the core of this paper and eventually lead into presentations for pre- and in-service teacher training purposes in addition to other highly likely outcomes such as publications.

2. Methods of inquiry

This inquiry report does not follow the conventions of a traditional research report since this is a relatively informal inquiry conducted out of personal interests and home institution's pragmatic needs rather than for serious scientific purposes. Additionally, the process of data gathering has rather resembled documentation than structured collection of data. The data consists of both theoretical information and empirical findings. To provide answers for the questions and issues guiding this inquiry (see Chapter 2), I have used primarily four different methods:

1) study of relevant disciplinary literature, research and documents
2) observation of classroom work
3) participation in relevant events and
4) discussions and interviews with stakeholders and experts.

The methods in the first category include study of literature and research pertaining to academic language, subject-specific literacies and multiple literacies as well as educational policy documents such as the Indiana State Standards and Common Core State Standards. Furthermore, examination of both theoretical and pragmatic (e.g. WIDA, SIOP and eCALLMS) frameworks has been a significant source of information. The observation of classroom work mainly occurred in University Elementary School (UES), Bloomington, in Monroe County and ranged grades from Kindergarten to the 6th grade as well as various school subjects from P.E. and music to mathematics and social studies. Furthermore, I visited four other elementary schools in Indiana and Colorado which increased my understanding about especially bilingual education in the United States. Below is a list of the schools along with their home pages and latest available percentage of English language learners in parenthesis. All schools were distinct in their own ways.

University Elementary School http://www.mccsc.edu/Domain/21 (12.8%)

Columbus Signature Academy Fodrea Campus http://www.bcsc.k12.in.us/Page/4499 (9.9%)

Garden Place Academy http://gardenplace.dpsk12.org/ (99%)

Escuela Bilingüe Pioneer (http://www.bvsd.org/elementary/pioneer/pages/pioneer.aspx (42.2%)

Bromley East Charter School http://www.bromleyeastcs.org/ (9%)

Participation in relevant events refers to events occurring outside regular instruction such as teacher in-service training and parental information gatherings. They also include the National WIDA conference on creating language-rich academic learning environments, the eCALMMS staff meeting at Colorado University, Denver, and my preparation for the presentation in IRC 2014 Annual State-wide Conference for Teachers of Linguistically and Culturally Diverse Students to be held in Chicago after the Fulbright DAT program end.

Informal discussions with stakeholders and experts entail all the conversations I have had during the Fulbright program with a number of educators and the conference presentations that have informed me of issues and aspects in my capstone project area. Most significant of those educators have been many of the elementary teachers I have observed - most notably my designated host teacher Ms. Meighan Scott at UES who was very co-operative, handed me plenty of materials and gave a number of relevant tips and pieces of information. Additionally, my American mentor, Colorado University clinical professor Dr. Nancy Commins has helped me enormously in multiple ways – not only to accomplish this capstone project but also to start a network in this disciplinary area and by providing recent, relevant literature as well as organizing all Colorado area school visits.

Moreover, especially the literacy coach Mrs. Linda Hitchings, ENL teacher Ms. Colette Eno, the librarian Ms. Mary D'Eliso and Principal Mrs. Michiko McClaine at UES kindly accepted to be shadowed and/or interviewed by me, and they all were very helpful as informants. The English language acquisition (ELA) consultants Alea Wojdyla, Harmony Looper and Meighan Whitney as well as their director Jean Burke in English Language Acquisition department at Aurora Public Schools, Colorado, as well as several presenters at the WIDA 2014 conference Atlanta, Georgia (e.g. Dr. Elena Izquierdo, Mr. Scott Williams, Leane Evans & Dr. Antonieta Aula as well as Ms. Maria Cieslak & Ms. Francine Gollmer), and the eCALLMS project leader, Assistant Professor Dr. Kara Viesca from Colorado University, Denver, along with her team members have provided me

with insights into the capstone area - the last mentioned also with a number of articles and other materials. My academic advisor Associate Professor Donna Adomat, assigned by the Indiana University, has given me gentle encouragement in writing this report and insights regarding learning to read English.

I am deeply grateful to all of these people for supporting me in this important endeavour which I see as highly relevant not only to me personally and professionally but also to my community and the Finnish context. **Please note! All possible errors or misunderstandings in this document are purely those of mine - not any of the participants.**

3. Organization of the report

The organization of this inquiry report from this point onwards advances from theoretical to pragmatic, and it is divided into three main parts: 1) literature review, 2) empirical findings, and 3) discussion. The literature review contains individual chapters of academic language, subject-specific literacies and multiple literacies as well as the development of academic language and its educational underpinning that are all significantly present in the draft for the new Finnish National Core Curriculum for Basic Education (NCC 2014). I will define each concept and their constituent parts from the educational perspective, and consider the first two inquiry question through the lens of relevant literature, research and materials. Graphs, figures and tables are crucial for profound understanding of any phenomenon and their large number represents me as a linguistic and visual learner.

The second major part of this report, empirical findings, attempts to shed light to the third inquiry question concerning the actual classroom practices detected during school visits. It is less academic in style, and contains a fairly large number of photographs to illustrate the main issues I have chosen to foreground. Findings are not presented in an exhaustive manner, but rather accentuating the key issues, aspects and principles detected in schools and classrooms. In a similar vein, I will not list every single practice related to underpinning academic language, but rather categorize types of practices and give a few examples of them. Finally, in the third part of the report, the significance and future implications of this capstone project are addressed.

I LITERATURE REVIEW

> *Language is a system which relates what is being talked about (content) and the means used to talk about it (expression).*
>
> ***Linguistic content is inseparable from linguistic expression.***
>
> *In subject matter learning we overlook the role of language as a medium of learning and in language learning we overlook the fact that content is being communicated.*
>
> *(Mohan 1986, bolding mine)*

4. Academic Language

Humans interact and learn content through language as the above quote from Mohan (1986) articulates; language is the quintessential communication tool which is fluid and hybrid in nature, for it is related to the identities of its users, and it tends to vary according to the social context it is used in (see e.g. Gee 1989). The social context of schooling differs from many other social contexts and necessitates academic language needed for academic content study. *Academic language* is the specific register characteristic of spoken and written language (Gottlieb & Ernst-Slavit 2014: 1–2) which manifests itself in differently in various contexts. In school contexts, it is the language of, for instance, mathematical problems and texts in social studies or science, whereas in extramural contexts, it is the language used, for instance, in business, banking, science or politics (Krashen & Brown 2007: 1).

There are different approaches to academic language within the field of education. Valdés (2004) maintains that perceptions of academic language and discourse vary according to the professional sphere and research context: views of academic language in K-12 instruction (English as a second language, ESL) differ significantly from those of mainstream English (English as a first language), TESOL (teachers of English to speakers of other languages) at college level and in bilingual education. She posits that in K-12, academic English is seen as the language "needed to succeed academically in all content areas" including the classroom language used for interaction as well the language used to "obtain, process, construct and provide subject matter information in spoken

and written form" (ibid: 111), whereas in mainstream English, academic discourse is the voice of reason and entails presenting evidence. At college level, TESOL academic language is more disciplinary and follows certain conventions, while bilingual education is concerned with, for instance, "the ability to manipulate and interpret language in cognitively-demanding, context-reduced text" and requires "conceptual-linguistic knowledge" (Valdés 2004). In this report, I will primarily concentrate on academic language at elementary level.

Academic language is often contrasted with social language of interaction. The notion of academic language is by no means a new invention, nor is the distinction between social or conversational and academic language (Faltis 2013). Those two registers were used to be seen as polarities due to the well-known dichotomy of context-embedded *Basic Interpersonal Communication Skills* (BICS) and context-reduced *Cognitive Academic Language Proficiency* (CALP) coined and presented by Cummins in late 1970s (e.g. Cummins 1980). More recently, the two registers are rather perceived as different uses of language in a continuum (e.g. Snow & Uccelli 2009), and the terminology fluctuates. The current trend seems to be using general terms *academic language* as opposed to *ordinary language* (Scarcella 2003), *social or conversational language* (see e.g. Fitts & Bowers 2013). Another binary pair is *conversational fluency* and *academic language proficiency* (Cummins 2008). The pair, when stressing the language-content connection, can also be designated as *content-obligatory* language and *content-compatible* language (University of Cambridge 2013).

In the field, there is no controversy about the mastery of academic language being an essential part of general academic proficiency (Figure 1).

FIGURE 1. A view of academic proficiency (Krashen & Brown 2007: 1)

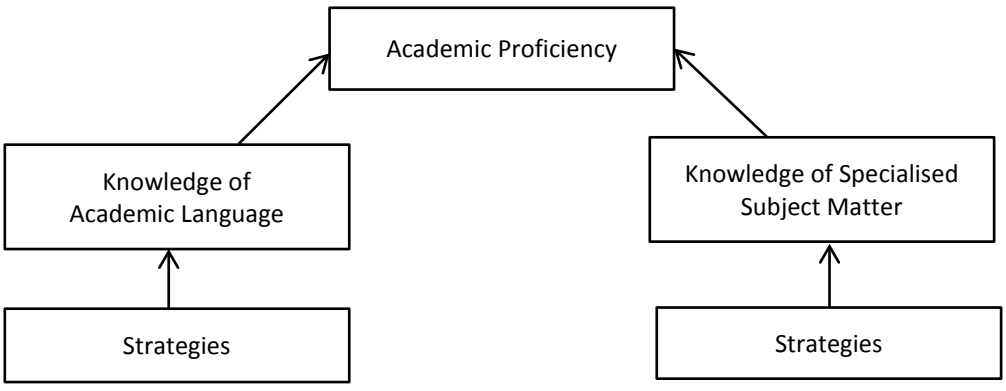


Figure 1 displays how academic language and the various learning strategies underpinning their use are an intrinsic part of academic proficiency in a similar vein as the mastery of the content matter in diverse school subjects. Krashen and Brown (2007: 2-3) foreground especially strategies related to reading and writing as useful for acquiring both academic language and content knowledge; they discuss narrow reading strategy with elicited background knowledge and the composing process useful for both writing and problem solving. Writing has, as Krashen and Brown (ibid) emphasize, a profound influence on cognitive development and deepening knowledge.

In order to operate satisfactorily in educational settings, students need to master the registers (types of language used in particular situations) and genres (different text types) of English. What is satisfactory in given situations at each level should be defined in the curriculum – mediation of academic English should, naturally, be proportioned to match the age, prior knowledge and aptitude of learners. In the following section, I will view closer the constituents of academic language and different approaches to it.

5.1. Features of academic language

The expectations of schooling largely affect the language needed in school environments (Table 1). Academic language has been defined in diverse ways, but in general, it is more concise, dense and precise in expression of information than social language. It has been seen to include the components of *discourse features* (e.g. language functions, grammar and other structural properties) and *vocabulary* both in the four basic language domains and content areas (e.g. mathematics and science) which gradually become more sophisticated and elaborated (Anstrom & al. 2010: 4). Also morphology, i.e. the study of structure and content of word form is one component of academic language (Lucero 2013: 58).

TABLE 1. Features of academic language in schooling (Schleppegrell 2006, 51)

Expectations of schooling	**Features of the language of schooling**
to display knowledge to organise information to be authoritative	dense information abstraction and technicality multiple semiotic systems expectations for conventional structure appropriate “voice”

There are several models or frameworks of academic language describing its components, development and interrelationship with academic achievement. This section introduces three approaches or frameworks to academic language: Chamot and O'Malley's (1987) CALLA, Scarcella's (2003) framework and the inventory features Snow and Ucelli (2009) have identified. Section 5.3 introduces yet another influential framework for academic language: the WIDA (2014). I will start, however, with Halliday's (1973) well-known socio-linguistic approach to language, known as the Systemic Functional Linguistics, because it is markedly present in many contemporary theoretical and pedagogical approaches to academic language discussed in this report. The approaches are, then, also in temporal order.

Halliday's (1973) functional approach to language

In recent decades, the functional theory of language known as Systemic Functional Linguistics created by Halliday (1973) has become increasingly popular in the field of educational linguistics, and language functions have been incorporated in practically all language frameworks. Halliday, unlike many of his predecessors concentrating on language forms or domains, perceived language as a semantic meaning potential in social communication used to fulfil certain functions. He differentiated seven of them (Halliday 1973, Brown 2014: 213, see also Webster 2009) which emphasise the role of language as a conveyor of meaning interpreted as a social system.

1. Instrumental (to manipulate the environment, induce occurrences)
2. Regulatory (to control things, set and maintain limitations or regulations)
3. Representational (to make statements, convey information and knowledge and describe reality)
4. Interactional (to maintain and initiate communication)
5. Personal (to express feelings, reactions, personality etc.)
6. Heuristic (to acquire, learn, seek and provide knowledge or information as well as to form questions in order to elicit information)
7. Imaginative (to create stories, ideas and exploring the limits of language).

Language is thus seen to conform to functions that may be interrelated and simultaneous; the various uses of language are highlighted instead of language knowledge.

Also academic language serves certain functions. For instance, Dalton-Puffer (2007) lists a number of academic language functions that are characteristic for educational environments, the purposes of which are to learn skills and new knowledge (Table 2). The list is not comprehensive.

TABLE 2. Some major academic language functions (Dalton-Puffer 2007: 129)

Analysing	Explaining
Classifying	Hypothesising
Comparing	Informing
Defining	Narrating
Describing	Persuading
Drawing conclusions	Predicting
Evaluating & assessing	Requesting/giving information

Many of these language functions coincide with the higher order thinking skills in Bloom's Taxonomy of Learning Objectives (for an informative, practice-oriented presentation, see Heer 2014).

CALLA framework by Chamot and O'Malley(1987)

Already in the 1980s, scholars still influential today, proposed a model of Cognitive Academic Language Learning Approach (CALLA) that includes literacy and learning skills in the academic language proficiency (Chamot and O'Malley 1987) with the aim of alleviating the transfer of students with limited English language proficiency to the American content-based mainstream education and accelerating their academic achievement. Academic competence, according to Chamot (2007: 317), is "far more than merely becoming proficient in English", because also content knowledge, literacy and learning skills (i.e. cognitive strategies) are also included in academic proficiency.

The ultimate goal of CALLA is to facilitate both content and language intake. CALLA combines 1) procedural knowledge (language as a tool: how, understanding and generating language), 2) declarative knowledge (content: what, e.g. facts and rules) based on Anderson's cognitive theory which stresses the fact that "the interplay between declarative and procedural knowledge leads to the refinement of language ability" and 3) learning strategies nurturing autonomy development in students (Chamot & O'Malley 1987: 232). In order to promote academic language development, "the language demands of different content subjects, which include the language of curriculum

materials and of classroom participation, need to be analysed so that the students can be taught the actual language functions, structures and subject-specific vocabulary that they will need" (Chamot & O'Malley 1987: 236). The following framework is more linguistically detailed.

Scarcella's (2003) framework of academic English

Scarcella (2003) proposed a framework of academic English that consists of three individual components: 1) linguistic (the phonological, lexical, grammatical, sociolinguistic and discourse components), 2) cognitive (metalinguistic abilities, higher order thinking, background knowledge, and strategies), and 3) sociocultural/psychological components (norms, values, beliefs, attitudes, motivations, interests, behaviours, practices and habits). This framework thus expands, similarly as the CALLA framework, the notion of academic language beyond mere linguistic components. Table 3 on p. 13 exemplifies the various components of academic English in comparison with social (ordinary) English.

The students need scaffolding to develop academic literacy, and, as Scarcella (2003: 10) argues, conventions of academic English should be taught, because there are "regular features of academic English that are well defined and teachable". Pedagogical approaches to academic and subject-specific language will be covered in Chapter 8. For students, it is vital to master academic language, and even more urgent it is for teachers to make the expectations of academic language usage explicit, for the academic proficiency and content knowledge is assessed based on their language use (Schleppegrell 2001).

Snow and Uccelli's (2009) inventory of academic language features

Snow and Uccelli (2009) wish to expand the concept of academic language beyond contexts of use and purpose (e.g. learning in school), and move towards a more practice-embedded approach to academic language that would be more beneficial for educators than linguistic or research-based frameworks and place more value on the skills required in becoming more proficient in academic language. They note about the importance of teachers gaining and demonstrating theoretical knowledge of academic language, for efficient and language responsive practices rest on theoretical knowledge (Snow & Uccelli 2009: 114-115):

> *Designing instruction for academic and discipline-specific language, however, requires having a convergent view of what academic language involves, how it should be conceptualized, where its boundaries are, and how it might be assessed.*

In proposing a pragmatics-based framework for academic language, they stress that language can be "*more or less* academic" (p. 115) – social (colloquial) and academic language may overlap.

TABLE 3. Comparison of linguistic features in social) and academic English (based on Scarcella 2003, 12)

Linguistic components of ORDINARY ENGLISH	**Linguistic components of ACADEMIC ENGLISH**
The Phonological Component	
knowledge of everyday English sounds and the ways sounds are combined, stress and intonation, graphemes and spelling Examples: *ship – sheep* /ɪ/ - /i:/ sheet – cheat /sh/ - /ch/	knowledge of the phonological features of academic English, including stress, intonation and sound patterns Examples: demógraphy, demográphic, genéric
The Lexical component	
knowledge of the forms and meanings of words occurring in everyday situations; knowledge of the ways words are formed with prefixes, roots, suffixes, the parts of speech of words, and the grammatical constraints governing words	knowledge of the forms and meanings of words that are used across academic disciplines (as well as in everyday situations outside academic settings); knowledge of the ways academic words are formed with prefixes, roots and suffixes, the parts of speech of academic words and the grammatical constraints governing academic words
Example: find out	Example: investigate
The Grammatical Component	
knowledge of morphemes entailing semantic, syntactic, relational, phonological and distributional properties; knowledge of simple rules of punctuation	knowledge that enables learners to make sense out of and use the grammatical features (morphological and syntactic) associated with argumentative composition, procedural description, analysis, definition, procedural description and analysis; knowledge of the grammatical co-occurrence restrictions governing words; knowledge of grammatical metaphor, knowledge of more complex rules of punctuation
The Sociolinguistic Component	
knowledge that enables learners to understand the extent to which sentences are produced and understood appropriately; knowledge of frequently occurring functions and genres	knowledge of an increased number of language functions; the functions include the general ones of ordinary English such as apologizing, complaining and making requests as well as ones that are common to all academic fields: knowledge of an increased number of genres, including expository and argumentative text.
The Discourse Component	
knowledge of the basic discourse devices used, for instance, to introduce topics and keep the talk going and for beginning and ending informal types of writing, such as letters and lists	knowledge of the discourse features used in specific academic genres including such devices as transitions and other organisational signals that, in reading, aid in gaining perspectives on what is read, in seeing relationships and in following logical lines of thought; in writing, these discourse features help learners develop their theses and provide smooth transitions between ideas

Snow and Uccelli thus conceptualize academic language as an inventory of features and traits that are more or less present in language use or performance which could be then qualified as more of less academic. Through an examination of literature, they have identified several features that vary in the continuum with the polarities colloquial language and academic language and can be grouped into five categories: 1) interpersonal stance, 2) informational load, 3) organization of information, 4) lexical choices and 5) representational congruence. Snow and Uccelli (2009: 118) remark that "realization of all these features requires knowledge of specific vocabulary and grammatical structures [in addition to] genre mastery, command of reasoning/argumentative strategies, and disciplinary knowledge". These features are presented in Table 4. The arrow in the Table represents the relativity of the academic nature of language shifting from more colloquial to more academic.

I will shortly explain the main characteristics of the features from the viewpoint of highly academic language based on Snow and Uccelli (2009). Interpersonal stance refers to non-dialogical and neutral stance towards the topic. It lacks any personal involvement and presents the writer/speaker as an expert. Typical academic discourse is loaded with information; it is short and avoids redundancy, contains a large number of content words and abundantly nominalizations and expanded noun phrases. The organization of information refers to various possibilities of structuring complex and complex compound sentences by using conjunctions and relative pronouns. It also involves meta-discourse markers (e.g. first, then) to guide the reader/listener in the text structure. It is context-reduced. Word choices in academic text provide lexically rich and diverse texts that display discipline-specific vocabulary. Representational congruence, in turn, denotes "the correspondence between language and the reality it represents" – the more there are nominalizations and clause embedding as well as abstract nouns, agents and verbs supporting the claims made, the more academic and authoritative the discourse (ibid: 120).

Snow and Uccelli (2009: 122) argue that the features presented in Table 4 do not suffice for providing support for "communicational challenges" in communicative events that require use of academic language. They differentiate three communicational levels within which nested challenges need to be overcome in order to produce successful academic discourse. The levels are: 1) organizing discourse, 2) representing the message and 3) representing the self and the audience (Figure 2).

TABLE 4. Linguistic features and core domains of cognitive accomplishments involved in academic language performance (modified from Snow & Uccelli 2009: 119-120)

MORE COLLOQUIAL		**MORE ACADEMIC**
1. Interpersonal stance		
expressive / involved	→	detached / distanced
situationally driven personal stances	→	authoritative stance
2. Information load		
redundancy, wordiness	→	conciseness
sparsity	→	density
3. Organization of information		
dependency	→	constituency
minimal awareness of unfolding text as discourse	→	explicit awareness as text as discourse
situational support	→	autonomous text
loosely connected / dialogic structure	→	stepwise logical argumentation / unfolding, tightly constructed
4. Lexical choices		
low lexical diversity	→	high lexical diversity
colloquial expressions	→	formal / prestigious expressions
fuzziness	→	precision
concrete / common-sense concepts	→	abstract / technical concepts
5. Representational congruence		
simple, congruent grammar →	complex / congruent grammar	→ compact / incongruent grammar
animated entities as agents	→	abstract concepts as agents
Genre mastery		
generic values →	school-based genres	→ discipline-specific specialized genres
Reasoning strategies		
basic ways of argumentation →	specific reasoning moves	→ discipline-specific reasoning moves
Disciplinary knowledge		
• *Taxonomies*		
common-sense understanding →	abstract groupings and relations	→ disciplinary taxonomies and salient relations
• *Epistemological assumptions*		
knowledge as fact	→	knowledge as constructed

FIGURE 2. Nested challenges within a communicative event calling for academic language (Snow & Uccelli 2009: 123)

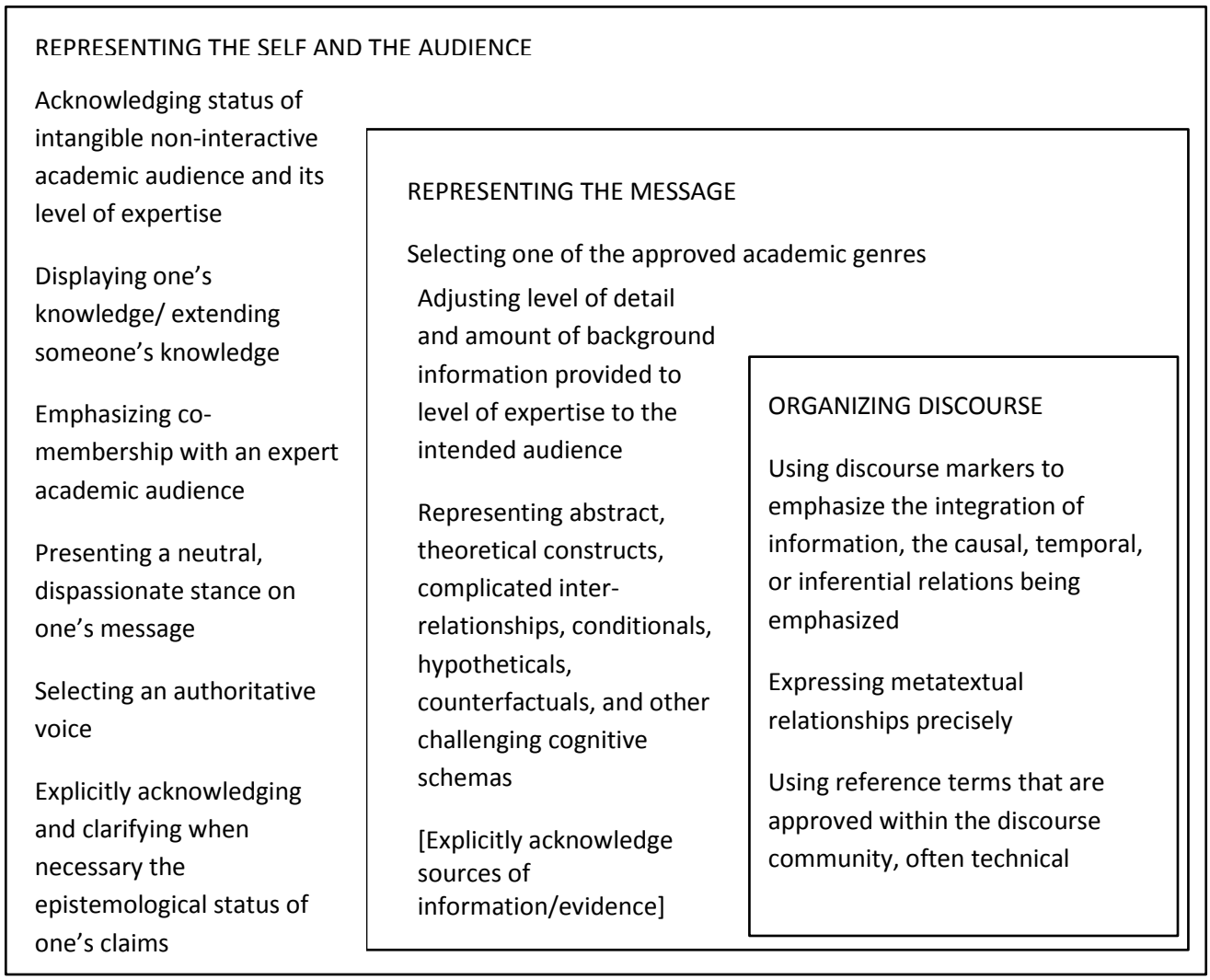


Figure 2 practically illustrates "the demands that are particular to self-representing as a member of the 'academic-language-using community' and that are imposed by the need to express complex content in efficient and effective ways" (Snow & Uccelli 2009: 124). The challenge of organizing discourse in such a manner that it is in balance with the content being conveyed in the act of discourse needs to be faced first. Secondly, investigating the audience is crucial to building an appropriate relationship in order to convey one's message; mapping the background knowledge of the audience is equally important in order to avoid presenting unnecessary information or exceed their level of knowledge. Thirdly, study of academic conventions and discourse traditions, is helpful in meeting the academic expectations of the audience. The purpose of this framework is, as Snow and Uccelli (2009: 124) put it, to allow students to "(1) gain an

awareness of the desired relationship among participants in academic communications; and (2) understand that meaning resides not only *what* they say but also *how* they communicate it".

5.2. Development of academic language

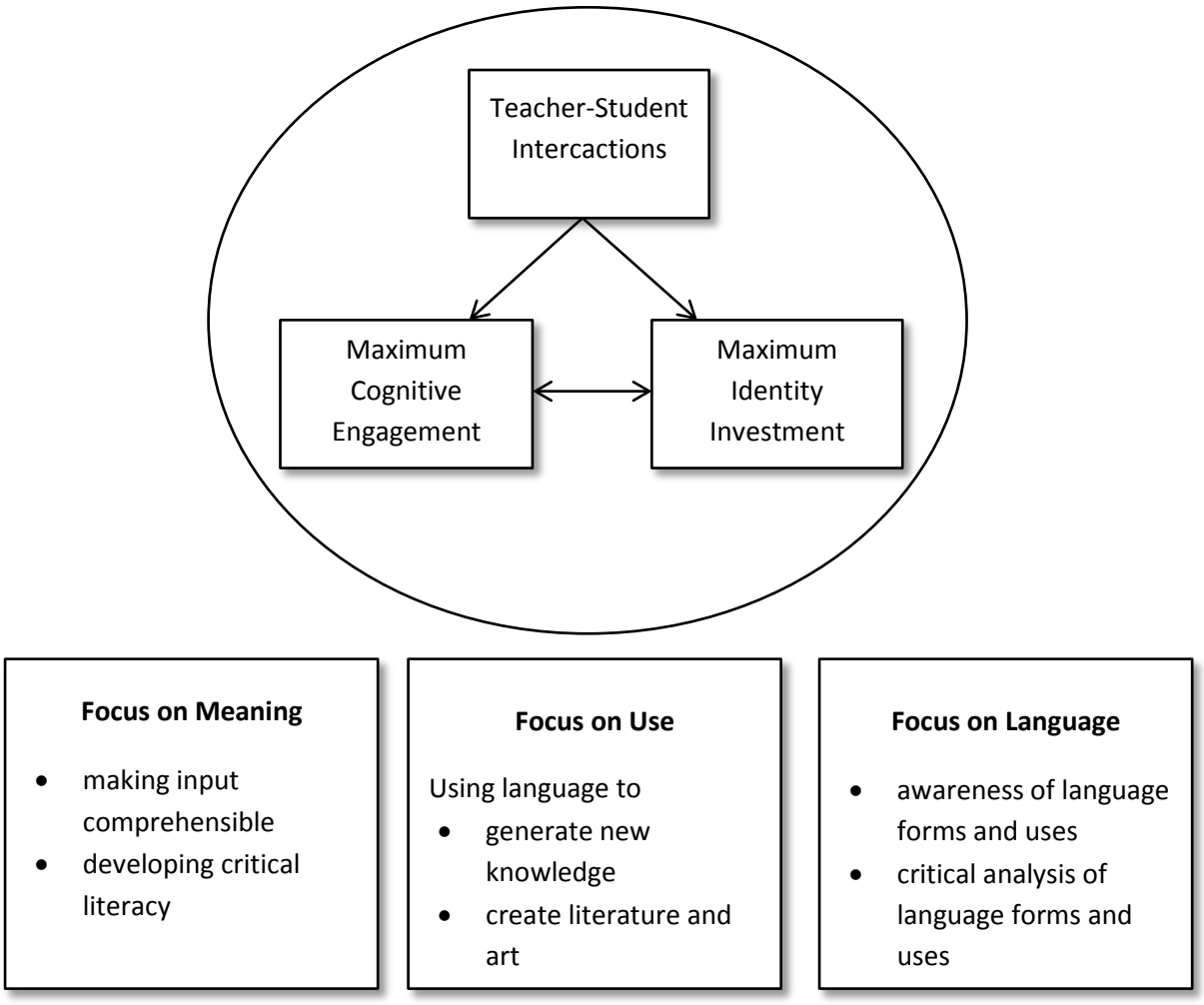
The construct of academic language is relative, as Snow and Uccelli (2009) pointed out. This denotes that academic language is not totally exclusive of features of social language, but they rather overlap especially in classroom situations entailing both registers in form of classroom language and social interaction as well as language related to academic study. In the beginning stages of instruction, introduction and emergence of academic language markedly overlap with the social register. Academic language thus emerges from social language. This view is marked in the WIDA (World-Class Instructional Design and Assessment, see also Section 5.3.) framework which underlines the embeddedness of academic language in sociocultural contexts that are in reciprocal interaction with each other shaping the linguistic landscape the learners operate in (Gottlieb 2013: 5-6).

It takes several years to build up academic language proficiency. Cummins (1982: 6) is widely quoted by his notion according to which the development of conversational, social language proficiency (BICS) takes approximately two years for English language learners, but it takes five to seven years to achieve context-reduced academic language proficiency CALP. This estimation was concluded from studies involving English language learners of immigrant background attending language programmes in the United States as well as successful immersion programmes (ibid), and it has been reinforced by several other studies. For example, a study by Shohamy and colleagues reported in Cummins and Man (2007: 801) discovered that Russian and Ethiopian immigrant students in Israel "require at least 9 years to catch up to their peers in academic Hebrew". Academic proficiency developed in one language is readily transferred to another: second language learners gain benefits from the already existing linguistic reservoir (Commins & Miramontes 2005). Following from this, it is essential to support first language(s).

The development of academic language does not occur in isolation; I already showed how knowledge of academic language is part of general academic proficiency (see Figure 1). Cummins and Schecter (2003), in presenting their framework for academic language learning (Figure 3),

assert that the interactions and relationship between educational circumstances and learners have an impact on students' academic success. They maintain that in the interpersonal, reciprocal space created by teacher-student interactions, students need to be maximally cognitively engaged and their cultural, linguistic and personal identities reinforced which in turn nourishes learning. What they refer to is that students' prior knowledge needs to be activated, identities affirmed and their experiences and cultural background acknowledged and appreciated by the teachers. When this is accomplished, a circle of positive communication and reinforcement is established which motivates the students to learn, raises their academic self-concept as well as increasingly engages them academically.

FIGURE 3. The development of academic expertise (Cummins & Schecter 2003, 10)



The framework of Cummins and Schecter (2003) also point to the various foci of instruction (meaning, language and use), a practice which is validated by research in the field of immersion, bilingual education and instruction of English as a second language (e.g. Cormier & Turnbull 2009, Housen & Pierrard 2005, Loewen 2005, Lyster 2004, Pérez-Vidal 2007, Pica 2002, Rodgers 2006, Schleppegrell, Achugar & Orteíza 2004, Xanthou 2011). The consensus in the field is that academic language is best learned through meaningful input, simultaneous focus on content and language (dual focus), ample practice and use of language as well as explicit teaching and drawing students' attention to linguistic forms and language functions.

Focus on meaning in instruction, in larger scope, refers to the handling of content matter, and in Cummins and Schecter's framework, it consists of comprehensible input and development of critical literacy, i.e. skills in critical, analytic reading and writing (see e.g. Janks & al. 2013). In order for the comprehensible input to be truly internalized, Cummins and Schecter (2003: 12) argue that "deeper level cognitive and linguistic processing" has to be incorporated in the learning process. Additionally, investing in vocabulary and concept construction as well as critical literacy development should, according to the authors, be included in the academic literacy development. They suggest that capitalizing personal experiences and prior knowledge, critical analyses of textual information and meaningful adaptations of content-related discussions into something concrete such as a video, poem or essay contributes to the literacy development.

Focus on language entails awareness of language forms (e.g. grammar, phonics) and uses (e.g. various genres and discourse types) as well as their critical analysis. Cummins and Schecter (ibid) point out that critical analysis of language forms and their uses is related to issues such as language and power and sociolinguistic aspects of language use. They propose extensive reading, text analyses of, for instance, advertisements as well as, in reference to vocabulary study, exploration of "synonyms, L1 equivalents, proverbs, idioms, puns and jokes in which the word appears" for improving students' language analysis skills.

Focus on language use is a key issue in engaging students meaningfully in active production of academic language instead of being passive recipients of it. This, as Cummins and Schecter (2003: 14) rightfully remind, should pertain to domains of both speaking and writing, and touch base with students' self-expression and amplify their "intellectual, aesthetic, and social identities if it is to contribute to student empowerment, understood as the collaborative creation of power".

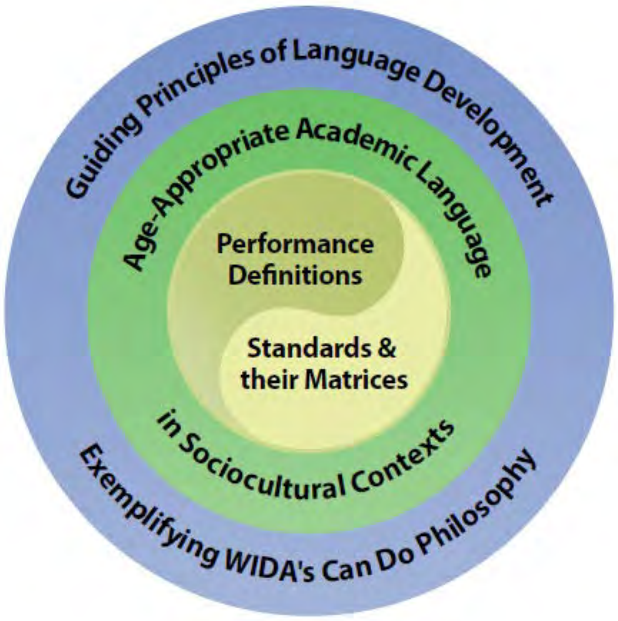
5.3. WIDA framework for academic English language proficiency and development

The frameworks presented in the prior Section are not the only ones attempting to disentangle the functional components of academic language. The WIDA consortium, based in the U.S. and housed at the University of Wisconsin-Madison, has drawn on multiple theories in the field of second language acquisition in order to describe language use in academic contexts (WIDA 2014). In comparison to other frameworks, the WIDA standards are targeted for practical use in defining language proficiency levels and assessing language development. The WIDA standards design work started in 2003. At first, the English language proficiency (ELP) standards were finalized, then a suite of language development standards were completed in English and Spanish for different settings (e.g. early development, international settings) to provide support for teachers and students in their language teaching and learning (WIDA Standards Framework and Theoretical Foundations 2014).

Theoretically, the WIDA ELP framework is grounded on research on communicative competence, integration of content and language, new literacy studies, Systemic Functional Linguistics, while the English language development (ELD) framework relies on the research on bilingualism, biliteracy, second language acquisition and sociocultural theory of learning (WIDA Standards Framework and Theoretical Foundations 2014). The theoretical tenets are shared with bilingual CLIL approach to language acquisition as well as content-based language instruction (CBI) which is the equivalent term used in the North America, although the ultimate aim is different in terms of adding a new foreign language in CLIL as opposed to learning a second language due to assimilation reasons in CBI (Wewer 2014).

In addition to the theoretical rationale, designated as guiding principles of language development, there are other components forming the framework. Figure 4 depicts the foundations of WIDA standards framework in interactive and interdependent relationship to one another. The Can Do philosophy, similarly to the *Common European Framework of Reference for Languages: Learning, Teaching, Assessment* (CEFR 2001), is based on the identical belief also present in Cummins and Schecter's (2003) framework that instruction should draw from the cultural, linguistic and identity background of the learner (see also Table 5).

FIGURE 4. WIDA's Framework for English Language Proficiency and Development Standards (adopted from Gottlieb 2014, v)



The framework asserts that the sociocultural context has an influence on the ways language is used (Gottlieb 2014, vi). In the very core of the figure representing the WIDA framework are the performance definitions with five-levelled development standards (entering, emerging, developing, expanding and bridging language user - the sixth level is reaching user which denotes (almost) fully competent language user) and their matrices. These definition standards describe more precisely the characteristics of academic language at different levels, and the available matrices function as a tool for teachers to identify development in ELL's language proficiency trajectory. Moreover, the standards also illustrate the necessary scaffolding needed to advance from one level to another, the academic language required for accessing and achieving content as well as academic language use in school contexts (Gottlieb 2014: 7). Since several individual and context-independent factors are influencing language development, WIDA has abstained from giving any grade-specific language level objectives. Table 4 shows the general features of language performance at each level from entering to reaching.

The features of academic language, as defined in the WIDA framework (Table 5), pertain to word or phrase level, sentence level and discourse level, and the given criteria used for differentiating language use at these levels are vocabulary usage (specificity of word or phrase choice) for word or phrase level, language forms and conventions (types, array and the use of language structures)

TABLE 4. WIDA language performance descriptors (WIDA 2014)

6- Reaching	• specialized or technical language reflective of the content areas at grade level • a variety of sentence lengths of varying linguistic complexity in extended oral or written discourse as required by the specified grade level • oral or written communication in English comparable to English-proficient peers
5- Bridging	• specialized or technical language of the content areas • a variety of sentence lengths of varying linguistic complexity in extended oral or written discourse, including stories, essays or reports • oral or written language approaching comparability to that of English-proficient peers when presented with grade level material
4- Expanding	• specific and some technical language of the content areas • a variety of sentence lengths of varying linguistic complexity in oral discourse or multiple, related sentences or paragraphs • oral or written language with minimal phonological, syntactic or semantic errors that do not impede the overall meaning of the communication when presented with oral or written connected discourse with sensory, graphic or interactive support
3- Developing	• general and some specific language of the content areas • expanded sentences in oral interaction or written paragraphs • oral or written language with phonological, syntactic or semantic errors that may impede the communication, but retain much of its meaning, when presented with oral or written, narrative or expository descriptions with sensory, graphic or interactive support
2- Beginning	• general language related to the content areas • phrases or short sentences • oral or written language with phonological, syntactic, or semantic errors that often impede the meaning of the communication when presented with one- to multiple-step commands, directions, questions, or a series of statements with sensory, graphic or interactive support
1- Entering	• pictorial or graphic representation of the language of the content areas • words, phrases or chunks of language when presented with one-step commands, directions, WH-, choice or yes/no questions, or statements with sensory, graphic or interactive support • oral language with phonological, syntactic, or semantic errors that often impede meaning when presented with basic oral commands, direct questions, or simple statements with sensory, graphic or interactive support

for sentence level as well as linguistic complexity (quantity and variety of oral and written text) for discourse level. The features of such language use vary in each category ranging from, for instance, collocations to fluency and variety of sentence types. It is also assumed that the learners gain practice in different genres, topics and registers, to mention a few variables in students' linguistic landscape.

TABLE 5. The features of academic language in WIDA's standards (WIDA 2014)

The Features of Academic Language operate within sociocultural contexts for language use.

	Performance Criteria	Features
Discourse Level	**Linguistic Complexity** *(Quantity and variety of oral and written text)*	Amount of speech/written text Structure of speech/written text Density of speech/written text Organization and cohesion of ideas Variety of sentence types
Sentence Level	**Language Forms and Conventions** *(Types, array, and use of language structures)*	Types and variety of grammatical structures Conventions, mechanics, and fluency Match of language forms to purpose/perspective
Word/Phrase Level	**Vocabulary Usage** *(Specificity of word or phrase choice)*	General, specific, and technical language Multiple meanings of words and phrases Formulaic and idiomatic expressions Nuances and shades of meaning Collocations

The sociocultural contexts for language use involve the interaction between the student and the language environment, encompassing the…

- Register
- Genre/Text type
- Topic
- Task/Situation
- Participants' identities and social roles

6. Multiple literacies

Language is a means of communication, and *literacy*, in its simplest definition, designates the ability to read and write, i.e. the ability to *use* the language purposefully. Gee (1989: 23) defines literacy as the "control" of uses of language outside of the home-sphere which employs *primary discourse* in contrast to the *secondary discourse* needed in other spheres. Literacy is a much more "complex phenomenon … [that] includes the roles of written language in various social groups and settings, the structure of different types of text, and the tension between nonstandard and standard varieties [of language]" (Miller 2006: 661). Literacy has been determined in several ways in a wide range of contexts (see e.g. Unesco 2006).

Nowadays literacy is thus seen as a broader concept than just containing reading-and-writing literacy and numeracy. In order to pay regard to the various contexts and purposes of literacies, the well-known term *multiliteracy* was coined by the so called New London Group (NLG). The group argued that "the multiplicity of communications channels and increasing cultural and linguistic diversity in the world today call for a much broader view of literacy than portrayed by traditional language-based approaches" (NLG 1996: 60). Street (2006), however, argues having used the concept *multiple literacies* already in the 1980s to challenge the notion of one "autonomous single literacy" which was taught in schools, i.e. the ability to read and write texts. He states that literacies vary according their cultural contexts and purposes of use, whereas the NLG term multiliteracies rather points to the various forms of literacy, i.e. the multimodality or multiple channels of literacy (Street 2006) that include linguistic, visual, aural, spatial and gestural ways to convey and receive information. These two, multiple literacies and multiliteracies, should be kept conceptually apart.

This conceptual expansion of traditional literacy has led to the emergence of a new area of study: the *New Literacy Studies* (NLS) which, opposed to the traditional approach to literacy, sees literacy more as a sociocultural phenomenon and studies it in a new way (Street 2006, Gee 2009). People produce and interpret various texts for different purposes, which leads into several literacies instead of one - hence the plural form literacies. Gee (2009: 5) lists examples of such literacies: "legal literacy, gamer literacy, country music literacy [and] academic literacy". The list could be continued with, for instance, several literacies that are perceived as 21st century skills: financial,

economic, business and entrepreneurial literacy, civic literacy, health literacy and environmental literacy as well as information literacy, media literacy and ICT literacy (NAAEE 2010).

Environmental literacy, for instance, refers to "a sophisticated set of skills that allow [people] to solve novel environmental problems and determine the best set of actions" (NAEE 2010: 3). "It depends on learners' ability to ask questions, speculate, and hypothesize about the world around them, seek information, and develop answers to their questions. Learners must be familiar with inquiry, master fundamental skills for gathering and organizing information and interpret and synthesize information to develop and communicate explanations" (NAAEE 2010:5). Civic literacy, in turn, is "the knowledge of how to actively participate and initiate change in [the] community and the greater society. It is the foundation by which a democratic society functions: Citizen Power as a check and as a means to create avenues for peaceful change" (Urban Agenda 2014).

It becomes clear that people need and have a set of different literacies for various purposes. As a result, not even the NLS movement was sufficient in terms of describing the fluidity of literacy in the modern world. From the New Literacy Studies stems with what Gee (2009: 11) calls *New Literacies Studies* - a study of "digital literacies and literacy practices in popular culture" which is closely related to *New Media Literacy Studies* that in turn incorporates the media literacy. He notes that what used not to be within reach of ordinary lay people is currently available to everyone: "Everyday people – former "consumers" – can now produce their own media […]. Everyday people - not just experts and elites – can produce professional looking movies, newscasts, and video games […] and many other such products." (Gee 2009: 14-15). Digital media thus change the balance between production and consumption, participation and spectatorship similarly as they change the power, grouping and social formations creating "Pro-Ams" – self-made amateurs that have gained professionalism in an area outside formal education using the digital sources (Gee 2009).

Mere basic literacy and numeracy does not suffice to educate competent agents and workers for tomorrow's labour market. Mills (2011: 3) provides the following list of examples on social practices that today's students need to engage in in order to become 'literate' in the modern world:

> *The existing and emerging social practices in which these students must engage include reading books, resisting advertisements, using machines (scanners, printers, voicemail),*

> *interpreting public transport information, writing memos, following directories and maps and conducting internet transactions. Similarly, SMS messaging, word processing, emailing, internet relay chatting, internet navigation, critiquing websites, digital photography, slide-show presentations, computer programming and website design represent some of the diverse forms of literacy.*
>
> *Using spreadsheets and databases, drama and vocal performance, film and media, image design, body language interpretation and oral debating are just a few among the plethora of communication practices used for a multiplicity of purposes in society today.*

This lengthy quote highlights two issues in multiple literacies: they include not only different media and channels but also various uses of literacy. Therefore, it is logical to look closer into literacies that are employed in different school subjects, for they also display distinct literacy characteristics and are required to competently function in school environment and achieve academically. Furthermore, ideally and increasingly, multiple literacies should become an intrinsic and interwoven part of the more traditional literacy practices.

7. Subject-specific literacies

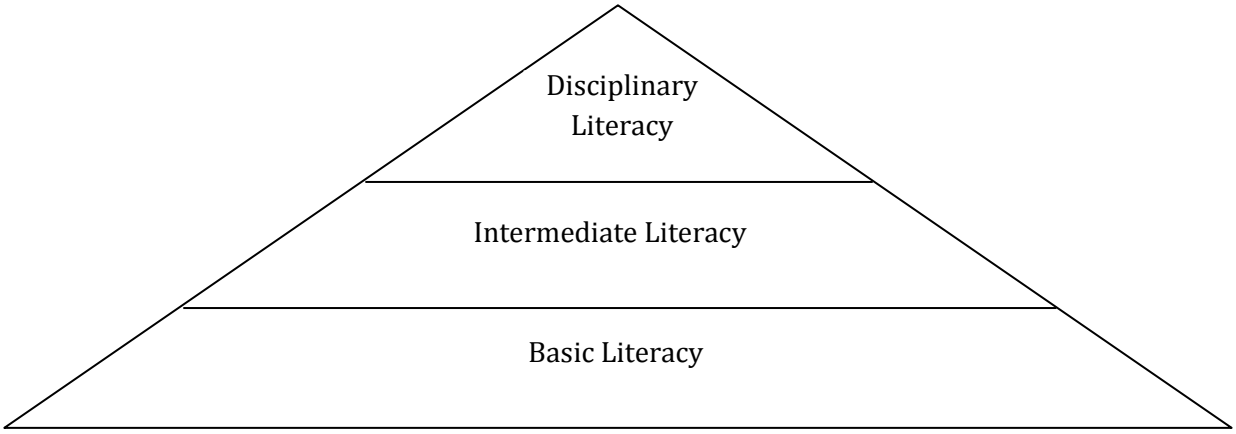
Subject-specific literacies in school environment, shortly and broadly defined, refer to the distinct features the language of a specific subject such as mathematics or geography employs. In literature, synonyms such as *curriculum-specific literacies* (Morgan 2013), *disciplinary literacy* and *content-area literacy* (Draper 2008), or *curriculum literacies* (Wyatt-Smith & Cumming 2003) are used for describing the same phenomenon. Subject-specific literacies designates the "advanced literacy … embedded within content-area classes such as math, science and social studies" (Shanahan & Shanahan 2008: 40) and more specifically, a **variation**, "a subregister" (Zwiers 2008: 69), **of academic language** which portrays the worldview or way of "gathering information, interpreting data and organizing knowledge" **intrinsic to a discipline**, i.e. school subject (ibid).

A model of literacy progression created by Shanahan and Shanahan (2008: 44) illustrate the advancement of literacy from **basic literacy** to **disciplinary literacy** as a pyramid from basic literacy skills through intermediate literacy to disciplinary literacy (Figure 5), and they approach literacy predominantly through reading. Basic literacy denotes universal and general literacy skills; most

children acquire basic literacy skills during their primary education. Shanahan and Shanahan (2008: 43-44) describe basic literacy skills as follows:

> *These skills include basic decoding skills, understanding of various print and literacy conventions (e.g., understanding that text must be meaningful, the primacy of print versus illustrations, directionality, concept of word), recognition of high-frequency words and some basic fluency routines (e.g., responding appropriately to basic punctuation). Students also come to expect certain organizational or structural properties such as the basic problem-centered formulation of stories or the list structure in simple expository texts, and they come to assume the presence of an author, though their conception of author is not particularly rhetorical, intentional, or separate from reader's own perspective.*

FIGURE 5. The increasing specialization of literacy development (Shanahan & Shanahan 2008: 44)



Basic Literacy: Literacy skills such as decoding and knowledge of high-frequency words that underlie virtually all reading tasks.

Intermediate Literacy: Literacy skills common to many tasks, including generic comprehension strategies, common word meanings, and basic fluency.

Disciplinary Literacy: Literacy skills specialized to history, science, mathematics, literature, or other subject matter.

Intermediate literacy is an interphase between basic and disciplinary literacy in which students' "routines and responses" to various types of readings become increasingly sophisticated. Students at intermediate literacy level, according to the authors, primarily become proficient in this literacy level during middle school years, gaining various reading comprehension strategies and skills (e.g. "cognitive endurance to maintain attention to more extended discourse") as well as access to "more complex forms of text organization (e.g., parallel plots, circular plots, problem-solution, cause-effect)" (Shanahan & Shanahan 2008: 44-45). They gain automaticity and speed in, for instance, decoding multisyllabic words and responding to lower frequency words; they become

more familiar with "less common forms of punctuation (e.g., split quotes, commas in a series, colons)" and meanings of more technical, yet not subject-specific vocabulary (Shanahan & Shanahan 2008: 44). This is an aspect to be criticized; there should be no reason to postpone instruction of academic language. Actually, the recommendations made by Dutro and Moran (2003) and the Institute of Education Sciences (2007: 25) indicate quite the opposite: "Instruction focused on academic English should not wait until students are able to read and write in English […] the development of age-appropriate academic English – morphology, syntax, vocabulary – can be accelerated orally through planned and deliberate daily instruction".

Disciplinary literacy, Shanahan and Shanahan (2008: 45) maintain, usually emerges during middle school and high school, when "reading routines and language uses" become highly specialized and less generalizable. The authors point out qualities of disciplinary texts students may find challenging (ibid):

> *The difficulty of texts may arise from high levels of abstraction, ambiguity, and subtlety, or from content that differs from, or even contradicts, students' life experiences.*

Moreover, and more importantly, Shanahan and Shanahan (2008) argue that high-level skills needed in operating with disciplinary texts are rarely taught. This statement is corroborated by other studies (e.g. Ernst-Slavit & Mason 2011, Fitts & Bowers 2013). This issue is the nuclear focus of the empirical part of this inquiry report and will be addressed in the following sections of this paper both theoretically and empirically.

Subject-specific vocabulary

It seems that the starting point of subject-specific literacy is vocabulary on which subject-specific language is built. There are several different classifications and terms for subject-specific vocabulary. The University of Cambridge CLIL materials, for instance, use the term pair *content-obligatory* and *content-compatible* to highlight the accuracy needed for competent content expression (Table 6). Content-compatible language refers to BICS-type language, whereas content-obligatory language to CALP-type, subject-specific language needed to understand, communicate and work with disciplinary contents (University of Cambridge 2013a, ibid 2013b). Subject-obligatory language entails "subject-specific vocabulary, grammatical structures and functional expressions" (ibid 2013a: 4). Both types of language are needed for successful academic discourse because they complement each other.

TABLE 6. Content-obligatory and content-compatible language in science and geography (modified from University of Cambridge 2014a: 4 and 2014b: 5)

Subject	Content-obligatory language	Content-compatible language
Science **topic: vertebrates**	vertebrate – invertebrate endoskeleton – exoskeleton bones, backbone terrestrial aquatic (*explaining differences)* Vertebrates have endoskeletons but/whereas invertebrates have exoskeletons or no skeleton.	short – long group, class head, body, tail They lay eggs. They catch fish. (*defining)* It's an animal that lives in the sea / on the land.
Geography **topic: river**	source – mouth delta estuary (*explaining processes*) It is the process of dropping sediment.	small – large rain water (*defining*) It's the place where…

As was discussed in Section 5.1, vocabulary needed for academic discourse is more technical, precise, formal and diverse than in social, colloquial expression. It is not impossible to show content-knowledge through content-compatible language, but with content-obligatory language and expressions, the message would be represented in a more exact, subject-specific manner. Content-obligatory language is seen as essential, required and supportive to the content acquisition; whereas content-compatible is rather excessive, expanding and complementary to the actual content objectives (see Fortune & Tedick 2014).

Vocabulary needed in content-study can also be classified as general, specialized and technical (TESOL 2006 PreK-12 English language proficiency standards in Gottlieb & Ernst-Slavit 2014: 43). Table 7 below elucidates how general words are common and applicable for every content area, while specialized and technical vocabulary is entirely subject-specific. The general vocabulary presented in the Table is already fairly demanding for second language learners and require explicit instruction, contextual, repetitive use and practice.

TABLE 7. Vocabulary type by content area (Gottlieb & Ernst-Slavit 2014: 44)

Academic vocabulary	**General**	**Specialized**	**Technical**
English Language Arts	appropriate articulate assess assumption conclusion context decline demonstrate denotes distribute generic inference itemize opposition prompt restate reveal solution structure summary superfluous though trait wonder	semantic metaphor voice limerick	soliloquy romanticism gothic burlesque
Mathematics		angle ordered pair percent random	coefficient statistical variability right prism χ-axis
Social Studies		revolutionary constitutional policy supply	chauvinism Magna Carta prime meridian signatory powers
Science		asteroid range inquiry variable	atmospheric biotic convection prototype
Other content areas (e.g., Art, Music, Health, Physical Education)		aesthetic consonance offside Renaissance period	blues progression body mass index vivace law of specificity

Subject-specific discourse

Academic and subject-specific vocabulary, through sentence level, is part of **subject-specific discourse** (textual practices and conventions - text as a wide concept). There is research evidence that various disciplines, and therefore also school subjects, "have their own distinctive grammatical features and language structures that students must exchange between and across in order to be successful learners" (Abel & Exley 2008: 230, see also Wyatt-Smith & Cumming 2003). Hence, academic vocabulary does not exist in isolation of phrases, expressions and sentences but is rather perceived as building materials for academic language. Therefore, the analogy of using

bricks (academic words) and mortar (less specific connector words) to construct subject-specific discourse is appropriate and helpful to understand the relationship between the different types of vocabulary (Dutro & Moran 2003). Gottlieb and Ernst-Slavit (2014) provide the following examples of various discourses across the curriculum (Table 8).

TABLE 8. Examples of discourse across content areas (Gottlieb & Ernst-Slavit 2014: 30)

Content areas	***Examples of discourse***
Mathematics	proofs, story problems, graphs
English language arts	editorials, autobiographies, plays, blogs
Science	articles in science journals, lab directions, science reports
Social studies	historical diaries, speeches, folktales
Other content areas	art encyclopaedias, health compendia, performance evaluations (music)

These different types of subject-specific discourse may not be self-evident for students, and therefore linguistic analyses, explicit instruction of language functions and the appropriate language needed to convey meaning is necessary. For example, Abel and Exley (2008) present a linguistic grammar analysis of mathematical word problems and conclude that the inability to decode ambiguous mathematical texts presents a risk of failure for students. According to the study conducted by Wyatt-Smith & Cumming (2003) in Australia, the use of metalanguage of the subject may alleviate curricular learning as well as explicit instruction of subject-specific language. However, they found little evidence in their study that the studied teachers in two Australian states would model subject-specific literacies or related metalanguage. Wyatt-Smith and Cumming (ibid) also notify that assessments often contain subject-specific terms and language that is not particularly addressed in instruction (see also Schleppegrell 2001). This may violate students' right to fair and equitable assessment and further accentuates the importance of teachers addressing the various elements of academic or subject-specific language.

Different school subjects adhere to subject-specific language conventions because the disciplines they are grounded on "create, disseminate, and evaluate knowledge" in distinct ways and require different reading processes (Shanahan and Shanahan 2008: 48). In mathematics, re-reading and close reading are most important strategies, while in chemistry transforming text to alternative representations such as charts or pictures is seen as essential for understanding; and in history, reading involves interpretation of the intention and possible biases of the author (Shanahan & Shanahan 2008: 48-499). Reading also involves knowledge of language functions (see p. 10).

History, for example, is expository, often uses past tenses and explains causal relationships, while the language of home economics or physical education normally is instructional making use of imperative mood (see Llinares, Morton & Whittaker 2012 for an extensive review of genres, grammar and lexis in different subjects).

There are multiple factors influencing the readability of social studies texts. Ogle, Klemp and McBride (2007: 5) list several features of social studies texts that make them difficult for some or most students to grasp. Firstly, social studies text books entail references to foreign cultures, peoples, places and previous eras of which the students may lack prior knowledge of. Secondly, they cover a considerably high amount of information: "A typical [American] middle or high school text book includes 800 to 1,200 pages of facts, anecdotes, statistics, questions, activities, and graphic images". Thirdly, social studies texts contain a bulk of 'isms' about different fields of life such as religion (Buddhism), economics (mercantilism), government (imperialism) and culture (cubism). Without mastering these core concepts the textual understanding remains vague. Fourthly, academic vocabulary is inherent to social studies texts, and some of the words may hold multiple meanings which students can find confusing. Fifthly, disentangling such texts need analysis and/or synthesis skills students may have never acquired or been taught at school. Additionally, the age and maturity of learners have an effect on how well they are able to interpret literate and factual or subtle meanings in the texts. Furthermore, multiple literacies are needed to truly engross oneself in the text, because maps, pictures, charts and graphics are often included in the textual body.

Each school subject thus features its own language and requires its own typical literacy. Hence, Schleppegrell (2006) argues that language focus needs to be linked with subject teaching and teachers should engage students in language analyses resulting in **language-based content teaching**. When content instruction is language-based and linguistically responsive, it draws from academic, subject-specific language rather than social language. In the following two Sections I will examine how academic language and subject-specific literacies have been acknowledged in the Common Core State Standards and Indiana State Standards that inform the instruction of the elementary schools I have visited in the U.S. The TESOL 2006 PreK-12 English language proficiency standards would also be an interesting source to examine, but out of limitations in space, time and availability, I have not investigated those standards.

7.1. Academic, subject-specific language in Common Core State Standards

The Common Core State Standards (CCSS 2014) (see short introduction in http://vimeo.com/51933492) is an initiative aiming at nation-wide and uniform set of standards for English Language Arts (E/LA) and mathematics K-12. The local implementation started in 2013. Forty-three of the 50 states have adopted these standards that are, for instance, research-based and consistent; they are based on rigorous content and require application of knowledge through higher-order thinking skills (Cf. Bloom's Taxonomy). Logically, the CCSS also addresses academic language as a prerequisite for academic achievement. The E/LA standards establish guidelines also for the literacy in history/social studies, science and technical subjects and are designed to promote content literacy and advance college and career readiness.

The CCSS standards require that all teachers contribute to the development of academic language, and vocabulary development is seen as a particularly important component in that process (CCSS 2014: Appendix A). The CCSS vocabulary framework draws from the work of Beck, McKeown and Kucan (2002, ibid 2008) and differentiates between three tiers of vocabulary according to their frequency and complexity. The Tier One words are equivalent to content-compatible vocabulary addressed in the previous sub-section. The Tier Two (general vocabulary in Table 7) and Tier Three words (specialized and technical words in Table 7) provide access to the information in more complex, disciplinary texts which necessitates that teachers define and make use of such words in the classroom.

Tier One words refer to words that are used at everyday basis. They are not considered to be a challenge for native speakers, although ELLs may need to pay closer attention to them.

Tier Two words (general academic words in CCSS) appear in all kinds of texts rather than in speech and they represent precise ways of expressing common things.

Tier Three words (domain-specific words in CCSS) are specific to a certain domain or field of study and essential to understand in a new context. They are considerably more frequent in informational texts than in other genres.

It is useful to be aware of the vocabulary used in the educational discourse in the U.S.; the foregrounding of vocabulary in learning trajectories becomes evident through glossaries provided

by the CCSS (http://www.corestandards.org/Math/Content/mathematics-glossary/glossary/ for mathematics and http://www.corestandards.org/assets/Appendix_A.pdf for E/LA). Following the CCSS example, there are also several glossaries of academic vocabulary in different subject areas available online (see e.g. Iredell 2014).

7.2. Subject-specific literacy in the Indiana State Standards

> The college and career ready Indiana Academic Standards for [name of subject] are the result of a process designed to identify, evaluate, synthesize, and create the most high-quality, **rigorous** standards for Indiana students.
>
> (www.doe.in.gov, bolding mine)

In place of adopting the Common Core Standards Initiative (see previous Section or http://www.corestandards.org/) seeking educational cohesiveness and homogeneity throughout the nation, Indiana State has chosen to apply its own academic standards released by the Indiana State Department of Education (DOE) and available online that are, as the quote above shows, rigorous in their quality. Standards are not equivalent to curriculum, but they are "benchmark measures that define what students should know and be able to do at specific grade levels" in K-12 (Indiana DOE 2014). Standards are used as a reference when designing a curriculum (teaching plan) at the local level.

The purpose of academic standards is to articulate "what students will need to learn in order to be college and career ready and to be competitive in the job market" (ibid). The Indiana State Department of Education has defined academic standards for altogether 23 subjects or subject clusters for K-12 ranging from agriculture to world languages. Teachers as well as parents are provided with additional resources, materials and models of assessment tasks. In this context, I will concentrate only on references to academic or subject-specific language in

the Indiana State Academic Standards (ISAS 2014) in subjects taught at elementary level, i.e. English/language arts, mathematics, science, social studies, visual arts, music and physical education.

Indiana State Academic Standards, similarly as the CCSS (2014), takes academic, subject-specific literacies into account. Literacy development, in general, plays a significant role in the overall education - it is perceived as the prerequisite for subject learning. At elementary level, most subjects draw their literacies from the standards of English/Language Arts (E/LA). The instruction of English refers to literature, composition and speech, whereas language arts denote the four basic language skills (listening, speaking, reading and writing) as well as viewing. The skills in the E/LA standards document for Grades K-5 do not, however, include 'viewing' but media skills. It remains thus unclear what viewing denotes.

Music, visual arts and P.E. use the E/LA literacy standards as such which implies wider perception of texts and literacy (see Chapter 6 for multiple literacies), whereas science and mathematics make an allusion to subject-specific language use in their process standards which describe, as stated in the 5th grade science standards, the responsibility of subject-teachers to participate in language teaching in their own area (ISAS 2014: Science 5th grade):

> *[T]hese Process Standards emerged with the adoption of the Common Core State Standards in the area of Reading and Writing for Literacy in Science. The Literacy Standards establish that instruction in reading, writing, speaking, listening, and language is a shared responsibility. The Literacy Standards are predicated on teachers in the content areas using their unique disciplinary expertise to help students meet the particular challenges in reading, writing, speaking, listening, and language in their respective fields. It is important to note that literacy standards are meant to complement rather than supplant content standards in the disciplines.*

In the Process Standards, academic, subject-specific language is required in such actions as the following examples from the 5th grade Science Standards document show:

- **Plan and carry out investigations**…
- **Keep accurate records** in a notebook during investigations **and communicate findings** to others using graphs, charts, maps and models through oral and written reports.
- **Present evidence** by using mathematical representations (e.g., graphs, data tables).
- **Communicate the solution** (including evidence) using mathematical representations (graphs, data tables), drawings or prototypes.

- **Communicate how** to improve the solution.

The 1st grade mathematics standards also incorporate the academic-type language use (spoken) in Process Standards. For example, the Process Standard 6 "Attend to precision" states that "mathematically proficient students communicate precisely to others. They use clear definitions, including correct mathematical language, in discussion with others and in their own reasoning." (ISAS 2014: Mathematics 1st grade).

Social studies standards do not make any reference to subject-specific literacy, but they employ action verbs indicating knowledge of academic language functions and demanding higher order thinking skills, at least to some degree. For instance, the 4th grade social studies standards document that concentrates on the topic 'Indiana in the Nation and the World' opens with the sentence "Fourth grade students apply their growing academic skills and knowledge to an exploration of Indiana and its relationships with regional, national, and world communities.", and it entails standard verbalizations necessitating academic skills such as the ones exemplified below:

- **Identify and compare** the major early cultures…
- **Explain the importance** of the Revolutionary War…
- **Summarize and explain the significance** of key documents in Indiana's development…
- **Describe the transformation** of Indiana through immigration…
- **Research** Indiana's modern growth…
- **Create and interpret timelines** that show relationships among people, events and movements in the history of Indiana.
- **Identify different opinions** in historical documents […] and **identify the central question** each narrative addresses.
- **Construct a brief narrative** about an event in Indiana history using primary and secondary sources.

The standards state what to do (language functions) with the content instead of merely listing content knowledge to be mastered. They thus combine the linguistic and cognitive aspects into a standard statement. The transition point for more subject-specific language use is located between the 5th and 6th grade, since from the 6th grade onwards, Indiana Department of Education provides separate documents on Content-Area Literacy Standards for Grades 6-12 in history and social studies in a similar manner as separate documents for science and technical studies, including maths, describe the characteristics of language needed and used in those subjects. The documents contain information of reading and writing for literacy. In the following, I will elucidate

the contents of E/LA standards for K-5 especially from the viewpoint of academic language and subject-specific literacies.

English / Language Arts

Literacy development is the core area, since reading skills are perceived as a springboard to academic learning**.** The E/LA standards document states of *the guiding principles in reading*, which has been devoted the largest number of pages in comparison to other areas of E/LA, the following (boldfacing mine):

> *Students transition from "learning to read" to "**reading to learn**". Students develop and apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They read a wide range of literature in **several genres** from a variety of time periods and cultures from around the world to build an understanding of the many dimensions (e.g., philosophical, ethical, aesthetic) of human experience. They draw on their prior experience, their interactions with other readers and writers, their **knowledge of word meaning** and of other texts, their **word identification strategies**, and their **understanding of textual features** (e.g., sound-letter correspondence, sentence structure, context, graphics).*

Reading to learn refers to an Australian literacy framework (see https://www.readingtolearn.com.au/). In the guiding principles, vocabulary is emphasised more strongly than other areas in reading. Reading is divided into four main areas (foundations, literature, nonfiction and vocabulary) of which especially the two last mentioned make an explicit connection to subject-area literacy, but the two first mentioned are prerequisite of general, overall reading skills. Each key area is further divided into specific sub-standards for each grade level K-5. Below, the key areas of main areas of nonfiction and vocabulary are listed with their core content.

Nonfiction (reading and comprehending a variety of nonfiction independently and proficiently) is divided into three key areas:

1) *key ideas and textual support* (extracting and constructing meaning from nonfiction texts using a range of comprehension skills),
2) *features and structures* (building understanding of nonfiction text, using knowledge of text features, structures, and author's perspective), and
3) *connection of ideas* (building understanding of nonfiction texts by verifying points and making connections between topics and ideas).

As can be seen in Table 9 below, the examples of third phase K-5 nonfiction reading in the E/LA standards are, from the second grade onward, related to disciplinary texts in science and social studies. The degree of difficulty and rigor in identifying key ideas and providing textual support increases gradually through phases. First phase standards are related to asking and answering questions about important textual elements, whereas the second phase standards are about main ideas.

TABLE 9. Example of K-5 nonfiction reading standards in the third phase of key ideas and textual support (ISAS 2014: E/LA Standards K-5)

RN.2: KEY IDEAS AND TEXTUAL SUPPORT **Extract and construct meaning from nonfiction texts using a range of comprehension skills**					
KINDERGARTEN	**GRADE 1**	**GRADE 2**	**GRADE 3**	**GRADE 4**	**GRADE 5**
K.RN.2.3: With support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	**1.RN.2.3:** Describe the connection between two individuals, events, ideas, or pieces of information in a text.	**2.RN.2.3**: Describe the connection between a series of historical events, scientific ideas or concepts, and steps in a process or procedure in a text.	**3.RN.2.3:** Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in processes or procedures in a text, using words such as first, next, finally, because, problem, solution, same, and different.	**4.RN.2.3:** Explain the relationships between events, procedures, ideas, or concepts in a historical, scientific, or technical text, based on specific information in the text.	**5.RN.2.3:** Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

Vocabulary (building and applying vocabulary by using various strategies and sources) is divided into two key areas:

1) vocabulary building (using strategies to determine and clarify words and understand their relationships) and
2) vocabulary in literature and nonfiction texts (building appreciation and understanding of literature and nonfiction texts by determining or clarifying the meanings of words and their uses).

Table 10 below exemplifies how general academic and content-specific words are part of systematic vocabulary base expansion from the third grade onward.

TABLE 10. Example of K-5 vocabulary building standards in the second phase of vocabulary in literature and nonfiction texts (ISAS 2014: E/LA Standards K-5)

RV.3: VOCABULARY IN LITERATURE AND NONFICTION TEXTS **Build appreciation and understanding of literature and nonfiction texts by determining or clarifying the meanings of words and their uses**					
KINDERGARTEN	**GRADE 1**	**GRADE 2**	**GRADE 3**	**GRADE 4**	**GRADE 5**
K.RV.3.2: With support, ask and answer questions about unknown words in a nonfiction text.	**1.RV.3.2:** Ask and answer questions to help determine or clarify the meaning of words and phrases in a nonfiction text.	**2.RV.3.2:** Determine the meanings of words and phrases in a nonfiction text relevant to a second grade topic or subject area.	**3.RV.3.2:** Determine the meanings of general academic and content-specific words and phrases in a nonfiction text relevant to a third grade topic or subject area.	**4.RV.3.2:** Determine the meanings of general academic and content-specific words and phrases in a nonfiction text relevant to a fourth grade topic or subject area.	**5.RV.3.2:** Determine the meaning of general academic and content-specific words and phrases in a nonfiction text relevant to a fifth grade topic or text.

As for **writing** standards, the guiding principle states, among other things, the following (ISAS 2014: E/LA Standards K-5):

> *Students experiment with different modes of writing to develop their craft and hone their skills as writers. Students conduct simple research on issues and interests by generating ideas and questions, and posing problems. They gather, evaluate, and synthesize information and data from a variety of sources to communicate their discoveries in ways that suit their purpose and audience.*

Conducting a minor research already requires a certain set of academic skills. These academic skills are incorporated in writing standards areas of writing **genres** (developing writing skills by writing for different purposes such as persuasive, informative and narrative and to specific audiences or people), the writing **process** (produce coherent and legible documents by planning, drafting, revising, editing, and collaborating with others) and the **research process** (building knowledge about the research process and the topic under study by conducting a short research). For example, under the key area 'writing genres', a 5th grader, when writing an informative piece of text, is expected to deliver according to the standard 5.W.3.2 which includes the following sub-skills:

5.W.3.2: Write informative compositions on a variety of topics that –

- Introduce a topic; organize sentences and paragraphs logically, using an organizational form that suits the topic.
- Employ sufficient examples, facts, quotations, or other information from various sources and texts to give clear support for topics.
- Connect ideas within and across categories using transition words (e.g., *therefore, in addition*).
- Include text features (e.g., *formatting, pictures, graphics*) and multimedia when useful to aid comprehension.
- Use appropriate language, vocabulary, and sentence variety to convey meaning; for effect; and to support a tone and formality appropriate to the topic and audience.

All bullet points point towards more academic-type language use, and the third and last points explicitly refer to more academic genres.

8. Scaffolding the development of academic language and literacy

Scholars and researchers adhere to different aspects of language development according to their specific fields of interest. Some scholars emphasize the role of reading (e.g. Cummins & Man 2007) and writing (e.g. Dalton 2008), while others are more inclined to pinpoint the importance of speaking and conversations (e.g. Swinney & Velasco 2011; Zwiers 2008; Zwiers & Crawford 2011) in the development academic language and literacy. There is, however, a consensus that building awareness of academic language in general or subject-specific language in particular occurs, according to Gottlieb & Ernst-Slavit (2014: 11) through addressing students' and teachers' metalinguistic awareness (transfer of linguistic knowledge across languages), sociocultural awareness (awareness of various social and cultural contexts in the larger society) and metacognitive awareness (the knowledge of one's own and other people's cognitions).

TABLE 11. Building awareness of academic language in the classroom (Gottlieb & Ernst-Slavit 2014: 11)

Types of Awareness	*Classroom Examples*
Metalinguistic Awareness	• recognizing and identifying cognates in multiple languages • comparing the similarities among and differences between forms and structures between multiple languages • transferring information and literacy practices across languages
Sociocultural Awareness	• using languages, literacies, and cultures as resources • considering and incorporating the students' cultural norms and traditions • being aware of situations or contexts for language learning
Metacognitive Awareness	• reflecting on how students learn language • talking and writing about language learning • discussing with learners about how they do things in the classroom, such as their use of comprehension strategies

Gottlieb and Ernst-Slavit (2014) wish to stress that language development is a sociocultural process: "It encompasses knowledge about ways of being in the world, ways of thinking, interacting, speaking, and sometimes writing and reading, connected to particular identities and social roles" (Gottlieb & Ernst-Slavit 2014: 10). They also give examples of how to build these types of awareness in the classroom (Table 11). The same call has been made earlier by Fillmore and Snow (2000) who maintain that knowledge of language and literacy should be included in the toolkit of every classroom teacher.

Also Dutro and Moran (2003) advocate intentional, language-focussed teaching noting that raising students' metalinguistic knowledge may accelerate their content learning; in the same token they propose an instructional design blueprint based on 'Functions, Forms and Fluency'. The Five Standards model of teaching by Dalton (2008) is sociocultural in nature and the eCALLMS model is raising particularly teachers' metacognitive awareness of language and its relationship to content teaching. All these models in addition to references to a few other teacher development models are shortly presented in this chapter. I will, however, start with returning back to Chamot and O'Malley's CALLA model shortly introduced on p. 11.

The CALLA model deploys the Cummins model of language proficiency and exemplifies different language activities combining language and content in more and less context-embedded and context-reduced situations. Table 12 adapted from Chamot and O'Malley's (1987: 238) displays quite illustratively how the degree of linguistic difficulty increases in cognitive and linguistic tasks from level I to level IV, the awareness of which might help teachers in their planning and ensure that they are actually developing academic English (CALP) instead of casual, ordinary English (BICS). Naturally, it is obvious that in the initial stages of instruction the focus is on undemanding activities and the shift towards more demanding tasks should occur gradually (learning progression from quadrant I to IV or from quadrant I through III and II to IV).

8.1. Teacher's role in language development

The teacher has a substantial role in designing language-responsive content instruction, as already noted in the preceding, more theoretical part of literature review. Prior studies have provided evidence the importance of efficient teaching in the academic achievement of primary students. In other words, the overall quality of teaching is a significant factor in successful instruction. The

achievement difference between a primary pupil with a low-performing teacher and a high-performing teacher may be as much as 53% (Sanders & Rivers 1996) or, as Hattie (2003) credits, approximately 30% of a students' achievement variance accounts for teachers.

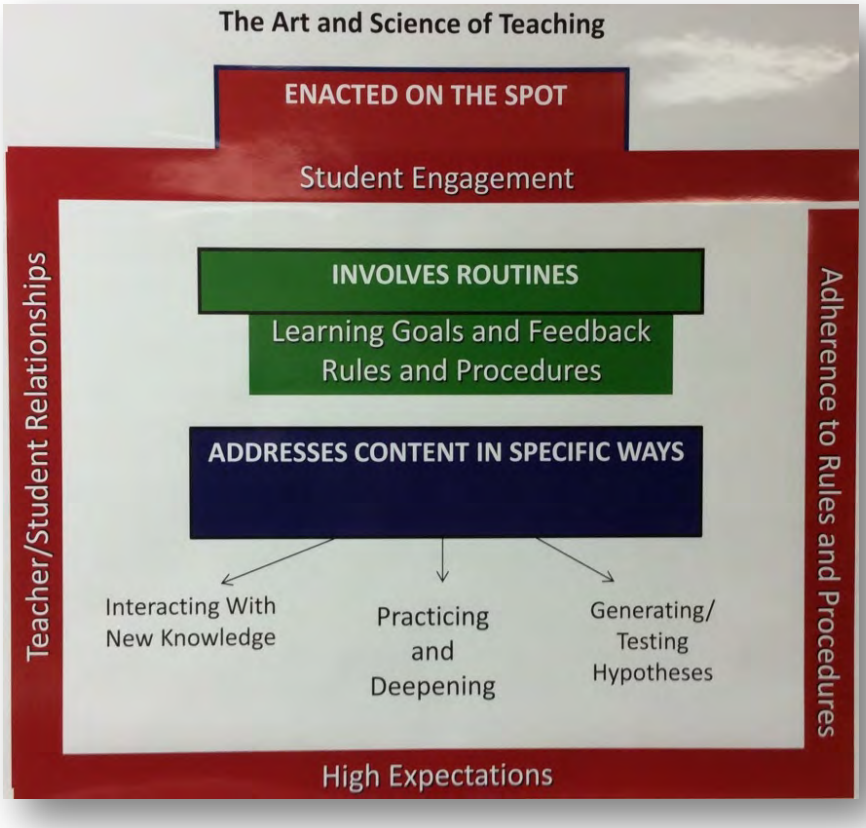
TABLE 12 Classification of language and content combining activities (slightly modified from Chamot & O'Malley 1987, 238)

	Non-academic or cognitively undemanding activities	**Academic and cognitively demanding activities**
Context-embedded	I developing survival vocabulary following demonstrated directions playing simple games engaging in face-to-face interactions practising oral language exercises and communicative language functions answering lower level questions	III developing academic vocabulary undemanding academic presentations accompanied by visuals, demonstrations of a process etc. participating in hands-on activities making models, maps, charts and graphics solving math computation problems and math word problems assisted by manipulative and/or illustrations participating in academic discussions making brief oral presentations using higher level comprehension skills in listening to oral texts understanding written texts through discussion, illustrations and visuals writing simple science and social studies reports with format provided answering higher level questions
Context-reduced	II engaging in predictable telephone conversations developing initial reading skills: decoding and literal comprehension reading and writing for personal purposes: notes, lists, recipes etc. reading and writing for operational purposes: directions, forms, licences etc. writing answers to lower level questions	IV understanding academic presentations without visuals or demonstrations making formal oral presentations using higher level reading comprehension skills: inferential and critical reading writing compositions, essays and research reports in content subjects solving math word problems without illustrations writing answers to higher level questions

Teachers in the U.S., primarily with a bachelor degree education, are held accountable for the outcomes of their teaching, and following from that, their instructional effectiveness is assessed.

Building academic language should be, according to contemporary research and the reviewed literature, an essential part of appropriate teaching and as a result, part of teacher accountability assessment. Monroe County Community School Corporation is in the process of shifting to a new teacher assessment system which relies on Marzano's (2012) Teacher Evaluation Model and will focus more on professional growth (90%) than results in the Indiana estate standardised assessment (10%) in the future. The Marzano model is grounded on his publication *The Art and Science of Teaching: A Comprehensive Framework for Effective Instruction* (2007) (Figure 6).

FIGURE 6. The Art and Science of Teaching elements (photo taken in the UES teachers' lounge)



The Marzano Evaluation Model does not, however, particularly address the development or scaffolding of academic language. Within the four assessable domains of teacher activities (classroom strategies and behaviours, planning and preparing, reflecting and teaching and collegiality and professionalism), considered to be of substantial influence to students' academic achievement, only the element 6 under the domain 2 (Planning and preparing for special needs of students) the language aspect is implicitly recognized in the criterion "Planning and preparing for

the needs of English language learners" (Marzano 2012: 5). Otherwise language is not mentioned. Similarly, the five-point definition of teacher effectiveness based on Goe, Bell & Little 2008, linked from the Indiana State Department of Education web page (http://www.doe.in.gov/evaluations/observation-and-feedback), does not pay specific attention to teachers' efforts in advancing language and literacy development.

There are, however, linguistically responsive teacher evaluations and coaching models available in the U.S. Dalton's (2008) *Five Standards for Effective Teaching* is one. Dalton's (2008: 97) classification for K-8 adopted in Colorado identifies and discusses five standards which are further divided into classroom application indicators reflecting good teaching practices. The standard II, *Developing language and literacy*, specifically mentions the classroom application indicator "Expands students' expression in spoken and written academic language" as one of the descriptors of an effective teacher. The underlying belief in developing language and literacy in general is that it develops "competence in the language and literacy of instruction across the curriculum" (Dalton 2008: 25). The other four standards are 1) teachers and students producing together, 2) connecting learning to students' worlds, 3) challenging students' thinking and 4) using instructional conversation.

Dalton's performance-based instructional model has been subject to recent research in the U.S. The results of the study conducted by Teemant, Wink and Tyra (2011) provide statistically significant evidence not only of improvements in elementary teacher pedagogy, but also patterns of teacher growth and changes of classroom organization. Since teacher's role in students' language and academic development is seen as crucial, teacher skills in language issues – markedly language in connection with content – are the main target of the eCALLMS pre- and in-service training model created in the Colorado University, Denver. The principles of this model are presented concisely in the following Section, after which I will look closer into what is stated about or recommended for language-enriched content instruction for English Language Learners in practice.

8.2. The eCALLMS in-service training model

The eCALLMS (e-Learning Communities for Academic Language Learning in Mathematics and Science) model is an American innovation specifically designed for professional development for both pre- and in-service teachers (Shannon & al. in preparation). ECALLMS is an online platform that has been developed in collaboration with the University of Colorado, Denver and University of Wyoming and funded by a grant from the U.S. Department of Education. The purpose of the various content-based modules available online for free is to support, further elaborate and share good practices in linguistically responsive teaching. Currently, there are six modules available (applicable grades in parenthesis) followed by the essential content question revealing the main focus of the module:

1) **Second language acquisition** (K-12): How can my knowledge about second language acquisition improve my instruction with bilingual students?
2) **Math fractions** (3-5): What is the language of fractions and how can all students have access to it?
3) **Math ratios and proportions** (5-8): How can I support multilingual students in learning the mathematical language and concepts of ratios and proportions?
4) **Science processes**: The 5E Model (3-5): How can I use the 5E Instructional Model to improve my science instruction to engage multilingual students more meaningfully in the development of science knowledge and academic language?
5) **Math numbers and operations** (K-2): How can mainstream elementary teachers purposefully plan and deliver mathematics instruction that combines rigorous mathematics content with attention to language development and learning strategies?
6) **Fully charged: language in science** (3-5): How can I create culturally and linguistically rich classroom environment in a science unit?

There are several modules under work: math functions (8), science inquiry (4-8), learning through two languages (K-12), language and concept development (K-12), math geometric measurement (3) and language grouping strategies (K-12).

Each online module is designed to be completed in six weeks in three main phases: 1) explore (study of the topic), 2) make it work (applying the learned in one's own classroom context and 3) share (disseminating the experiences/ideas/insights through, for instance, uploading a video,

lesson plans, notes etc. in the eCALLMS environment for others to see. The model is very flexible; each week concentrates on a new issue of the module area, and the content can be studied regardless of time and place in one's own pace and the main ideas experimented with in any way suitable for the teacher. The findings of Lucero (2013) suggest that teachers should be guided to participate in courses that expand their understanding of academic language and its development and provide models of good instructional practices. ECALLMS is one solution to that call.

8.3. Functions, Forms and Fluency pedagogy

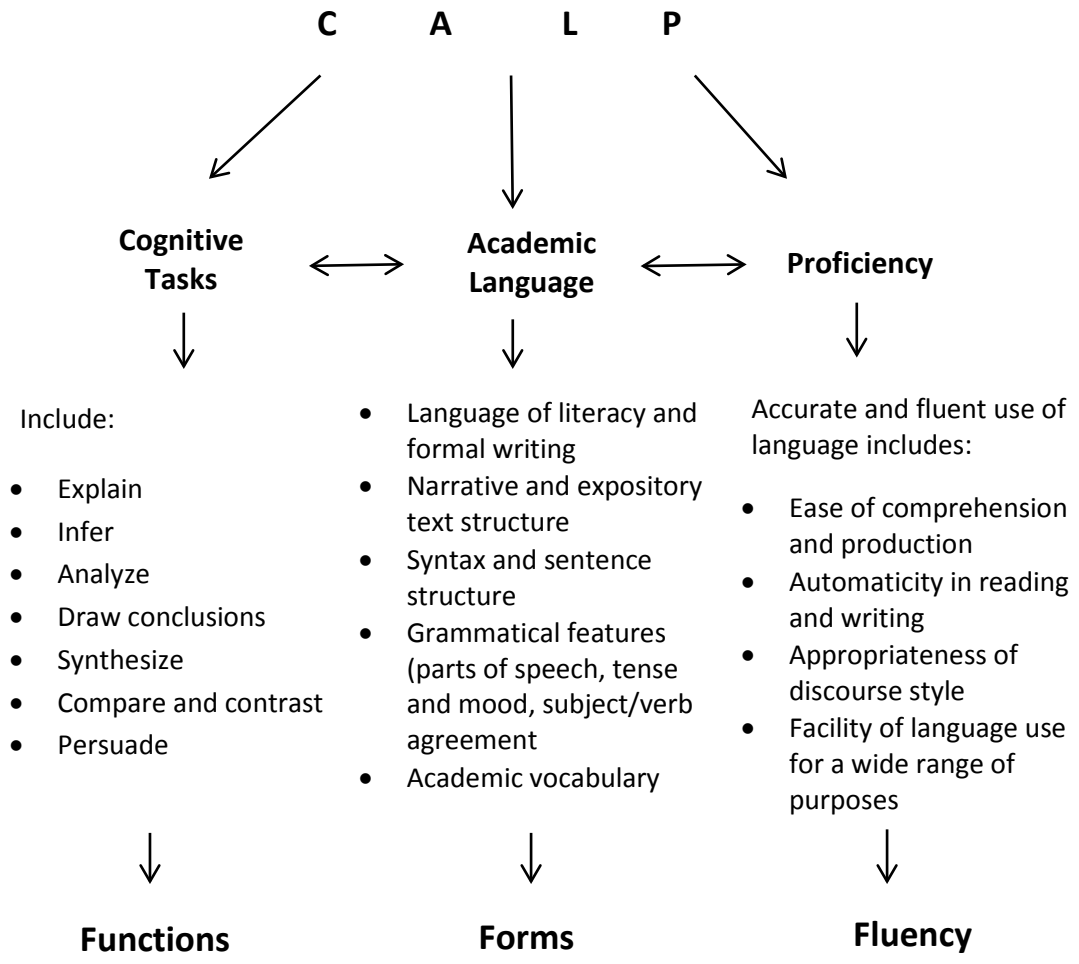
Another solution for instruction that enhances language-aware instruction is the semi-theoretical and highly practice-oriented model created by Dutro and Moran (2003). They use the analogy of architecture for language instruction and perceive teachers as architects who design the house (language) to be built by the constructors (learners). Their pedagogical framework and vision of academic language is based on three pillars: Functions, Forms and Fluency, functions being the cognitive task, forms referring to the linguistic tools needed to carrying out the task (grammar and vocabulary) and fluency designates the various opportunities for applying and practising that language. The pedagogical model of Functions, Forms and Fluency (FFF) lies on the premises that language should be taught explicitly instead expecting learning to occur implicitly through language use. Figure 7 elucidates the disciplinary background of this pedagogical approach and makes it parallels with Cummins' BICS and CALP distinction (see p. 8 and 17), Halliday's language functions (see p. 10) as well as Bloom's taxonomy of cognitive objectives (see p. 11) clearer.

The FFF blueprint consists of three elements: 1) English language instruction which they call the "vertical slice of the curriculum" arguing that language instruction is an undividable part of all learning, 2) front-loading language which denotes that linguistic analysis of the content area followed by actual language instruction should precede content tuition and 3) teachable moments which equal with any possibility to tap onto language, seizing the linguistic moment, so to speak. The FFF approach requires teaching language and taking the linguistic perspective into account throughout the day whenever possible.

Unlike Shanahan and Shanahan (see Chapter 7), Dutro and Moran (2003) claim that early onset in the use of academic language, advancing from simple sentence structures to more complex,

integrating accurate use of academic vocabulary with a wide variety of language functions enhances language acquisition. The example of language form development in the language function comparing and contrasting (Table 13) further elucidates the interplay between the components of Function and Form at five different proficiency levels in mathematics which should become more established through activities brushing up Fluency.

FIGURE 7. Conceptual model from CALP to functions, forms and fluency (Dutro & Moran 2003: 253)



The essential terms and subject-specific vocabulary needed for uttering or expressing content are front-loaded, i.e. taught first. Those words are what Dutro and Moran (2003), staying committed to their architectural metaphor, call **bricks**. In order to advance to the next proficiency level –the sentence level – some **mortar**, i.e. connecting words, inflected verbs and knowledge of grammatical tools are necessitated to form a proper, expressive sentence to convey the meaning according to the task, i.e. language function. The cursive words signify the emergence of vocabulary related to the language function in question: comparing and contrasting.

TABLE 13. Function chart for comparing/contrasting (adapted and slightly modified from Dutro & Moran 2003: 237)

Beginning	**Early Intermediate**	**Intermediate**	**Early Advanced**	**Advanced**
triangle square three four side	Triangles have three sides. Squares have four sides.	A triangle has three sides, *but* a square has four sides. They *both* have straight lines.	Triangles and squares *are alike* because they both have straight lines. They *are different because* a triangle has three sides and a square has four sides.	*Though* squares and triangles are similar because *both have* straight lines, a triangle is three-sided and a square is four-sided.

The task of teachers thus is to design the task, analyze the type of house or building needed, provide the learners bricks, mortar and tools ant to facilitate them in the construction process. Many builders, as apprentices, need help and practice to produce steady founding, straight walls and firm ceiling to the house. With practice, the process of building becomes increasingly fluent.

8.4. The SIOP model

The Sheltered Instruction Observation Protocol (SIOP) is a well-known practice-oriented instructional model for lesson design and tuition delivery in content-based (language) instruction (CBI) composed by Echevarría, Vogt and Short (SIOP 2014). Sheltered instruction denotes "integrating language development with techniques to make curricular topics more comprehensible to ELLs" (Short, Fidelman & Louguit 2012: 335). The Center for Applied Linguistics (www.cal.org), a private, non-profit organization based in Washington, DC, administers the model dissemination and programmatic execution (SIOP 2014). The aim of the SIOP implementation is to make content more accessible for learners simultaneously developing their academic language skills. The model includes eight components that the teacher is expected to follow. The components and their core content are concisely described below with examples of appropriate techniques (Echevarría, Vogt & Short 2013; Eight skills and 30 features 2014).

1. **Lesson preparation**

   The lessons need to be age-appropriate and suitable for learners' proficiency level, create connections between prior and new knowledge and contain both language and content

objectives. Visualization and demonstrations as well as various teaching and learning strategies should be favoured.

- adaptation of the content
- graphic organizers
- outlines, highlighted text and marginal notes

2. **Building background**

Relating the new concepts into learners' personal experiences directly is important. The key vocabulary is presented in context, and academic language and vocabulary needs to be explicitly taught.

- vocabulary self-selection, personal glossaries/dictionaries
- word walls

3. **Comprehensible input**

Teacher talk and vocabulary needs to be adapted to the learners' proficiency level and accompanied with body language (multimodality). The speech should be clear, articulate and slow enough. Visualization, paraphrasing and repetition are useful techniques. Wait time and diversity of questions are included in this category.

- explanation of academic tasks
- review of key vocabulary

4. **Strategies**

Awareness and mastery of various learning strategies enhances the content intake and therefore improves academic achievement. Solid content-based instruction involves also explicit teaching of various strategies (e.g. cognitive, metacognitive, social, affective etc.) such as thinking aloud, preview and prediction, prompting, elaboration and questioning.

- I wonder chart
- summarizing

5. **Interaction**

The learners are seen as active producers of language, and therefore engaging them in content-related conversations and tasks involving negotiation of meaning should make language use more meaningful. Peer activities, collaboration in a myriad of group compositions and safe classroom atmosphere enhance and encourage speaking.

- encouraging more elaborative responses ("How do you know?" "Why is that important?"
- sufficient wait time

6. **Practice and application**

Learning and practicing with new content is ideally action-oriented and concrete including hands-on materials. All four domains of language use (listening, speaking, reading and writing) should be incorporated in instruction.

- application of content and language
- integration of all language domains (see language skills associated with content instruction below)

Listening	Speaking	Reading	Writing
draw a picture	name	preview and predict	create complete sentences
role play	discuss	find specific information	summarize
answer questions	explain	read fluently	list
listen and retell	ask and answer questions	identify main idea	compare
follow directions	summarize	determine fact vs. opinion	explain
demonstrate	evaluate	scan	create a poem
distinguish between	clarify	identify vocabulary	write questions and/or answers
record	justify	infer	diagram

7. **Lesson delivery**

Lesson delivery refers to the interrelationship of learning objectives and their implementation; it describes the overall quality of instruction.

- pace of lesson
- student engagement

8. **Review and assessment**

Formative, on-going assessment is necessary for making decisions of the need for additional instruction or moving on. Students should be provided constructive feedback on their learning.

- review of key vocabulary and content concepts

Professional development for teachers is another aspect of the SIOP model that has been validated by research (Short, Fidelman & Louguit 2012), yet one has to bear in mind that this particular study was conducted by one of the SIOP founders and staff of Center of Applied Linguistics.

8.5. Other pedagogical principles and practices

This Section consists of miscellaneous pedagogical recommendations, ideas and tips in different areas of language development found in literature, and it is the bridge from the more theoretical examination to the empirical part of the study.

Swinney and Velasco's (2011) recommendations for vocabulary expansion

The teaching guide *Connecting Content and Academic Language for English Language Learners and Struggling Students Grades 2-6* by Swinney and Velasco (2011) is highly practical and provides multiple ideas for actual classroom activities as well as exemplary unit plans for language arts, social studies and science as well as one thematic unit. As to essential principles, they emphasize triggering and activating learners' background knowledge by helping learners connect old and new learning, use semantic webbing and organize the acquired information into manageable chunks.

The golden rules of vocabulary teaching are (p. 17):

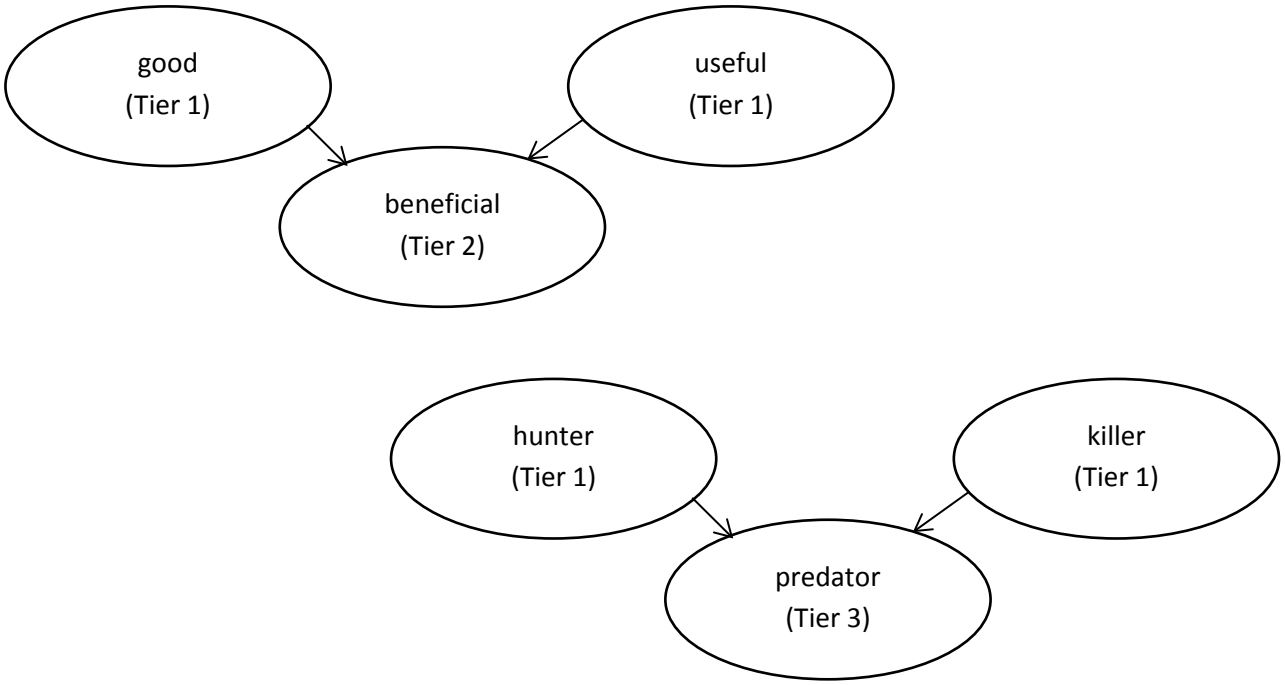
- Teach in context. What are taught in isolation are not stored in long-term memory and, therefore, are quickly forgotten.
- Think of related words that connect to the word, e.g. sad - melancholy- blue.
- Give the opposite of the word so as to throw light on the meaning of the target word. E.g. melancholy - happy.
- Make personal connection - get the children to incorporate the word into their repertoire and start using it.
- Use the word repeatedly!

I have selected a few samples to illustrate different practical ways to enhance vocabulary acquisition and development.

They suggest:

- KWL charts,
- practising reading strategies (attention to title, headings, subheadings and pictures,
- word-rich environments,
- interactive read-alouds and definitions for new words on the run,
- discussing the meaning of new words throughout the day,
- label objects in the classroom,
- puzzles, riddles and word games,
- binding vocabulary and activities together,
- word walls,
- word journals,
- independent reading, and
- index cards for words.

In Section 7.1, vocabulary in three different Tiers was discussed. Swinney and Velasco encourage **building mental vocabulary** by connecting adjacent Tier vocabulary advancing to the higher level as in the picture below (p. 14). Choosing the vocabulary according the curriculum or units is meaningful.

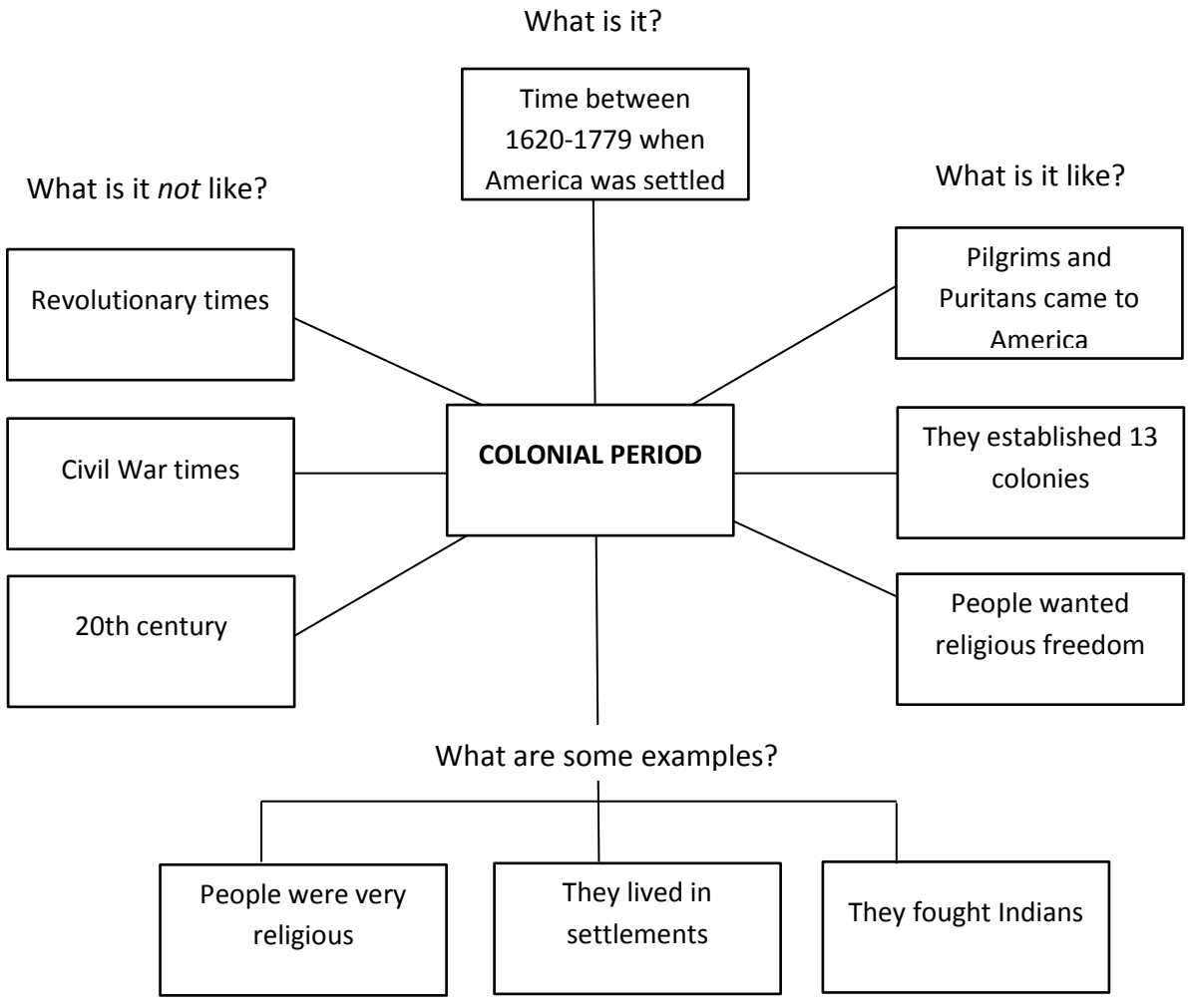


Interactive Read aloud wall could contain thematic vocabulary related to a theme. For example:

The American Revolution for Kids

wealth (riches)	demand (request)	benefit (advantage)
decision (choice)	intends (wants)	

Concept Definition Maps featuring essential questions related to the topic in the middle with very concise answers help learners to memorize key ideas and vocabulary of the topic as well as to organize the learnings (p. 16). Graphic organizers are an excellent way to exhibit large entities of knowledge economically and concisely.



Finally, the last example from Swinney and Velasco (2011) is the **Word Sorts Table** of Colonial America (p. 17) in which key vocabulary is sorted under headings in categories. These labels can be drawn from background knowledge and supplemented as the unit instruction advances.

COLONIAL AMERICA		
PEOPLE	**WEAPONS**	**ISSUES**
John Smith	daggers	confilict with Native Americans
Pocahontas	muskets	conflicts among colonists
Reverend Williams	knives	self-governance
Queen Elizabeth	cannons	freedom of religion
William Penn	swords	slavery

The Swinney and Velasco handbook provides also ideas concerning teaching of morphology and syntax, developing oral language, to give a few examples. The handbook *Building Academic Language: Essential Practices for Content Classrooms* by Zwiers (2008), although targeted at grades 5-12, is also worth familiarizing with since it contains a myriad of practical activities that are adaptable for younger learners.

From word to sentence level

This part of empirical findings is based on supportive materials shown to me in Colorado. Emphasis on language functions (see Section 5.1.) is clearly seen in the WIDA framework and standards and through them in actual instructional practices, but it has also generated additional materials. One example of such materials is Go English 2! Forms and Functions Charts (Casagranda-Williams 2012) that guides through sample sentences explicit language-focused instruction for ELLs. Practically, it is an application of Dutro and Morans' (2003) architecture framework (see p. 41). It is based on

three instructional processes: 1) teacher models a sample sentence (I do it), 2) teacher and students practice the sample sentence together (we do it) and 3) students produce variations of sample sentence themselves (they do it). The language levels for ELLS are divided into five: beginning, early intermediate, intermediate, early advanced and advanced, and accordingly, there are five cross tables for language functions and forms for each level.

Language forms are basically grammatical features (e.g. subject pronouns, irregular plurals, collective nouns, gerunds, and adverbial clauses) that increase in difficulty from one level to another. Language functions are at levels one to three the same: ask, command, describe, explain, express, narrate, retell and sequence, while levels four and five they are more demanding: analyse, compare/contrast, define, hypothesize, infer, persuade, predict and summarize. The crossing of form and function gives a sentence example that the teacher can use as a reference for teaching. For instance, at Intermediate level, the sentences for comparatives and asking, commanding, describing and explaining are the following:

Are you *funnier than* they are?
Run *as fast as* you can.
She writes *as well as* I do.
He found *more than* I did.

At Early Advanced level four, the language functions inferring, persuading, predicting and summarizing are exemplified as sentences with conjunctions either/or, neither/nor in the following way:

Because he *either* asks for help *or* tries hard, he must be diligent.
If he wants to be safe, he should *either* find the key *or* get a new *one*.
I thought that he would *either* become an actor *or* a comedian.
Ultimately, she *neither* became a teacher *nor* a nurse but a doctor.

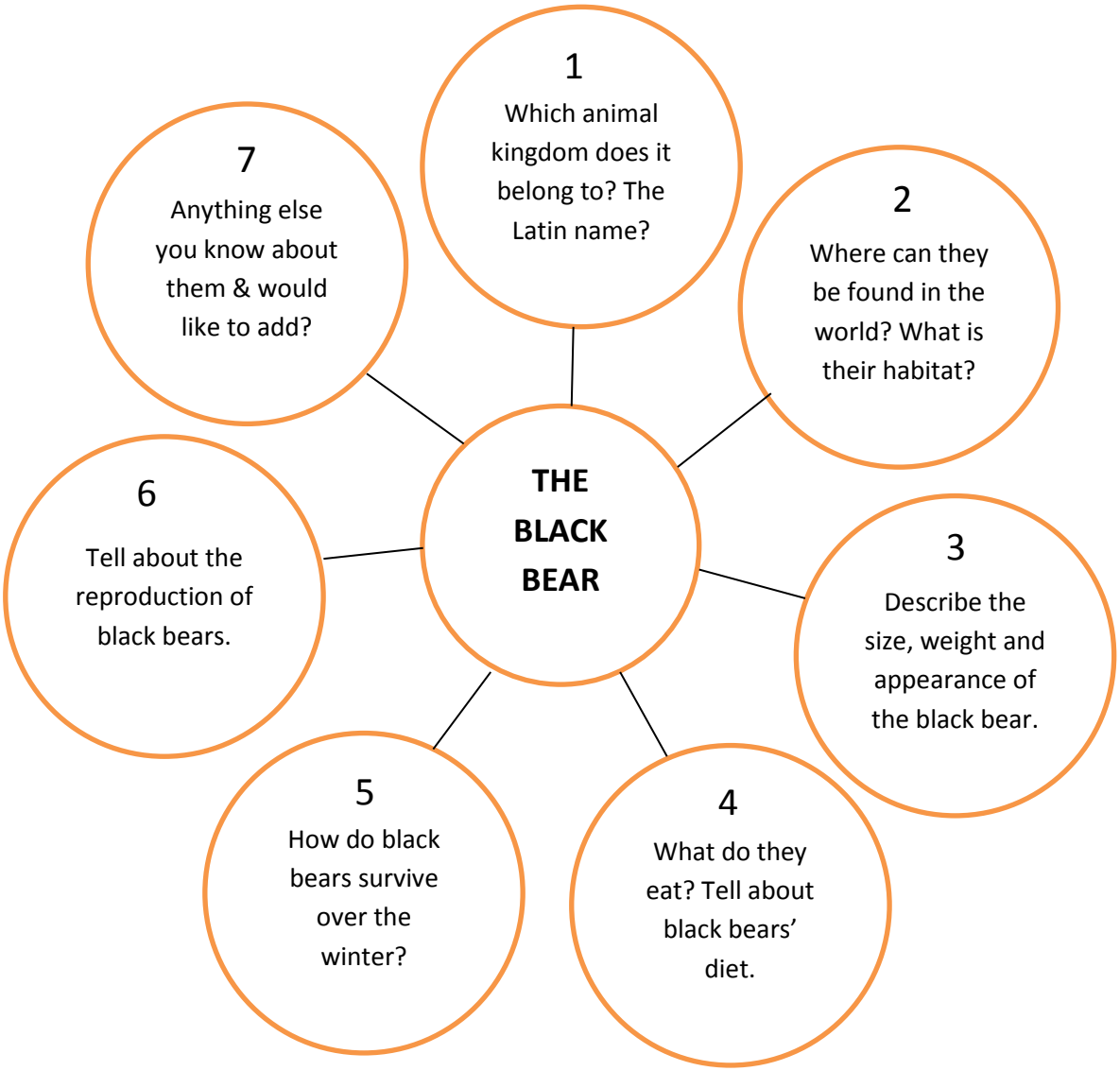
How useful teachers find such materials, remains unknown.

Suggestions for developing writing

Writing standards and expectations vary significantly according to the age of students (See e.g. CCSS 2014 or ISAS 2014). Shared reading and writing is foregrounded in Swinney and Velasco (2011) as one of the initial tools. What it practically means is that the text to be read should be large enough for everyone to see simultaneously or learners would have their own copy to follow,

and the teacher models reading and strategies involved in it such as examination of pictures, pointing out and clarifying essential content vocabulary and analysing the language together with the learners. Similarly, in shared writing, a text is co-produced with students, and the teacher has the possibility to help learners to notice aspects and features, even content, chosen for scrutiny. The level of modelling and scaffolding decreases gradually leading to independent writing based on modelling.

Swinney and Velasco (2011: 56) encourage using graphic organizers for planning tools for students who struggle with language, creativity or organization of the text. Below is an example of content-related **Writing Web** for shared or individual writing I have previously created based on their model (Wewer forthcoming).



Giving learners opportunities to practice also written language is important to advance from more simple toward more complex academic language. Dalton (2008) gives examples of concrete activities through which the teacher can expand students' expression in spoken and written academic language (Table 14). Dalton's (2008) academic language development activities are all based on writing.

Table 14 Activities eliciting academic language and academic understanding (Dalton 2008: 126-128)

Activity	Note	Example
Written questions	the language used and fullness of explanation more important than exactness	Orcas, also known as killer whales, have a distinctive black and white coloration. What other animals have the coloration and why do you think they have it?
Shared writing	teacher modelling writing, giving experiences of writing with simultaneous reading development	Each student is given a word/sentence/paragraph role in writing activity, but the final product is a joint effort.
Journals	provides daily means of communication between students themselves and the teacher	can be started at Kindergarten through drawing
Interactive journals	entries of students' own choice, teacher/peer responses	personal or content-area topics
Creative writing	variety in language expression, enhances vocabulary development	acrostic poems, haikus
Reports	instructions for report organizing needed	(no example provided)

In a similar vein, reading is seen as an important factor in development of academic language. Cummins and Man (2007) describe the facets of academic English development in the following way advancing from context-embedded to context-reduced:

> *To develop proficiency in academic English, students need systematic scaffolding and instruction to deal with longer texts, structurally more complex sentences, more subject-specific new vocabulary, less visual material, and more creative and higher-order thinking skills. Furthermore, students need greater exposure to readings of different types, such as narrative texts to provide a comforting linear structure for reading fluency, expository texts to provide useful repeated exposure to key vocabulary, and argumentative texts for*

> *developing reasoning and justification. Extensive reading and writing is essential for the development of academic English, which students need to acquire for academic success and higher education. Students need to be engaged in knowledge construction in both oral and written form, be supported to understand rhetorical patterns in the language and basic linguistic cues such as prefixes, suffixes and root words, and become familiar with a variety of subject-specific examples. (p. 807)*

Basically, also Cummins and Man (2007) suggest conducting linguistic analyses.

Enhancing academic conversation in Zwiers and Crawford (2011)

Conversations are, according to Zwiers and Crawford (2011: 1), powerful as teachers of various viewpoints, sculptors of "identities, thoughts, beliefs, and emotions" as spoken exchange of ideas and knowledge shape our world; oral language is the basis for literacy and learning. Academic conversations have the aim of sharing and learning about various content topics purposefully from other people on the school context. However, academic conversations and spoken elaboration are not very popular in schools due to heavy emphasis on factual knowledge, high stakes testing supporting mastery of facts and intolerance for loud classrooms –- yet negotiation skills, knowledge exchange and collaborative construction are expectations in the modern labour market.

Conversation in school environments offers several advantages. First, conversation builds academic language, because it fosters the language learning processes of listening, talking and negotiation of meaning, and people tend to acquire features of language when immersed into it and using it for a certain purpose. Second, conversation builds vocabulary because learners are exposed to new vocabulary in authentic discourse; people tend to learn from one another; and using new words in new situations helps to memorize them. Third, conversation builds literacy skills which are a pathway to reading and writing. Thus, "[c]onversations helps readers to develop vocabulary, syntax, background knowledge, and thinking skills that authors of texts expect readers to have" and aid learners to construct texts themselves.

Fourth, conversation builds oral language and communication skills. Zwiers and Crawford (2011: 13-14) argue that after third grade, the development of oral language for many ELLs is highly dependent on school only because academic oral language does not develop automatically. The argumentation skills, group discussion skills, listening and valuing talk and clarity can and should

be developed throughout schooling. Fifth, conversation builds critical thinking skills since conversations, as Zwiers and Crawford (2011: 15) note, "tend to be much more complex than we realize" since students need to think in real time and react to the turns of the interlocutors. The authors continue to elaborate the various skills that conversation promotes. Among the skills are: different perspectives and empathy, creativity, focusing on topic, equity, inner dialogue and self-talk, confidence and academic identity, student voice and empowerment.

The authors provide step by step instructions on activities how to introduce academic conversations in the classroom. The actual conversational practice is based on five core skills Zwiers and Crawford have identified in their examinations. The five skills or discourse/conversation moves that focus and deepen academic conversations are listed below. Zwiers and Crawford also guide the reader by giving frames for prompting the skill as well for responding. Examples of both can be found underneath each skill.

1) **elaborate and clarify** (providing more important information about the topic or idea),
   Can you be more specific? *I believe that…*
   Can you tell more about…? *In other words…*
   I am a little confused about the part… *It is important because…*
2) **support ideas and examples** (strengthening a debatable idea or argument),
   Can you give an example of/from…? *For example,…*
   Why do you say that? *According to…*
   What would illustrate that? *Have you ever…?*
3) **build on and/or challenging ideas** (building on or contest conversation partners' ideas),
   Do you agree? *I want to expand your point about…*
   I am not sure if this is relevant, but… *Then again, I think that…*
   Can you add to this idea? *If…., then….*
4) **paraphrase** (reformulating ideas and vocabulary), and
   I'm not sure that was clear… *So, you are saying that…*
   What is your take on what I said? *What I am hearing is…*
   What do we know so far? *In a nutshell, you are arguing that…*
5) **synthesize** (providing a summary)
   What have we discussed so far? *The main theme/points seem to be…*
   What can we agree upon? *As a result of this conversation, I think…*
   How can we bring all this together? *What if we…*

As for activities for developing each of the five skills above, Zwiers and Crawford suggest a number of possibilities with fairly detailed instructions and models of visuals, a few of which I have gathered on the list below.

1) Elaborate and clarify
- using analogies and metaphors
- basing the conversation on visuals and graphic organizers (see e.g. Colonial period on p. 53)

2) Support ideas with examples
- planning the conversation on paper
- teaching terms that trigger the need for examples (creating a list of academic words and giving examples)
- evaluating the support of examples (weak support, some support, strong support)

3) Build on and/or challenge a partner's idea
- idea building using a graphic organizer (examples, importance, perspective, application, challenge and comparison of the main idea)
- converse and analyse conflicting texts and quotations (e.g. John Smith telling the story about capturing Pocahontas in two different ways)

4) Paraphrase
- paraphrase cards (writing conversation partner's idea down in other words)
- understand and organize as a listener (three-minute argument, no notes, uttering the main points)

5) synthesize conversation points
- converse at the computer (Cf. multiple literacies, digital literacy)

Swinney and Velasco (2011: 33-34) also provide some useful hints for conversation elaboration for younger learners and suggest, for instance, assessment forms for good speaking and listening during conversation. The qualities of good speaking include the manner conversation is begun, use of new words/language structures, maintaining focus, providing summary, taking the listener into account and understanding turn taking, whereas the qualities of good listening are responding appropriately to what is heard, connecting new information with prior experience, responding to others by asking relevant questions, following instructions, distinguishing between facts and opinions as well as ability to take notes as teacher speaks or reads. The types of conversations

recommended for younger learners are class meetings, whole-class conversations, partner talk, small group collaborative work and fishbowl conversations which can be organized in different manners.

Williams methodology from spoken to written language

In the WIDA conference 2014, Atlanta, especially one presentation, *A Simple Method for Sentence and Paragraph Development* given by Scott Williams, caught my attention in its brilliance. He introduced a year-long plan on how to gradually elicit planned, cohesive ideas orally and then turn them into writing. In the following, I will repeat the main ideas behind the methodology. It is based on few-minute talks on topics such as "The time I was surprised" or "A time you were helped" followed with Q & A session with the audience (sharing process). The idea is to get more details and practice making accurate questions that elicit more information than just mere yes/no answers. The procedure can be varied (teacher-centred/student-led, pairs/small groups/independent, verbal/written, simple/complex, personal experiences/academic content). Retelling or paraphrasing the original talk brings this activity into a new, more demanding level, and using building blocks to represent the ideas/sentences helps recalling the main ideas and retelling them verbally. Starting and finishing blocks have different colour than the middle ones symbolizing different types of sentences. When these main ideas of one topic are written down, a paragraph is created.

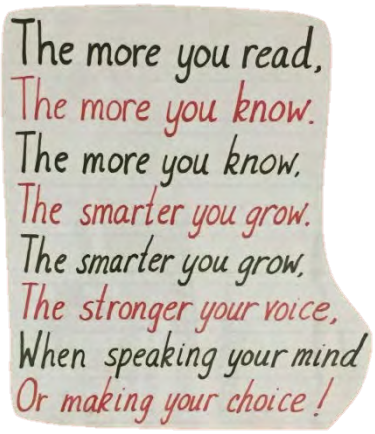
II EMPIRICAL FINDINGS

Now, after completing the literature review which advanced from theoretical toward practice-oriented, I will turn into my empirical findings. They, however, are much more scattered and mostly based on the school visits I made to five different elementary schools and my observations there. Empirical findings are also informed by the fairly large number of people I interviewed or discussed with. In the following chapter 9, I will elucidate and contemplate the most marked observations and good practices I witnessed during my Fulbright DAT period in the United States. I will include pictures to illustrate how some of the points in the more theoretical literature review were realised in the classroom reality. **These observations are utterly subjective and no wide-scope inferences can be drawn on the basis of what is presented here due to the limitations in methodology as well as the geographical distribution and the number of informants**.

9. Observations of academic literacy practices

Literacy has been devoted a substantially large portion of the overall instruction as can be stated only by viewing the standards. As to the teaching of academic or subject-specific language, my observations seem to be consistent with prior findings discovering that academic language or subject-specific literacies are not largely and explicitly taught. Admittedly, my observations were not systematic, nor were they large-scaled enough to provide absolute truths about the practices of classroom teachers in the elementary schools I visited. One also needs to bear in mind that most of the visits were made into schools where the portion of ELLs was fairly low which may have influenced to the lack of academic language instruction in the classrooms. Emphasis on general literacy development according to the standards, however, was saliently visible. There were indications and allusions of language-responsive approaches to academic language, and foremost, I was able to witness several good practices in respect of overall literacy and language development. How applicable these practices are in my own institutional and larger Finnish context, I will discuss in chapter 11.

Extremely strong emphasis on overall literacy

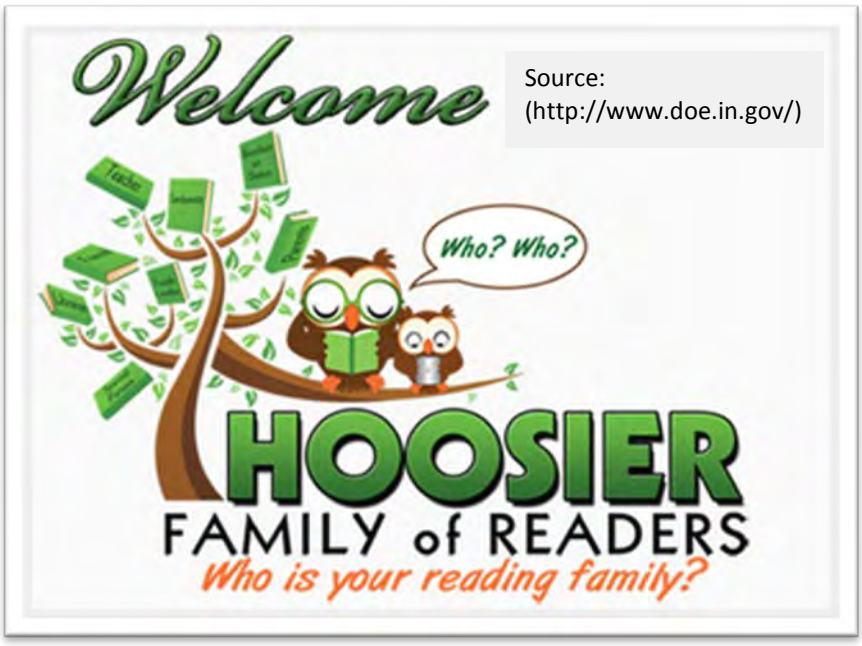


It did not take long to notice that **general literacy**, described as basic and intermediate literacy in Shanahan and Shanahan's framework (see p. 27-28), was the **all-encompassing educational theme** in all of the elementary schools I visited and classrooms I observed. As the sections 7.1 and 7.2 implicate, literacy is seen as a mediator between content and the learner, a pathway to college and career readiness, and as the SIOP model underlines, language provides access to content. Some of the teachers I queried about the dominance of literacy instruction stated that in order to meet all the literacy standards, some of the content is taught with literacy development in mind which offers excellent arenas for the development of subject-specific literacy as long as teachers are aware of the specificities of the language in the given subject area. Major share of the literacy instruction I observed touched upon issues such as determining the central idea or a theme of a reading, identifying narrative perspective, character description or vocabulary expansion.

In the **bilingual** school, **literacy** is expected to emerge and scaffolded in both languages; the Pioneer school provides so called two-way instruction which denotes that in the classrooms, there are mixed groups of learners with English and Spanish as their mother tongue and the teacher teaches either in English or Spanish. This year, however, all teachers were required to give instruction through both languages which was an impediment for some of the teachers since so

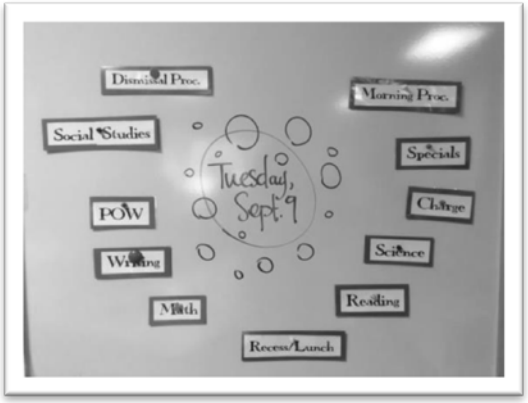
far, they have been shuffling students and co-teaching in order to gain authentic language models and bilingual atmosphere. Now that authenticity is endangered, at least to some extent.

The picture below embodies the significance put on reading in Indiana. It refers to the **reading campaign** launched by the Indiana Department of Education (see http://www.doe.in.gov/hoosierreaders) which seeks to build a culture of Indiana readers and establish reading as a natural part of daily life also in the families. The families and particularly their children are encouraged to read anything of interest with and to someone, share their readings with someone, listen to someone else reading, help others read and read independently. Community members are welcomed to take part in the initiative and visit schools in reading issues.



Source: (http://www.doe.in.gov/)

As to various **practices regarding literacy development**, there are several different ways to organize it according to the grade level. In the agenda of the 6th grade in the UES, explicit literacy training included reading, writing and the poem of the week, but literacy issues were integrated also with social studies instruction especially in terms of vocabulary building. The students keep a Reading Growth Chart that records their involvement with various Indiana State Standards in reading. The teacher also regularly



conferences with students about their pleasure readings called Individual Reading (IR) every second week, and there is a specific paper folder or notebook for IR vocabulary and morphology study. In different grade levels the vocabulary study sheets vary in content and issues to disentangle. The conferencing may consist of, for example, reading sample, summary of the chapter, vocabulary checks, figurative language use, reading strategies and confusing parts. Conferencing appears to be a uniform practice in all grade levels.

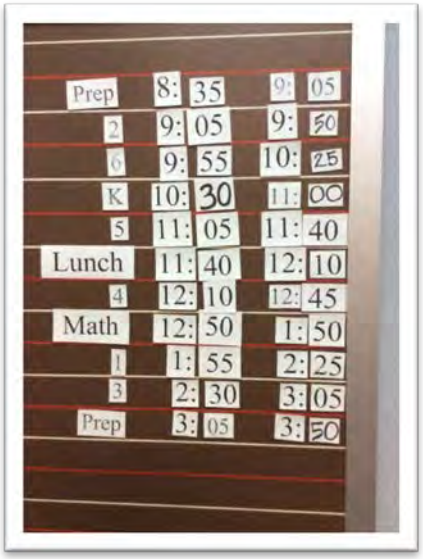
The poem of the week introduced 6th graders new vocabulary but also deepened their content knowledge and understanding. One of the POWs was about the Oracle of Pythia - a topic related to the era of Ancient Greece in social studies. They also read non-fiction social studies texts (e.g. The Parthenon of Ancient Greece) to identify the main ideas in the text and details supporting it which is a good example of **combining literacy and content instruction**. Literacy training is part of students' everyday life. The photo below exemplifies content-area reading (three forms of water) in the first grade following the Shared Reading method suggested by Swinney and Velasco (2011): the teacher is helping learners to recall the three forms of water.

Continuous scaffolding

A common feature appears to be that teachers follow the same agenda daily which denotes that same activities or subject areas (excluding arts, P.E. and music) are repeated every day in the same order. Because students' agenda is recurring, also the in-built methods of scaffolding recur daily.

In the UES, students were divided into **charge groups for tracking purposes** according to their achievement in various subjects, mainly E/LA and maths, and even the classes were occasionally mixed. Such a practice, if shuffled in homogeneous achievement groups, opens avenues for targeted support but closes opportunities for learning from more skilled peers. The English language learners were included in the normal classroom work, but they were linguistically supported in many ways; most prominently by using the services of ELN teacher or ELD consultants, preventionist and literacy coach.

Supporting professionals and volunteers



In the UES, the **English as a new language (ELN) teacher** also follows a recurring schedule which allows her to learn know the English language learners and their specific needs and monitor their progress in a more systematic way. In the school year 2013-2014, out of 528 students, 12.8 % were ELLs. She meets a selected group of each grade level K-6, i.e. same students regularly in order to enhance their vocabulary development in her classroom, but also works in the home classrooms of students when necessary.

Reading is, according to Ms. Eno, prioritized over writing, and mastery of frequency sight words known as fry words (words that children need to recognize and read with first glance, referred to in another school as 'no excuse' words) foregrounded. Fry words are grouped according to their frequency, e.g. 100-600 most frequently encountered words, and newcomer students start by practicing them to achieve basic vocabulary. The ELN teacher also focused on 5th graders' subject-specific vocabulary by using the book *How Living Things Help Each Other?,* and the students created a glossary in their vocabulary notebooks called *Word Journals* (e.g. humming bird, seed, stem and protect). Students were allowed to define the words in their own words as well as in their own languages. This topic was not, however, aligned with the class teaching, but covered in the curriculum. The ELN teacher also designs and revises individual learning plans for ELLs when necessary.

At the school district level, in the department of English Language Learning, Ms Eno has a principal chief who monitors her work at school level. During this academic year, Monroe County Community School Corporation is transitioning to WIDA English language development standards which should bring language development into more central role. The homepage of the MCCSC's English Language Learning Department (http://www.mccsc.edu/domain/59) contains information of this transition for both parents and school staff in addition to other sources of information on English language learning.

Aurora Public Schools (APS, http://aurorak12.org/), Colorado, has opted for a different kind of system for supporting ELLs. They have a specific English Language Acquisition (ELA) division with its own director and several **ELA consultants** who work with designated schools regularly. The ratio of ELLs is considerably larger: 38% out of 38,442 students in the APS have another first language than English; for 88% of them it is Spanish. Every day, an ELL block of 40 minutes is embedded in the instruction, and during that time, the ELA consultants work with language learners during that time. The supportive language instruction is planned with class teachers, and the job description of ELA consultants also entails ensuring that the regular classroom instruction has a focus on language. In order to maintain employment, ELA consultants need to acquire an LDE (Linguistically Diverse Educator) Certificate paid by the APS within three years of employment

start. The certificate entails various graduate-level college courses in language development and content support.

In the UES, the **literacy coach** Linda Hitchings works closely both with students and teachers. She attends the weekly Professional Learning Community (PLC) group work, i.e. teachers of the same grade level and monitors how reading, writing, literacy instruction and assessment succeeds in each grade. I shadowed Mrs Hitchings a few times, and the topics in the PLC groups I observed were always related to assessment issues (e.g. benchmarked activities, retesting, scores and insecurities regarding new report cards), defining literacy terms (characteristics of personal narratives, differences between summary and paraphrasing) and planning mutual learning activities (e.g. fluency).

The literacy coach works closely with **preventionists,** a specific term of the UES used for resource literacy teachers who assist ELLs' language development and work one to one with linguistically struggling students, in small groups or in the whole classroom situations. In other words, the preventionists provide targeted half-an -hour-long instruction in each grade level, while the literacy coach is responsible for the overall literacy development in the whole of the school.

The activation of the surrounding community to help in mini-group reading sessions also increases the time each child has with an adult. **Volunteers**, mostly mothers, students or stay-home persons wanting to contribute to the community, get paid a little for helping the teacher in reading and literature activities in a separate literacy room. The classes were divided into four achievement groups, the teacher being one of the group leaders. This differentiating practice enables more

individual handling of reading standards. For the first graders, a new book was introduced every Monday and Wednesday.

A good practice was also providing each child a personal, literacy-levelled "reading box" as in the photo below.

The UES, Signature Academy and Pioneer bilingual school had an impressive and attractive school library and the UES boasted with large classroom libraries as well. Librarians had planned literature interventions for children.

Welcoming international families event

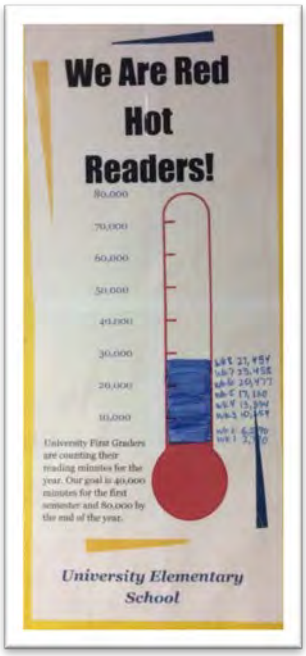
The University Elementary School arranged a welcoming event for all (new) international families which contained information about community events, hobbies for children and English language development opportunities such as conversation clubs for the adults of the families. The local public library was also present promoting their multilingual

resources and informing about how to get a library card. In a similar manner, the actual school library boasts with a selection of foreign language books donated by leaving families, as Ms. D'Eliso explained. Language was the focus of the day in the sense that a language expert from the MCCSC Office of English Language Learning gave a **presentation of English language learning principles** in language development, proficiency levels and assessment. The person sketched the differences between BICS and CALP (see p. 8 and 17). In short, she painted a picture of English language learning and academic achievement in the UES.

Emphasis on vocabulary

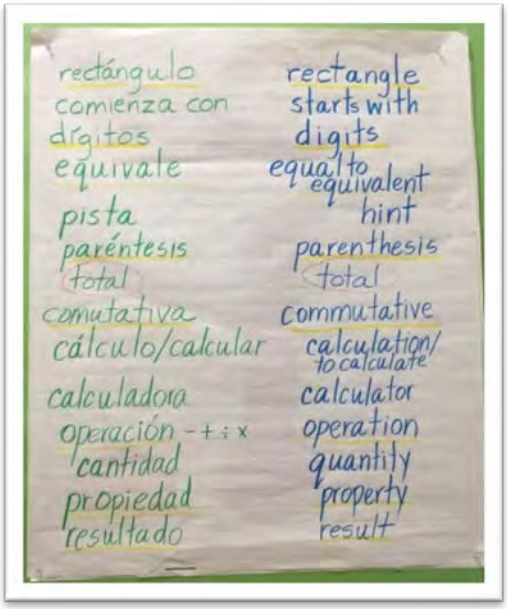
As already mentioned several times above, also vocabulary appears to play a significant role in everyday teaching. The bricks and mortar metaphor (Dutro & Moran 2003) for (content) words and their connectors became alive practically in most of the visited classrooms. Some of them featured word walls, many of them listed sight words (high frequency words that children need to read by one glance), vocabulary words (subject-specific vocabulary) or spelling words as illustrated by this photo from the 1st grade classroom.

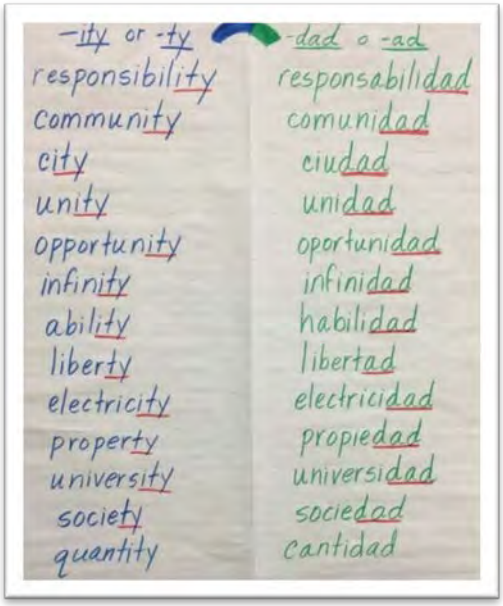
Students' advancement in vocabulary reading was visibly celebrated in many of the school corridors signalling them and their parents that literacy is valued. Similarly, student work was proudly presented



and displayed in all of the visited schools.

The two photos below from the bilingual school exemplify how two languages of instruction communicate and English-Spanish content-area cognates (words that share same meaning, spelling and pronunciation) are used to build stronger content understanding in students. However, the community language Spanish was also used as a linguistic support also in Garden Place Academy.





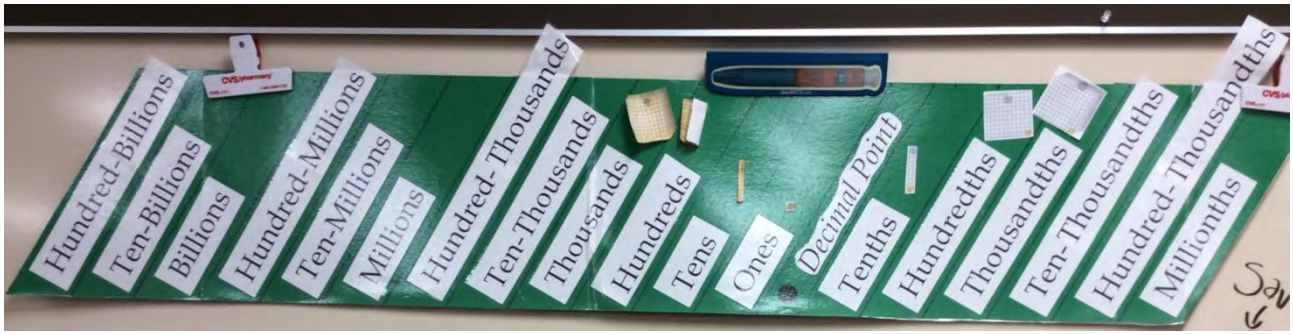
What students master in one language is easily transferred to additional languages; drawing students' attention to cognates also develops their metalinguistic awareness (see p. 40).

The subject-specific vocabulary building seems to be emphasized in the primary years, at least visually. The photo taken in the first grade class in Garden Place Academy captures the objective for the class: *Every day we review and reinforce math concepts we have already learned*. With the cyclic schedule this is possible. The photo below also exemplifies **flash cards** – cards or paper sheets combining both the word or concept and picture depicting the term. Such visual cues help learners to triangulate their classroom experiences which should enhance the recollection of vocabulary.

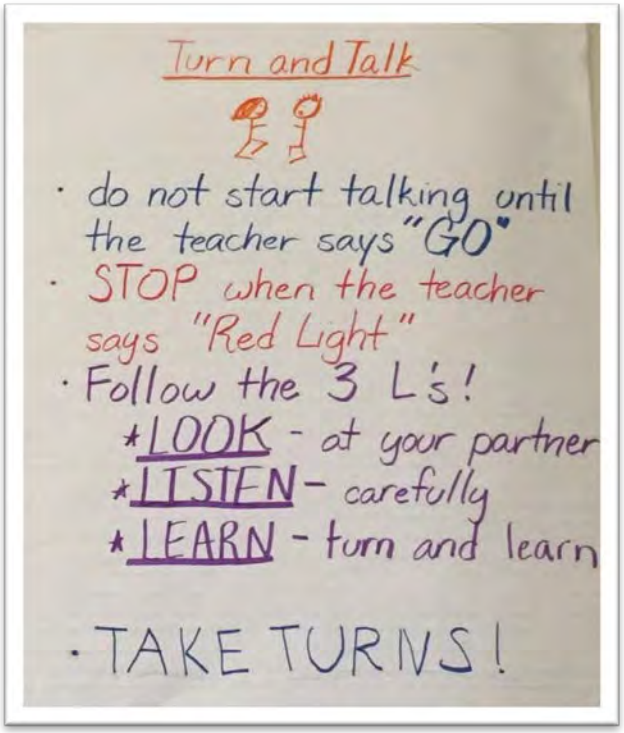
The UES as well as several other schools have created **a list of academic vocabulary** for the teachers to refer to and use as a checklist (see Useful links and references). Many school district web pages as well as the CCSS standards provide lists and **glossaries** of educational terms and abbreviations as well (see e.g. http://aurorak12.org/about-aps/glossary/) which may be confusing for the international parents.

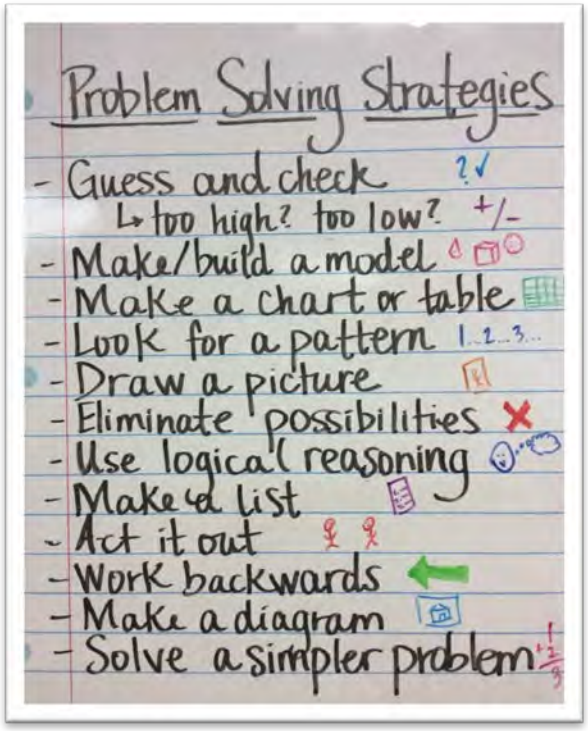
Visual aids and literacy/learning strategies

All the classrooms I visited were extremely decorated and the walls patched with various visuals, mottos, objective statements, helping tools, mind maps and graphics - even so that it sometimes felt too much. Some children need calm and more stimulus-free learning environments.

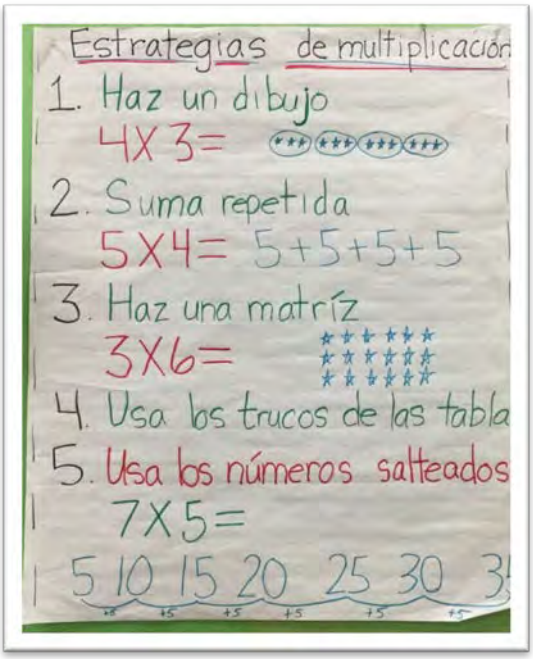


Various strategies, both linguistic and cognitive, are perceived as an essential part of academic proficiency ((Krashen & Brown 2008, Chamot 2007, see also Figure 1 on p. 8). Underpinning the internalization of various strategies and these posters below represent an attempt to materialize those strategies to sixth and first graders, mathematical problem solving skills on the right and conversational conventions on the left.





Strategy posters were on the walls of several classrooms, but it may be also that the personal preferences and strategies of the teacher have an effect on how explicitly such strategies are taught and displayed for students. Especially one teacher had more learning strategies material on her classroom walls. She reported having co-constructed most of the strategic posters (such as the Turn and talk) together with students, and that they would return to those every once in a while when relevant. This might be the case with the other examples as well. The central idea of visuals is



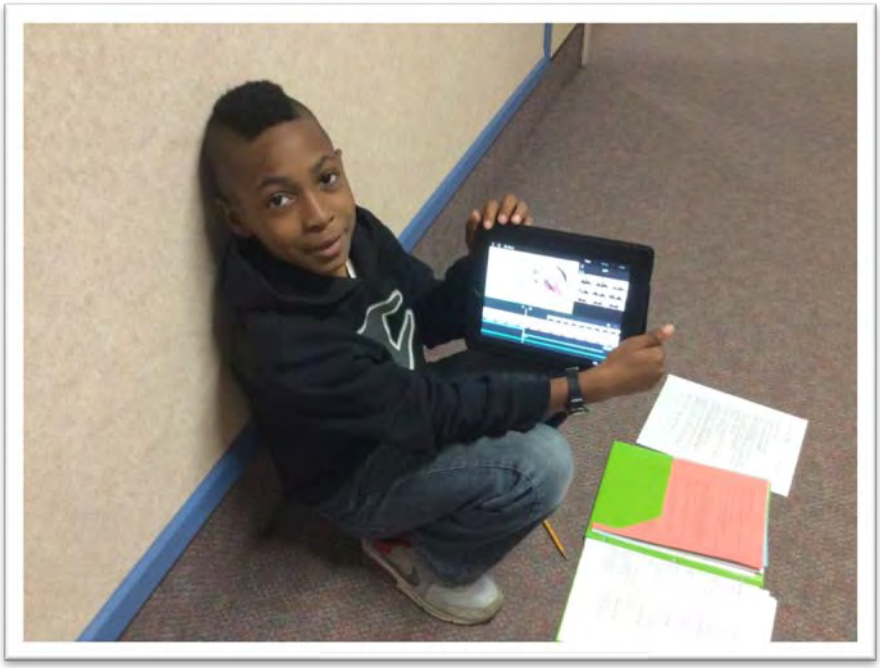
to facilitate learners to recall and to notice aspects and issues that are crucial for content mastery. Whenever an issue worth mentioning, reminding or revising is encountered, the teacher can point to the poster or visual and help learners to bridge old knowledge with new or to add a new perspective thus reinforcing learning. For example, as in the above photo, strategies to conclude the product of multiplication are useful in cases where the student does not know the time tables by heart.

The visual wall about elements of informative texts below, consisted of types of flash cards, helps recognizing and memorizing not only the features of informative texts but also acquiring the subject-specific terminology needed to competently discuss about such texts.

Contextualized language use should aid language acquisition and production. Content-related visuals are a universally typical means of scaffolding content acquisition, but are highly recommended by prominent scholars to support linguistic, textual sources. The visuals in the photo below serve two purposes: they describe characters of a book but also categorize vocabulary (appearance, character traits, motivation, feelings) – nouns and adjectives – in a similar manner as the graphic organizer content-area vocabulary on p. 54.

Digital literacy

Multimodality is often a quality inherently found in elementary classrooms and teaching (an observation made also by my fellow Fulbrighter Fiona Jeffries). Computers and other digital devices are becoming increasingly established as an individual tool. Especially in the UES (but also in other schools), there were good facilities and equipment for enhancement of digital literacy which is considered to be part of multiple literacies. In several classes, every student had their own little iPad which they were using with ear phones in order to not disturb their working classmates. Most often the digital devices where used as reward after accomplishing a required task. However, students were using also technical devices for content study or practice as in mathematics and science. For instance, the fourth graders were making iMovie video clips on healthy sleeping habits (photo above). Some of students were working in pairs, others alone. Creating a movie requires also visual skills textual skills combined.

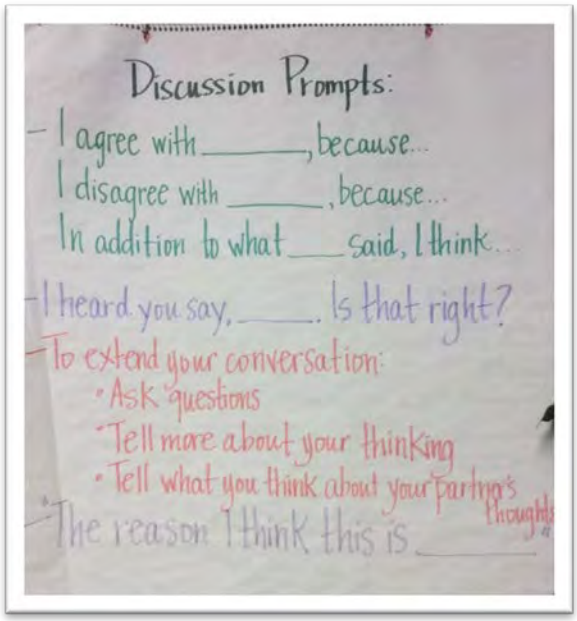


The learners in the Signature Academy School Fodrea Campus (photo above) do self-selected, project-based work which denotes circling certain tasks and having also a strong student voice. Using multiple means to complete a project is normal in this type of education. Books and computers were used alike thus combining various sources of information.

Sentence starters (frames) and discussion prompts

As became evident in the literature review, some scholars accentuate academic conversations as a source of academic language development. Several classrooms I visited featured sentence starter or prompt posters that aimed at elucidating language production as modelled by Zwiers and Crawford (2011). Such posters alleviate the initial stress of students to find appropriate sentence structures to express or convey content meaning.

The photo on the previous page is from a music classroom and left hand side photo from the 6th grade classroom. The photo below from the 1st grade classroom is related to maths.

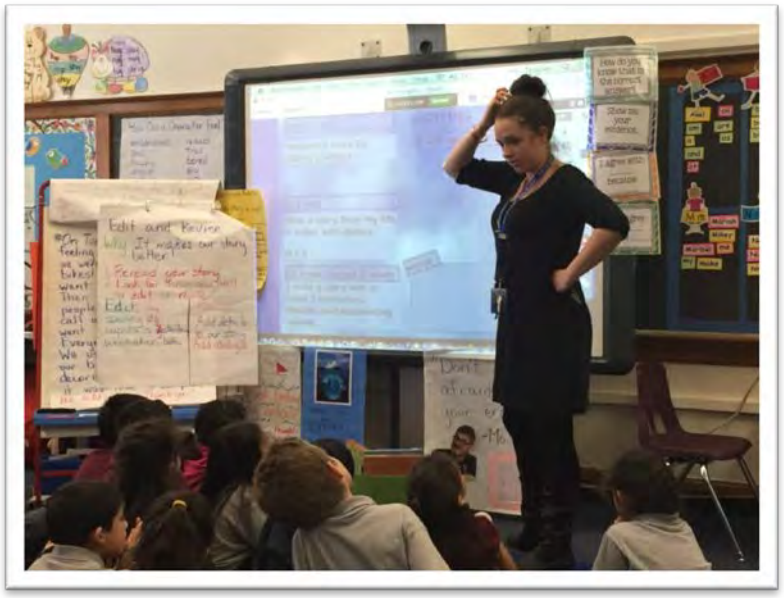


I saw, practically, hardly any lessons with students negotiating meaning, practicing academic conversations. Nor did I witness use of these frames. As stated earlier, the amount of observed lessons was so small and incoherent that no conclusions can be drawn from these observations. What I did see in most of the visited five elementary schools, were behaviour and voice controlling banners, uplifting mottos and community-building slogans. Voice control seemed to be a decisive factor in many schools, and it worked. Children worked mostly very quietly. There were pre-defined voice levels for certain areas and functions which students needed to conform to. Thinking of that, schools certainly are not places encouraging to conversation, and there is room for improvement.

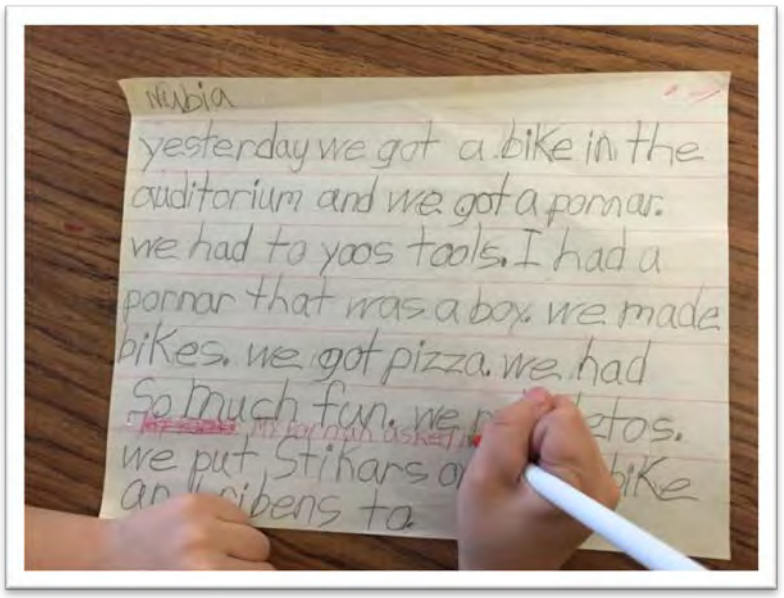
Academic writing

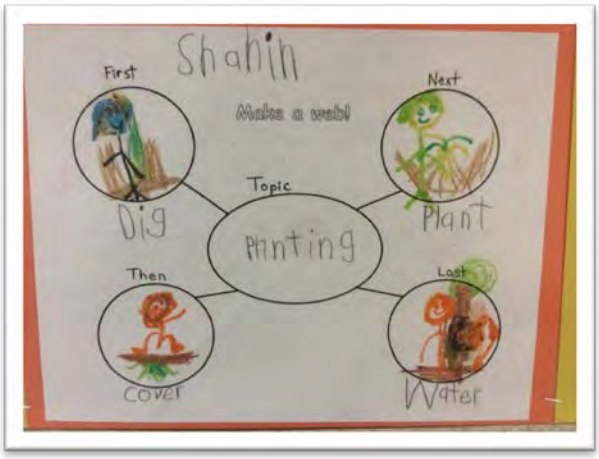
It is easier to showcase students' concrete texts on paper than, for instance, digital material or spoken production. Therefore, it was not surprising that most of the work displayed on corridors were either art work or pieces of writing – often combined. Showcasing students' work allows them to get their skills celebrated and own voice heard. The standards define and shape the writing, and they seem to be considerably rigorous. The expectations in writing standards are, already in the first grade, considerably high as one of observed lessons demonstrated.

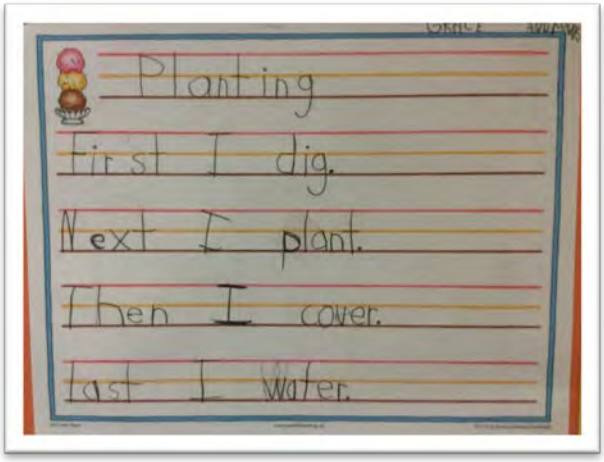
Already first graders are expected to mark, revise their text and add dialogue. That could certainly be considered as first steps to academic writing, and I was amazed to see that working.



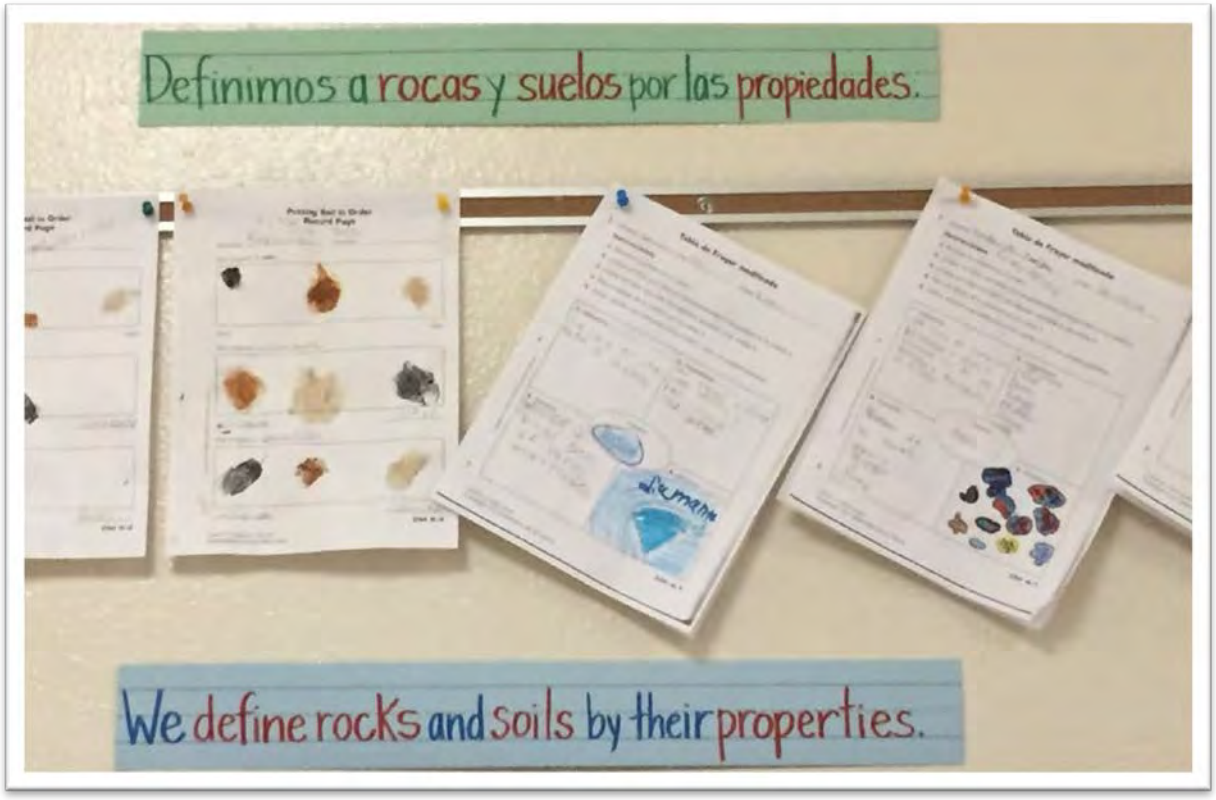
The teacher modelled the activity by shared writing piece (in the flap board under the instructions) and continued using technology as an easy revising tool and vocabulary harvester (photo above). These were all issues emphasized by pedagogical scholars, as shown in literature review. The children were asked to negotiate suitable placing of the dialogue and used a red pen for the additions (photo below). The pieces of writing were created the day before and the work would continue the next day.





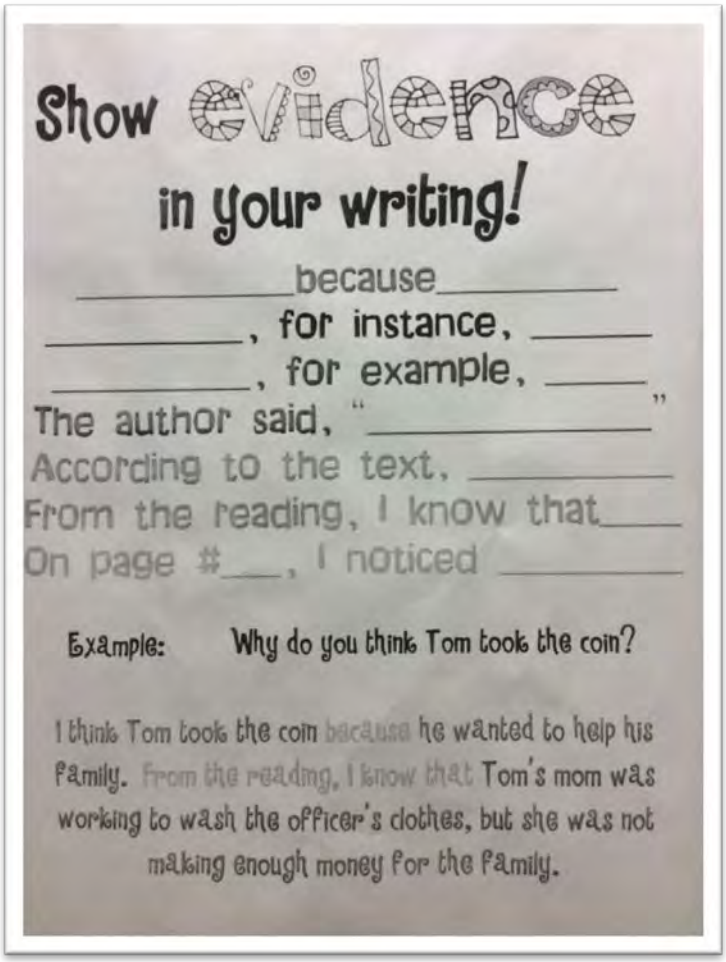


The pair of first graders' writings photographed on the corridor wall demonstrates how a simple mind map has been used to create sentences (Cf. the ideology behind William's paragraph methodology on p. 61). This activity exercises simple textual organization which is one essential element in academic writing (see p. 15 the framework by Snow and Uccelli 2009). The science text even contains some Tier 2 words (e.g. plant). I do not recall seeing any differentiation in these texts - they were all alike. I do not know the learners in that particular classroom, but it is logical to assume that there is diversity in writing skills and therefore also in the elaborating of the topic.



The above picture from the Garden Place Academy is taken of a corridor wall display. The writings are purely content-related (Sheet topic Putting soil in order record page and booklets Tabla de Frayer Modificada), bilingual handling of the topic. This is one of the rare examples of subject-related writing. Most of students' longer pieces of writings displayed at walls were non-academic in nature and narrative, often related to topic areas such as book recommendations, occurrences in their own lives.

Showing evidence is definitely part of academic discourse. As shown in Section 7.1, conducting age-appropriate research is expected of elementary children in addition to reporting the results of the research. The sentence frame poster in the picture below, captured in the Signature Academy School, gives an example that is not subject-related but could as well be, e.g. *Why do you think the hare changes colour for winter?* or *Which are the best ways to infer the product of a multiplication?*



Having now reported the most marked findings regarding the underpinning or enhancing the development of academic and subject-specific language, I will contemplate them in the following, last part of this report, III Discussion.

III DISCUSSION

This final part will discuss the content of the report as a whole. My approach to the pondering of the topic is principally comparative – I will reflect the differences and similarities of the Finnish and American education systems primarily from the viewpoint of literacy education, development of academic language and subject-specific literacies as well as multiple literacies. The discussion will be kept fairly short due to the already large number of pages and limitations in time. I will conclude the report by considering implications of this inquiry to the learning landscape of my own home institution, the Teacher Training School of Turku University in particular and Finnish education in general (Chapter 11). I will start with some general remarks and continue to more detailed considerations in Chapter 10 in which I will also provide concise answers to the questions guiding this inquiry (see Chapter 2).

10. Considerations of literacy instruction and enhancement academic language skills

As stated in the previous Chapter 9, literacy in America has been trusted an accentuated, major role in education at all levels from Kindergarten through grade 12. This is also a difference in comparison to the Finnish system. Literacy is also very important in the Finnish education system, but it is not as dominant as a skill among other skills. Furthermore, literacy education is more analytic in the U.S., whereas the Finnish literacy education focuses more on production and linguistic pleasure. One pivotal reason for this is the language.

Finnish-speaking children learn to read and write the language rather quickly and effortlessly due to the extremely strong letter-sound correspondence, while it takes considerably longer for English-speaking children because of inconsistent and challenging letter-sound combinations. When one knows the sound of the letter, they can glide the Finnish words simultaneously forming the sounds, and the words emerge almost by themselves. Learning to write accurately takes slightly longer, but during the first grade, most children learn to read before Christmas break, and

they are fluent in reading prior to summer holiday. During the first grade, all children can write practically any word they hear, and during the second grade, they learn to write complete sentences and minor texts, although, as already stressed, individual achievement and performances vary significantly. This ease of basic literacy acquisition is the advantage of Finnish language speaking children in comparison to English-speaking.

As to literacy instruction beyond basic literacy (see Shanahan & Shanahan framework in Chapter 7), Finland has to learn from the United States as assumed at the time of Fulbright candidacy and realized during the grant period. Literacy education in the U.S. is clearly more advanced in terms of general, basic literacy education as well as more disciplinary-oriented literacy. I will return to this topic once I have provided answers to the inquiry question 1 with its sub-question that were highly theoretical and needed study of relevant literature and research as well as the research question 2 which was rather semi-theoretical in nature, wavering in between theory and praxis.

There is ample research and theoretical information available in this area and the standards I looked into (Common Core State Standards and Indiana State Standards) take the issue of academic language development and subject-specific literacies into consideration. However rigorous the standards are (both CCSS 2014 and ISAS 2014), they provide an excellent spring board to literacy proficiency and a functional basic reference to literacy teaching. It was thus relatively easy to find cohesive theoretical underpinnings for and insights into the topic of this capstone project area. However, Finland is currently in the process of rewriting the National Core Curriculum, and the final version will be published by the end of this year. The draft stated the need for language responsive instruction and heightened level of awareness concerning academic language, subject-specific literacies and multiple literacies. It remains to be seen how salient this viewpoint is in the final document and what kind of references and supporting materials are provided for that. This inquiry nevertheless brings new, important information available.

To answer the first inquiry question about the nature and development of academic language described by Anglo-American research and literature, I was pleased to find, for instance, a framework by Dutro and Moran (2003) previously unknown to me. This framework is in its practice-orientation and intelligibility easy to grasp, and it combined elements that are seen important to language development (language functions and forms) in all approaches to language learning. It shares the foundations with other frameworks presented in this paper (mainly

Scarcella 2003, Snow & Uccelli 2009) and the perspective (linguistic, pedagogic), although specificity vary. A common belief in all of the frameworks (also including WIDA which is an amalgamation of current research in several fields of study) is that language needs to be taught; it is not adequate to let learners to acquire the language needed in schooling implicitly. Although these frameworks provide no new pieces of information concerning the development of language, they are helpful in understanding the nature of academic language. Within the time frame of this Fulbright program, I was not able to immerse myself deeper into research on language development. In that sense, a research scholarship would have served that end better.

The sub-question of inquiry question 1 attempts to study the relationships between the key terms academic language, multiple literacies and subject-specific literacies. My understanding is that in a similar vein as academic language is perceived as a register or variety of language, subject-specific language represents a sub-category within academic language. Academic literacy could, then, be simply defined as the ability to read and write academic language. Subject-specific literacy, in turn, denotes the ability to decode and use that subject-specific language in a manner that is proficient enough for the given purpose. Hence, the term multiple literacies is closely interconnected to this taxonomy of academic language and subject-specific literacies because there are several subject-specific literacies and other types of literacies, e.g. digital literacy.

It was impossible to cover and capture the whole variety of pedagogical, practical handbooks – even the most prominent ones – within the time frame of the grant and attention to other duties attached to it. I have prioritized my capstone inquiry at all times and have found common features in the sources of information pertaining to methodologies and practices used for scaffolding academic language in schools. These sources, to provide a condensed list, included the WIDA conference with its presentations, several informants (scholars and practitioners) as well as literature of various kinds.

To reply the inquiry question 2 about suggested and recommended teaching practices properly, I need to divide the answer into two parts: requirements for teacher knowledge and pedagogical methodology. It is suggested that teachers execute linguistic analyses to texts used for instruction in order to in a more targeted way and consciously scaffold learners' language development. For this to occur, teachers should develop their language awareness and knowledge of language functions, forms and the specificities of the disciplinary language needed in a given subject study.

These are immense linguistic expectations for generalist teachers but also subject teachers who are normally interested in teaching content matter only. I had no opportunity to observe or properly familiarize myself with the teacher education system apart from a few glimpses into reflective teaching sampling in Colorado.

The second expectation, scaffolding of the language of schooling rests mainly on five methodological pillars: 1) visuals and graphic organizers, 2) modelling (teacher or peers), 3) intense reading, 4) extensive writing, 5) practising academic conversations. This requires applying theoretical knowledge into practice age-appropriately, individually, interestingly and simultaneously integrating content knowledge standards (or objectives) into language standards (or objectives). Academic conversation was the method clearly absent in my observations, while visuals and graphic organizers were the most frequent. II will not elaborate these approaches to language development further; the handbooks, teacher guides and other sources used to inform this inquiry report should be sufficient for the interested reader to give ideas for linguistically responsive teaching.

I have to criticize, however, these pedagogical sources of the lack of digital literacies perspectives. Technology is an inseparable part of our daily life outside school, so it should be an essential part of methodologies used in school-based learning as well. A very recent new article by Ripatti (2014), a Finnish educational scholar, warns about the risk of an expanding gap between the students' operational customs within and outside school. What he means is that the school is at risk to lose the interest of students when it relentlessly clings on demands of writing texts on paper with a pen and is unable to renew its traditional ways to better match the demands and practices of modern society. School, then, as an educational institution is no more credible in the eyes of students. I found no references of harnessing the potential of digital technology to enhance literacy, but then again, I was not looking for that, either. That is the area of one of my fellow Fulbrighters, Fiona Jeffries from New Zealand. However, I saw pupils using technology for both recreational and learning purposes in the U.S.

And that transition brings me to the last inquiry question related to actual classroom practices that enhance learning of academic language, the language needed for academic achievement. Developing good basic literacy skills clearly seems to be the driving principle of elementary education in the U.S., and especially students' literary analysis skills are foregrounded. Subject-

specific literacies did not go without attention in standards documents, but they were more specifically addressed starting from the 6th grade. Prior to that, the development of basic literacy was linked to various subjects. That is, I am confident to say, an appropriate start toward more linguistically responsive teaching: language-based content teaching.

The fundamental differences in the two languages, Finnish and English, partly influence the way literacy is approached in education. Vocabulary training (spelling, reading and writing) is very salient in the U.S. and takes many years. My impression and understanding is that the daily recurring, cyclical agenda is a helpful tool in this task –maximized exposure in form of systematic practice (e.g. daily poem analyses, sight word writings, and weekly changing spelling words) probably proves to be effective. Especially for the English language learners, the daily meetings with the ENL teacher as well as reading and literature-related mini sessions are meaningful in regards to language development. Learning logs kept for vocabulary analysis and literacy skills may help learners to monitor their growth in a similar way as continuous benchmarking, if not even better.

Book conferencing was also a common practice, which was organized thoughtfully, but especially the older students were not using their time efficiently to reading. Furthermore, the time dedicated for pleasure-type reading was often fairly short; continuing changing from a learning activity to another within minutes without proper breaks is very challenging for children (and teachers, too, for that matter) – school becomes achieving performance. In short, literacy instruction (including subject-specific literacies) is highly structured and systematized in the U.S.

Teacher collaboration and in-service training are also issues I wish to foreground as good practices. Within the weekly schedule of the UES, each grade level assembled at a certain time and the literacy coach, sometimes also the principal and vice principal, attended those meetings. The purpose of the meetings, called PLC (professional learning community), was, for example, to keep record of the grade level literacy development, discuss and plan mutual instructional strategies, consider assessment issues and tap into any topical concern. The PLC meetings can also be seen as controlling tools for uniform delivery but also sources for support. The meetings I attended primarily revolved around assessments and elaborations of literacy themes. Indiana State is still in transition to the new state standards, and the UES is embarking into Primary Years Program within International Baccalaureate system, new teacher accountability assessment

framework as well as WIDA language standards. There is thus need for continuous professional discussions and reciprocal learning.

Reciprocal professional sharing took place in the Indiana teacher in-service training day organized during the general election day. Teachers who had participated training outside school, trained, in turn their colleagues by sharing the essential learning they had grasped in that schooling. I do not know how established a practice this is, but the extramural training clearly was organized recently, so the information was still fresh to be disseminated.

Typically, teachers teach a certain grade year in, year out which specializes them into the curriculum and syllabi of that grade level. In my opinion, it is controversy whether that is a good practice or not, because the relationship with students may not become as close as necessitated by Cummins and Schechter (2003, see p. 18) for psychologically safe learning environment to become established. They see that relationship as crucial for academic development to occur. Next, I will very shortly discuss how my observations and learnings could be transferred to the Finnish context.

11. Implications and suggestions

Finland is striving for a more linguistically responsive learning environment in acknowledgement of increasingly culturally and linguistically diverse student population but also the crucial role of language in every child's thinking and learning. In Finnish teacher education, it is believed that there is a strong connection between theory and practice; the solid foundation of the quality of Finnish teachers and consequently, Finnish education lies on the implementation of that belief. Hence, the logical is to start underpinning this enterprise for linguistically responsive teaching from teacher education (class teacher and subject teacher) by providing courses on academic language and subject specific literacies. In addition to that, organizing courses for in-service teachers is necessary.

Teacher training schools maintained by universities are natural avenues for organizing training courses, but it is also important to remember that teacher students carry out their student

teaching in those establishments in a centralized way. Therefore, I see the role of mine and my colleagues as teacher trainers very important, and my professional position and network is influential in having a direct contact with future teachers. Also the eCALLMS (see Section 8.2) model has been pre-tested in Finland; I am in the process of translating the first module about second language acquisition in Finnish, and it will be piloted in Finland which further increases the number of various options for additional education.

In terms of more direct ways to disseminate the outcomes of this capstone project, I will suggest within the professional development groups of my school I am involved in, Finnish as a second language learner and bilingual CLIL instruction, that we would start looking at manners to make academic vocabulary more markedly present in the classrooms and increase teachers' awareness of the continuum of the growth in academic vocabulary. Lists of subject-specific, essential academic concepts and glossaries are one way to accomplish this. The subject groups could adopt this task. Also simple Finnish glossaries for immigrant parents of school terminology could be sketched.

Creation of specialized positions such literacy coach, preventionist and second language acquisition consultant is worth considering benefiting the learning of especially Finnish language learners. In Finland, such tasks are carried out by the general special education teacher and learning assistants, who could, then, delineate their own job description. It has been proposed by immigrant parents in Finland that their children should be challenged more – the objectives and expectations should be as high for them as they are for indigenous children. Having seen the rigour of elementary education and how it is organized in the U.S., I agree that there is room for reconsiderations as to the level and detail of expectations for all children in Finland. But I believe that the Finnish approach to pacing the learning is suitable for our society and its values. Furthermore, the new NCC published within a few weeks will present this topic in a new light.

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Useful links and references

Vimeo interview of Prof Scarcella about developing academic language: http://vimeo.com/99109903

Presentation of Prof. Scarcella about academic language: http://www.ncela.us/files/webinars/1/scarcella_8-21-08.pdf

Good popular presentation on subject-specific literacies: http://www.slideshare.net/KimMcGill/subjectspecific-literacy-4574372

CARLA = Center for Advanced Research on Language Acquisition (University of Minnesota): http://www.carla.umn.edu/cobaltt/modules/

Berkeley Schools Academic vocabulary: http://www.berkeleyschools.net/wp-content/uploads/2013/05/BUSD_Academic_Vocabulary.pdf

Common Core and English language learners: http://blog.colorincolorado.org/category/academic-language/

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