Meaning in EFL textbooks delivered to Chilean public schools: knowledge construction from a Systemic Functional approach[1]

Significados en libros de ILE distribuidos en escuelas públicas chilenas: aproximación sistémico funcional al conocimiento

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Abstract

This study examines the knowledge built through the 1st and 2nd-grade English as a Foreign Language (EFL) textbooks used in Chilean public schools. From a linguistic perspective, knowledge is addressed as meaning, developed through the selection of linguistic resources that a given language offers. Textbooks are fundamental in teaching and learning a foreign language, because they provide a great part of these resources; consequently, it is essential to understand how meaning begins to be built and develops through the curriculum. With that aim, with a mixed-method approach and from a Systemic Functional Linguistics perspective, we examined the lexical resources employed in textbooks that contribute to the construction of meaning. We conducted discourse analysis to identify the relations among lexical items and the kind of knowledge they build. Corpus analysis was used to estimate how lexical complexity increases from one level to the next. We found that the two books build commonsense knowledge, corresponding to what children know about the world in their mother tongue. We also found that lexical complexity increases from one book to the other, thus enlarging learners' repertoire of words in English.

Keywords: textbooks, English as a Foreign Language, ideational meaning, knowledge, lexical complexity, Systemic Functional Linguistics.

Resumen

Este artículo examina el conocimiento construido en libros de texto de inglés como lengua extranjera (ILE) de 1° y 2° Básicos que distribuye el Ministerio de Educación chileno en escuelas públicas. Desde una perspectiva lingüística, el conocimiento se aborda como significado, construido a partir de recursos que ofrece una lengua dada. Los libros de texto son fundamentales en la enseñanza y aprendizaje de lenguas

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extranjeras porque presentan gran parte de estos recursos; en consecuencia, es vital comprender cómo comienzan a construirse y desarrollarse los significados en el currículo. Con este objetivo, estudiamos los recursos léxicos en libros de texto usando el enfoque de la Lingüística Sistémico Funcional con un método de diseño mixto. Realizamos un análisis del discurso para identificar relaciones semánticas entre estos recursos y el tipo de conocimiento que construyen y llevamos a cabo un análisis de corpus para estimar como aumenta la complejidad léxica desde un nivel a otro. Observamos que ambos libros construyen conocimiento de sentido común, correspondiente a lo que los niños saben acerca del mundo en su lengua materna. También encontramos que la complejidad léxica aumenta entre un libro y otro, incrementando el repertorio léxico de los aprendientes.

Palabras clave: libro de texto, inglés como lengua extranjera, significado ideacional, conocimiento, complejidad léxica, Lingüística Sistémico Funcional.

Introduction

Textbooks are relatively new didactic material in comparison to other kinds of books, such as novels or history manuals. Textbooks were specially designed to be used in the classroom at the beginning of the 20th century (Garton & Graves, 2014; Tosi, 2011) to democratize knowledge. In this context, textbooks offered knowledge supposedly accessible to anyone. For a long time, teachers used them without much reflection, but by the late 1920s, textbooks turned into exciting objects of study (Soaje, 2018; Tayyebi et al., 2014; Soaje & Orellana, 2013; Tosi, 2011). The primary focus of research related to English language teaching (ELT) textbooks was on the evaluation and development of their content (Garton & Graves, 2014). Nowadays, ELT textbooks are studied as a source of knowledge, a consumable product, an ideological artifact, and an educational tool (Lu et al., 2022; Toledo-Sandoval, 2020; Barboza, 2015; Machado Oliveira & Angelim Rossa, 2015; Neary-Sundquist, 2015; Gray & Block, 2013; Tosi, 2011; Kirkgöz, 2009; Ansary & Babaii, 2002).

The Chilean Ministry of Education (MINEDUC) (2023) states that textbooks are a fundamental pedagogic resource that contains content and appropriate educational activities to teach and learn the English language. It defines it as "a pertinent curricular transmission vehicle for students in our country to access the skills, knowledge, and attitudes that are part of the subject"[4] (Ministerio de Educación, 2023). That is, textbooks include valuable information that sets the grounds for the formal knowledge students will learn in the classroom setting.

Bearing that textbooks have a protagonist role in the classroom, this paper examines and describes the knowledge built in 1st and 2nd-graders' English as a Foreign Language (EFL) textbooks. Our research question is: What knowledge do MINEDUC EFL textbooks build? Following the Systemic Functional Linguistics approach to language, knowledge is understood to be everything we know in life, which is constructed with language. The research aims to describe the knowledge these textbooks configure by identifying the lexical items and semantic relations that they build. To do this, we identify the semantic relations among the linguistic resources that the textbooks deploy to describe the knowledge they construct; and measure the lexical frequency, complexity, and density of these resources to establish the progression in the complexity of

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[4] All translations from Spanish into English are ours. The original text is "vehículo de transmisión curricular pertinente para acceder de manera progresiva, tanto a los y las estudiantes, a las niñas y los niños de nuestro país, a las habilidades, conocimientos y actitudes propias de las asignaturas."

knowledge from one grade to the next one. This study is the starting point for analyzing the whole battery of textbooks that the Ministry of Education delivers to Chilean public schools.

In what follows, we present the theoretical framework that gives substance to the study. Then, we describe the methodology through which we analyzed and interpreted the data obtained from the two textbooks. Afterward, we discuss the results, and, finally, we offer some conclusions related to the nature of the knowledge that the EFL textbooks build in Chile.

The EFL textbook

It is difficult to imagine a class on any school subject without visualizing students facing their teachers with an open textbook in their hands. Textbooks are tailored to the classroom, "planned by publishing houses for individual use in a specific subject and grade" (Tosi, 2011, p. 474). In the EFL classroom, the textbook is so vital that it can represent up to 90% of a lesson (Neary-Sundquist, 2015). The foreign language teacher usually depends on this didactic material to manage the classroom entirely. The textbook is the 'visible heart' of any English teaching program (Sheldon, 1988).

The EFL textbook has not caught much attention in Chile, although some literature is available. The focus is their suitability for the Chilean educational context. Toledo-Sandoval (2020), the most recent study, examines the 5th and 6th grade EFL textbooks delivered in the public school to observe how they are adapted to the local cultures across the country. Chile is a 4,270 km long country, divided into three macro areas that are very different. The North is warm and desertic; the center is mild and semi-desertic; the South is cold and humid. Therefore, people and their traditions are also distinct. Toledo-Sandoval (2020) concludes that although there are some attempts to adapt the contents to the students' contexts, the textbooks present a Europeanizing view of the world, which teachers localize to bring these contents closer to learners. Arellano (2018), on the other hand, examines the extent to which the textbooks from 5th to 12th grades match the vocabulary with which the Common European Framework of Reference for Language Teaching and Assessment (CEFR) refers to language teaching and learning processes. The Chilean Ministry of Education has followed the orientations of this framework to design textbooks and assess learning for about 15 years, so one might expect that the language with which the Ministry builds knowledge related to English as a Foreign Language is aligned with such a framework. Arellano (2018) observes that the two corpora are comparable to a great extent and concludes that the educational material designed in Chile is consistent with the language of the Common European Framework. Cárcamo (2018) explores the textbook for 11th graders to describe the kinds of listening comprehension activities that they include. He finds that activities are superficial and present no challenge to students, so they probably do not develop listening comprehension skills. King (2007) also examines activities related to listening comprehension. He focuses on textbooks delivered by the Ministry of Education to public schools and textbooks commercialized by publishing houses. King is interested in verifying the authenticity of the oral texts that the books present. He finds that the oral texts in the textbooks delivered to public schools are mainly informative and demand nothing but an understanding of informative texts. In contrast, oral texts in the commercial coursebooks stimulate the development of interaction in English. With this, King (2007) asserts that poor quality textbooks deepen social gaps because only those with access to commercial coursebooks – primarily students in private schools – can speak the foreign language. In 2017, the consulting firm EDECSA reported that teachers of English consider the

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contents of the textbooks superficial and changes among units and grades to be abrupt. Besides, they state that the language – grammar and vocabulary – in the textbooks is too complex for the actual students' proficiency level of English.

At an international level, most research concerning EFL textbooks is produced in the Eastern World, only followed by the countries that produce EFL books, such as England or the United States. The focus ranges from cultural to linguistic issues. For instance, Lu et al. (2022) examine culture presentation in China's senior high school English textbooks. They find that the cultural content in these textbooks is no longer dominated by Kachru's (1985) inner circle; they include many Chinese cultural phenomena. In this line, De Bartolo and Macuso (2021) study the four most used EFL textbooks at a university in Italy seeking to state if they promote intercultural awareness. They conclude that much needs to be done to develop intercultural competence in English courses if the textbooks are the main teaching material.

With respect to linguistic aspects, Shin and Jung (2021) analyze the correlation between a beginner English textbook's input and Korean learners' written output, finding that the textbook strongly influences Korean learners' written work. Similarly, Sugiura et al. (2020) examine the linguistic input of 12 coursebooks approved by the Japanese government to teach English in high school. They observe that the vocabulary in the textbooks is challenging enough, although there is no clear progression from one textbook to the next level. Nordlun (2016) carries out a comparative analysis of the lexicon in two EFL textbook series at the preschool level in Sweden, showing that each textbook includes isolated vocabulary. The study also indicates that these textbooks are built around low-frequency lexical items that are not part of English's most common 2,000 words.

Harwood (2013) has warned that it is relevant and necessary to open a research line that addresses the EFL textbook as a concrete object of study, allowing for its full description and highlighting the most appropriate textbooks to teach English. This kind of research could help design consistent content to develop skills; identify proper approaches, methodologies, and didactics; meet students', teachers', and parents' needs; and contribute to the curriculum. The ultimate goal of our research is to contribute to raising teachers' awareness of the need to critically analyze and use the textbooks they receive from the Ministry of Education.

The EFL textbook and knowledge

Textbooks are the only type of books specially tailored to the classroom (Garton & Grave, 2014; Tosi, 2011) in contrast to literary material, for instance, which may be taken to the classroom without adaptation. It is a teaching material designed to standardize learning based on the delivery of the same content to all students; it is a democratic teaching tool. In this sense, it is a reservoir of knowledge (Bernstein, 1999) or meanings (Martin, 2016) that presents all the language aspects a learner can acquire if the circumstances allow it. Besides being a guiding map, a teaching resource, and a support for the curriculum (De Bartolo & Mancuso, 2021), a textbook is a linguistic object built around a set of lexical items, grammar structures, texts, and genres that create representations of realities, cultures, and the curriculum (Gray & Block, 2013; Gray, 2010). From this point of view, examining the knowledge that textbooks build means asking questions such as: What kind of texts are shown? What topics are addressed? What are the sources of these texts? (Gray, 2010; Richard-Amato, 2010). In simpler words, what knowledge do textbooks teach?

Knowledge is not an abstract phenomenon that takes form in the mind, but a concrete object that can be studied empirically (Martin, 2016; Maton, 2014). In this light, textbooks can be

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considered tangible pieces of knowledge that can be examined to see what types of knowledge they build and if they are pertinent for students. Knowledge can be common sense or specialized.

Commonsense knowledge is made up of reality segments referring to the everyday experiences we regularly share with the people around us. We build this knowledge through observation, repetition, and accumulation of experiences. The lexicon that builds up this language is ordinary and known by everyone in the community. Therefore, at the first school level, one might expect to find commonsense knowledge in English textbooks, which will be the basis for increasingly specialized curricular English. Specialized knowledge is hierarchical since one piece of knowledge is vital for learning another. Specialized knowledge is not common to everyone and usually starts to develop in school. Martin (2016) calls it an 'extended reality'. It is learned through analysis and study; therefore, it is assessed by experts. At the same time, the lexicon is particular to given disciplines, so only experts can access that knowledge. Consequently, it would be expected to observe specialized knowledge at more advanced school levels. In fact, Lizasoain (2019) found that classroom interaction in a Chilean 11th grade English class had a certain degree of specialization, which was observed in the semantic relations set by the lexical resources chosen by the participants to talk about the labor market besides complex grammar structures, such as relative clauses or prepositional verbs. She also found that the textbook strongly influenced classroom interaction.

Commonsense knowledge is the basis of specialized knowledge (Maton & Muller, 2007). In school, especially, it is impossible to build disciplinary knowledge related to the natural sciences or Math, for instance, without the language students bring to the classroom from their communities (Schleppegrell, 2004). Before calling a cat a feline, children first learn to call them a cat. Specialization occurs with the deployment of the curriculum in the school years. It is in school where students learn to call a cat a feline. In this sense, the examination of the textbook can help us observe the kind of knowledge it builds and how it contributes to the development of the foreign language.

Educational Linguistics from a Systemic Functional Approach

Educational Linguistics analyses and describes the knowledge conveyed in the school curriculum (Matthiessen et al., 2020; McCabe, 2017). This knowledge is also called pedagogic discourse or classroom interaction (Jones et al., 2021; Rose, 2014; Thoms, 2012; Christie, 2012; Dalton-Puffer, 2007; Christie, 2000). To analyze and describe pedagogic discourse, Educational Linguistics utilizes theoretical and methodological tools offered by Systemic Functional Linguistics (SFL) that contribute to the visibility of the linguistic resources that build knowledge. From this approach, knowledge takes shape through language; thus, studying language is the same as viewing knowledge. SFL conceives language as a system of linguistic options organized to shape meanings. Speakers select options influenced by the context and, at the same time, the context compels them to choose given options (Christie, 2012; Martin & Rose, 2007; Halliday, 1975). The EFL classroom is a particular context that makes participants choose certain texts, such as textbooks.

According to SFL, language builds three metafunctions or macro meanings simultaneously (Halliday & Matthiessen, 2014). Each one expresses three dimensions of human communication: what we communicate (ideational), with whom we communicate (interpersonal), and how we communicate (textual). These meanings are built at the same time at the three levels of language:

grapho-phonological, lexicogrammar, and discourse-semantics. The grapho-phonological stratum corresponds to the level of the word (phonemes and graphemes); the lexicogrammatical stratum is the level where words are organized within phrases, clauses, and sentences; the discourse-semantic stratum is the level where clauses and sentences are organized to configure texts (or discourse). Figure 1 illustrates how these meanings interact with the levels of language.

Figure 1. Levels of language, metafunctions, and knowledge.
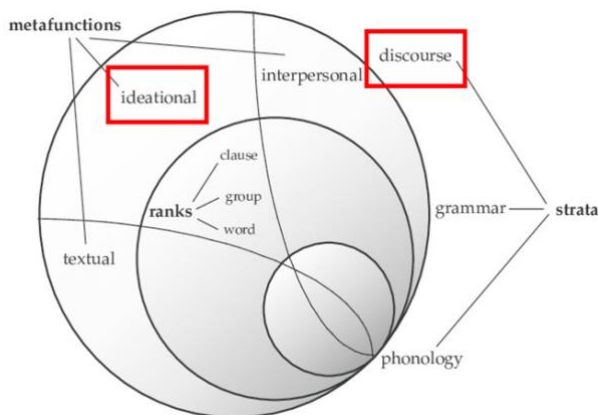
Source: Rose (2006).

Figure 1 shows three circles of different sizes representing each language level. The levels are shown in circles within circles to illustrate their interdependence. The metafunctions cross the three strata simultaneously; these three macro-meanings are expressed at every level. The red rectangles highlight the linguistic level and metafunction we focus on when examining knowledge: ideational meanings at the discourse-semantic language level.

SFL has developed several ready-made analytical matrixes or systems to study meaning. Ideational meanings – the way we represent everything we know about the world – are examined through the system of ideation. An advantage of this system is that it embodies the way we create meaning while learning (a) language. At the same time, it allows linguists to observe meaning-making empirically (Eggins, 2012; Painter, 2008; Martin & Rose, 2007; Martin, 1992). In fact, this approach is a theory of human language development and meaning-making (Halliday, 1975). At the discourse-semantic level, the system of ideation allows for the observation of the semantic relations through which language learners label, relate, and build the entities of their worlds (Martin, 1992).

The system of ideation comprises three subsystems: taxonomic relations, nuclear relations, and activity sequences. Taxonomic relations are the semantic connections among lexical elements that build the concrete and abstract entities related to people, things, places, qualities, and circumstances deployed in discourse. They build the basic elements of human experience (Martin & Rose, 2007) or fields of knowledge (Martin, 2016; 2008). Taxonomic relations help the researcher picture knowledge as if it were an image. These semantic relations can be of two kinds: superordination (classification, similitude, contrast) and composition (meronymy and co-meronymy), namely, relations of 'a is a kind of b' or 'a is part of b', respectively (Martin, 1992).

For example, 'a cat is a feline' is knowledge built through classification, while 'I have two eyes' is constructed through meronymy.

Table 1 shows the two main taxonomies of the system of ideation – superordination and composition – together with their subcategories.

Table 1. Taxonomic relations in the English as a Foreign Language classroom.

Superordination relations		Composition relations	
Classification	Similarity	Contrast	Constitution
Hyponymy: class/member (*well-paid job/pilot*)	**Synonymy:** same lexical field (*driver/choffer*)	**Antonymy:** contrary elements (*well-paid job/badly-paid job*)	**Meronymy:** whole/part (*vocabulary/words*)
Hiperonymy: member/class (*pilot/well-paid job*)	**Repetition:** morphological change (*teacher/teachers*)	**Series:** (*one, two, three…*)	**Co-meronymy:** part/whole (*words/vocabulary*)
Cohiponymy: member//member (*pilot/engineer*)	**Equivalence and False cognates:** English-Spanish (mis)match Match: (*politicos/politicians*) Mismatch: (*avocado/abogado*)	**Opposition:** pairs (*student/teacher*)	

Source: Lizasoain (2019).

This system was proposed based on L1 English texts, so two new categories arose when used to observe EFL (Lizasoain, 2019). One subcategory is equivalence, which relates two lexical items from different languages that mean the same – like '*políticos* and politicians' – and false cognates, which connect two words that seem to be equivalent but are not – like 'avocado and *abogado*' (lawyer).

Semantic relations among lexical elements build congruent or incongruent taxonomies (Martin et al., 2020; Martin, 1992). Language learners build congruent taxonomies first from their earlier years of life, based on sensory perceptions; therefore, they have an immediate referent in reality. This way, verbs express actions and phenomena; nouns represent people and things; and adjectives and adverbs convey characteristics and circumstances. These taxonomies build commonsense knowledge. On the contrary, incongruent taxonomies are more complex and do not necessarily have concrete referents. An action can be expressed through a noun (discussion instead of discussing), for instance. The more complex the taxonomies are, the more specialized knowledge is (Martin & Rose, 2007). Consequently, one should expect that the taxonomies built into the textbooks are more and more complex along with the progress of the curriculum.

In order to explore the type of knowledge built in the Chilean public schools and how it is expanded in the EFL classroom two textbooks from different levels were analyzed. The main

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objectives that shaped the study were: (1) to identify the type of semantic relations that the lexical items form, and (2) to measure the lexical complexity frequency and density between the two levels. The latter allowed us to assess whether knowledge broadens from one level to the next. The following section describes the methodology used to tackle the objectives.

Methodology

Type of study

This is a descriptive mixed method (qualitative and quantitative) study whose object is the EFL textbook for 1st and 2nd grades delivered by the Ministry of Education to public schools in Chile. The titles of the textbooks are *Learning by Doing* 1 and 2, designed by Brendan Dunne and Robin Newton, two well-known Irish writers of EFL textbooks. Only the students' book was considered for analysis, focusing on the written text, leaving aside multimodal texts.The textbooks are approached from a systemic functional linguistic point of view to highlight the semantic relations among the lexical resources that configure the EFL textbooks, understood as concrete samples of knowledge. This method allows for giving visibility to knowledge in English in a progressive manner (Matthiessen et al., 2020; Rose & Martin, 2012; Martin & Rose, 2008).

Data collection and analytical methods: the system of ideation.

We examined the textbooks through the matrix of taxonomic relations to describe the kind of knowledge they construct. We tracked the entities they create and the progression of their complexity. First, we identified nouns, adjectives, adverbs, and verbs from the first lexical element in the textbooks to the last. We then decided to work only with nouns to narrow down the task of building semantic relations because nouns are the most productive linguistic items (Martin, 1992). Second, nouns were entered into an Excel spreadsheet following the order in which they appeared in the books, under the entities they built (food, family, house, for example), which usually coincide with the Units of the textbooks. Third, we identified the taxonomic relations (superordination or composition) between words that were next to each other. Then we created the lexical chains that allow for the identification of the type of knowledge. Figure 2 shows how the first nouns from Textbook 1 were organized in the Excel spreadsheet.

Figure 2. Identification of taxonomic relations among nouns in textbooks.

school objects	body	family and friends	pets	food	toys	house	holidays	class activities	characters
							festival		
school									
meronymy									
school objects									
								songs	
								synonymy	
								chants	
								series	
								story	
repetition									
school objects									
repetition									
school objects									
hyponymy									
sharpener									
cohyponymy									
school bag									
cohyponymy									
book									

Source: Own elaboration

Figure 2 first shows a row in yellow, which marks the entities the textbook announces in the index: school objects, body, family and friends, pets, food, and so on. Some lexical elements are placed under school objects: sharpener, school bag, and book are kinds of school objects, which shows that this entity is built through superordination. It is a quite simple taxonomy that builds commonsense knowledge.

Corpus analysis

The system of ideation of language allows for the observation of knowledge building as in a picture (see Figure 3). The more complex the picture, the more complex knowledge. We conducted a corpus analysis to quantify knowledge building and complement the qualitative analysis. Corpus analysis is the primary analytic tool of corpus linguistics, which addresses language from a lexical point of view to estimate lexical frequency, progression, or density. In this sense, the system of taxonomic relations and corpus analysis may complement each other (Hunston, 2013).

The Lexical Tutor software ran the corpus analysis (Cobb, 2023). This tool counts the lexical elements, measures their frequency, compares the corpus with different frequency bands, and estimates lexical density. Texts were converted into .txt documents and cleaned from other options rather than nouns. The software yields the number of types and tokens (unique words and the total amount of words, respectively) and lexical density. The more specialized words are, the more complex knowledge is. In this regard, Lexical Tutor also distributes items into frequency bands, estimating how many lexical resources belong to one or another band: 1,000 most frequent words in English; 2,000 most frequent words in English, etc. If corpus analysis shows that lexical density increases and lexical elements change bands, we can say there is a progression from one book to another.

Analysis and discussion

The aim of this research study is to describe the meanings that build EFL textbooks delivered by the Ministry of Education to public schools, considering that it is the main teaching tool teachers use and the main input to which young learners of 1st and 2nd grades are exposed. Results point at meanings related to children's most immediate realities, which progress in complexity from one volume to the next.

Before addressing these two main results, it is worth highlighting that SFL discourse analysis and corpus analysis complement each other well to understand the construction of knowledge (Hunston, 2013). The coincidence of the two approaches to language relies on "the priority given to the study of naturally occurring language and […] the calculation of relative frequencies" (Hunston, 2013, p. 618). The method of this research rendered it useful to describe knowledge from a qualitative and quantitative point of view.

System of ideation

Concerning meanings, the first lexical item that 1st-grade students encounter is 'school'. It is the lexical resource that starts building the first taxonomy. It begins to grow with the addition of 'school objects' through a relation of meronymy as in 'school objects are *part of* the school'. From then on, the taxonomy 'school objects' is built through subordination, linking lexical resources such as 'sharpener', 'school bag', 'book', 'rubber', 'crayon', etc. utilizing relations of co-hyponymy as in 'a sharpener is *a kind of* school object'. The semantic relations both in Textbooks 1 are 2 are simple and congruent (Martin et al., 2020), that is, the taxonomies that they build do not have many branches or extensions, as well as the fact that the lexical resources that build them have an immediate referent in life. Therefore, textbooks in 1st and 2nd grades build commonsense knowledge. The image below, in Figure 3, may help us understand this result.

Figure 3. Congruent taxonomy in Textbook 1, Unit 1.

(Unit 1)
sharpener (x 4)
school bag (x 2)
school objects (x 5)   book (x 3)
rubber (x 2)
crayon (x 1)
glue (x 1)
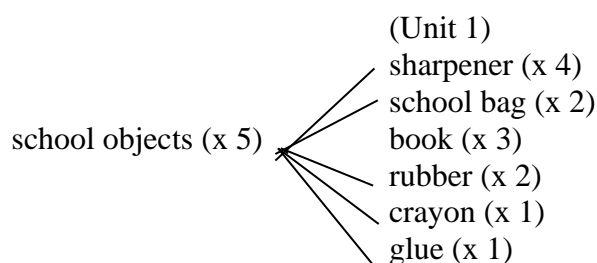
Source: Own elaboration.

The taxonomy in Figure 3 shows knowledge that is built through the classification of elements as school objects. The taxonomy also shows another type of semantic relation, which is repetition. Repetition is essential in learning a language, be it the mother tongue or a foreign language, since it helps fix linguistic resources in the brain, thus turning new knowledge into building blocks (Martin Bergsleithner, 2019; Ghazi-Saidi & Ansaldo, 2017). In a way, language learning is viewed as a process of habit formation through which repetition leads to acquiring it.

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The numbers in parentheses show, for example, that in Unit 1 the word 'sharpener' is repeated four times (x 4). 'Sharpener' is the most repeated word, maybe because the authors considered it the most difficult to remember. However, we, educators, hardly ever know the rationale underlying textbook design, so we cannot understand why 'sharpener' is the most repeated written word in Unit 1. The following pieces of knowledge in Textbook 1 are fruits, family members, friends, pets, and holidays, also typically built through classification, repetition, and composition.

These meanings are appropriate for the linguistic repertoire of 6- to 8-year-old children. Fruits, family members, or pets is knowledge that children naturally develop in their mother tongues. Therefore, it is also natural to recur to that knowledge to label the world again, now with the linguistic resources that the English language system offers. In other words, the textbooks take advantage of the commonsense knowledge that children bring from their communities to build new knowledge, which is also common in nature. However, it must be borne in mind that some children are not familiar with nor have access to certain fruits and pets, and these might need localization. From a second language learning approach, as Krashen (1985) points out, when learning a second language, students must be confronted with comprehensible input – what they already know in Spanish, in the case of Chile – and something slightly more advanced (input+1) – the same reality in a different code. It is easier to learn something new when previous knowledge is included in learning (Richard-Amato, 2010).

Specialization of knowledge takes place by adding segments to horizontal structures or by building hierarchical structures. Although the social sciences or humanities tend to be based on horizontal structures, they also rely on hierarchical structures to a less degree (Maton, 2014; Bernstein, 1999). The system of ideation also helps observe this feature in the textbooks (see Figure 4).

Figure 4. Congruent taxonomy in Textbook 1, Units 1, 2, and 3.
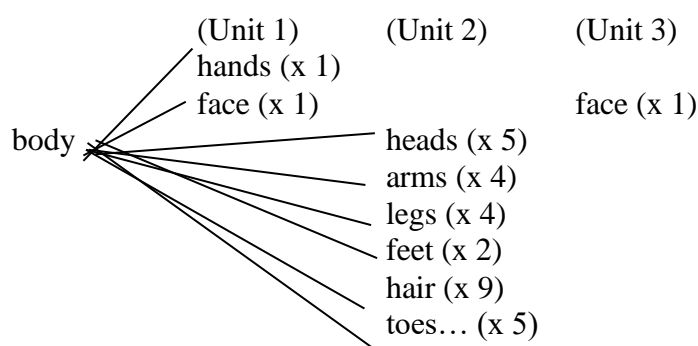
Source: Own elaboration.

Figure 4 displays a congruent taxonomy of composition, which builds the commonsense knowledge of the body in English. It shows that the building of this knowledge starts in Unit 1 with the introduction of two parts (hands and face), expands in Unit 2 (heads, arms, legs...), and continues developing in Unit 3 (face). This shows that vocabulary, although segmental, is also connected throughout the discourse, contradicting Nordlun (2016), who found a disconnected lexicon among Swedish preschool textbooks. Figure 4 also shows that repetition continues to be
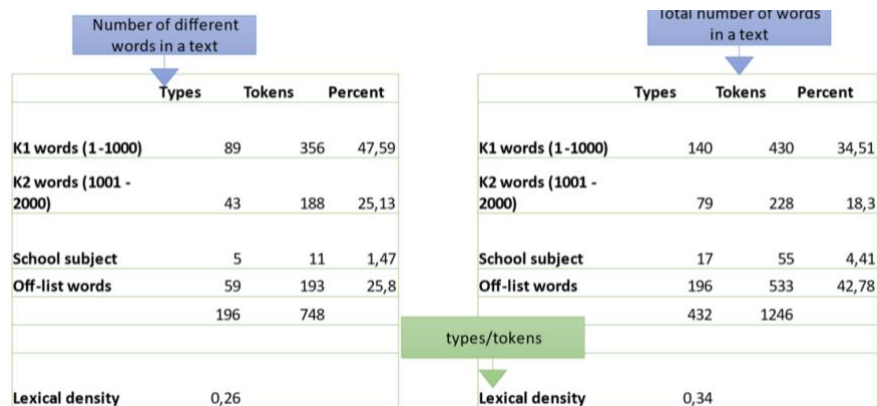
commonplace, which helps students reinforce what they have learned and, at the same time, use previous knowledge as building blocks for the construction of new knowledge (Martin Bergsleithner, 2019). Figures 3 and 4 show how superordination and composition are basic to build meaning. Figure 4 also shows how meaning 'accumulates' (Maton, 2014) in the deployment of discourse. Another way to see it is that there is a progression from unit to unit and from textbook to textbook.

Corpus analysis

As Hunston (2013) asserts, "observations about lexis, collocations, and textual patterning are inevitably "messier" [with corpus analysis], and the focus on method in corpus linguistics tends to lead to an amassing of detail rather than a big picture" (p. 618). That is, SFL helps us see the big picture of knowledge, while corpus linguistics allows us to focus on details only numbers can show.

As shown in Figure 5, both the total number of words (tokens) and different kinds of words (types) increase from one text to the other. In Textbook 1, the relation is 196 types to 748 tokens; in Textbook 2, the relation grows to 432 types to 1,246 tokens. The latter means that the textbooks progressively present students with already learned lexical items, which serve as previous knowledge and new items, which can be added to the taxonomies that the books build along with the units.

Figure 5 Progress of tokens, types and lexical density in 1st and 2nd-grade textbooks.

Number of different words in a text				Total number of words in a text			
	Types	Tokens	Percent		Types	Tokens	Percent
K1 words (1-1000)	89	356	47,59	K1 words (1-1000)	140	430	34,51
K2 words (1001-2000)	43	188	25,13	K2 words (1001-2000)	79	228	18,3
School subject	5	11	1,47	School subject	17	55	4,41
Off-list words	59	193	25,8	Off-list words	196	533	42,78
	196	748			432	1246	
				types/tokens			
Lexical density	0,26			Lexical density	0,34		

Source: Own elaboration

Lexical density is "the proportion of content words (nouns, verbs, adjectives, and often also adverbs) to the total number of words" (Johansson, 2008, p. 65). It is estimated by dividing types by tokens. The higher the density, the richer and more complex the knowledge is (Stubbs, 2004). High lexical density points at specialized texts, while low lexical density is characteristic of commonsense texts. As with discourse analysis, only written nouns were considered for the corpus analysis. Although it may seem low, there is an increase of 0.08 from one textbook to the other, which shows a degree of specialization. In the first levels of the curriculum, lexical density probably does not increase much because fewer new elements are included in the texts.

There is also a progression in the number of words in both frequency bands (K1 and K2). K1 words are the 1,000 most frequent words in English L1; K2 words are part of the 2,000 most frequent words in English. As Figure 5 shows, lexical elements increase in both bands. If we focus on types only (number of different words), we can observe that K1 words augment from 89 in Textbook 1 to 140 in Textbook 2 (+51); while K2 words increase from 43 to 79 (+36). This means that learners have access to more words from the 2,000 more common words in L1 English along the curricular path. In this respect, Nation and Waring (1997) warn that the most frequent words in English do not encompass a large number of lexical items, which means that learners will be able to understand the portion of a text by knowing these 2,000 words in the long run. The lexical items found in the 1st- and 2nd-grade textbooks will help learners build the foundations of their linguistic repertoire to understand English in later stages.

School subjects' words – such as in Math or Natural Sciences – also increase in the analysis, probably because in Textbook 2 a Content and Language Integrated Learning (CLIL) section is included. CLIL is a teaching and learning methodology through which some European schools attempt to teach a given subject through a second language. The rationale is that students will learn the second language implicitly (Dalton-Puffer, 2007). Textbook 2 includes Social Studies and Science projects, for instance, in which students must research hobbies and gardens, respectively.

Lastly, the knowledge that Textbooks 1 and 2 build is common and may lead to the specialization of meanings in ideal conditions. This has at least three implications from a second language learning point of view. First, the textbooks present language suitable for the kind of learner, including their age, proficiency, and school level. Second, the textbooks analyzed foster language development, building new knowledge based on previous meanings (in Spanish or English). Third, the textbooks include attractive, challenging, and relevant content, according to the kind of learner and their previous knowledge. The type of language/meaning/knowledge that builds these teaching and learning materials allows for these assertions.

Conclusions

This research aimed to describe the knowledge that the 1st and 2nd grade EFL textbooks that the Chilean Ministry of Education delivers to the public schools build and to understand their role in the process of teaching and learning English. The analysis yielded that textbooks configure commonsense knowledge related to the direct experience of the learners, appropriate for 6- to 8-year-olds. Knowledge is built by presenting options of the English language system that learners already know in their first language. These options can be described in two terms. First, the options establish semantic relations to build meaning mainly through classification, composition, and repetition. These taxonomies are typical of the first stages of meaning-making (Martin, 1992; Halliday, 1975). At the same time, although the taxonomies are simple, their complexity increases along the pages of the textbooks. Second, the number of lexical options available to students increases from one textbook to the other. Students can access increasingly more different nouns and repeat options to add them to their linguistic repertoire. Therefore, this material can contribute to the development of English as a foreign language since quantity, frequency, and complexity are crucial in this process (Sugiura et al., 2020; Crossley et al., 2014; Nation, 2006; Lewis, 2002). In this sense, the Ministry's statement that the textbook is "a pertinent curricular transmission vehicle

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[…] to access skills, knowledge, and attitudes related to the subject"[5] (Ministerio de Educación, 2021, online) is assertive.

The EFL textbook has been taken for granted in Chile for a very long time. Every year, thousands of children and teachers receive the materials that the Ministry of Education delivers, which are acquired via tender without much reflection apart from monetary issues. It is time to take textbooks more seriously if we know that learners get the main input to develop English from this source. It is relevant to analyze the meaning they build to decide whether knowledge construction is coherent and progressively more specialized if we want our students to reach the desired but elusive CEFR B1 proficiency level.

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[5] "un vehículo de transmisión curricular pertinente […] para acceder a habilidades, conocimientos y actitudes relacionadas con la materia" (Ministerio de Educación, 2021, en línea).

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