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**Libros (no) emocionales: Un análisis léxico basado en el corpus del material para enseñar EFL**  
**(Emotion(less) textbooks: A corpus-based lexical analysis on EFL material)**

Tesis para optar al grado académico de Magíster en Lingüística Aplicada

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## ABSTRACT

Many researchers have studied the benefits of emotion in second language learning and acquisition. However, there is not much research linking emotion to the materials used to teach English. Consequently, our proposal aims to evaluate the representation of emotion lexicon in English textbooks used for 11th and 12th grade students in Chilean schools and assess its alignment with curriculum requirements. To achieve this, we examined the lexical content of 4 different English textbooks used in Chile, in different educational contexts. Firstly, the files were converted into plain text. The obtained corpus was then analyzed using the AntConc software to determine the amount of emotion and emotion-laden words contained in each one according to the affective norm list compiled by Warriner (2013). The results show a clear positivity bias whereby learners are more frequently exposed to supportive and low-risk emotional content than to lexicon reflecting more intense or negative states, additionally, results show partial alignment with national curriculum and CEFR expectations, with notable disparities across school contexts.

***Keywords:*** emotion lexicon, textbook, foreign language, English, valence

## RESUMEN

Muchos investigadores han estudiado los beneficios de las emociones en el aprendizaje y la adquisición de una segunda lengua. Sin embargo, no hay muchas investigaciones que relacionen la emoción con los materiales utilizados para enseñar inglés. En consecuencia, nuestra propuesta tiene como objetivo evaluar la representación del léxico emocional en los libros de texto de inglés utilizados por estudiantes de 3º y 4º medio en escuelas chilenas y evaluar su alineación con los requisitos curriculares. Para lograrlo, se examinó el contenido léxico de 4 diferentes libros de texto de inglés utilizados en Chile, en diferentes contextos educativos. En primer lugar, los archivos se convirtieron a texto sin formato. El corpus obtenido luego se analizó utilizando el software AntConc para determinar la cantidad de palabras emocionales y palabras cargadas de emoción contenidas en cada uno de acuerdo con la lista de normas afectivas compilada por Warriner (2013). Los resultados muestran una clara inclinación hacia lo “positivo” mediante la cual los estudiantes están expuestos con mayor frecuencia a contenido emocional constructivo y de bajo riesgo que a léxico que refleje estados más intensos o negativos; además, los resultados muestran una alienación parcial con el currículo nacional y las expectativas del MCER, con notables disparidades entre los diversos contextos escolares.

***Palabras clave:*** léxico emocional, libro de texto, lengua extranjera, inglés, valencia

## INTRODUCTION

Over the past decade, there has been a growing interest in the impact emotions have on second language acquisition (Plonsky et al., 2022). In this context, researchers depict language learning as a profoundly emotional process involving both positive and negative emotions that can ultimately facilitate or impede the acquisition of a new language. They identify a wide range of emotions, varying in type and intensity, which are associated with the second language learning process, from the excitement and joy derived from successfully applying a grammatical structure to the anxiety associated with public speaking and effective language use (Dewaele & MacIntyre, 2014; Dewaele & Dewaele, 2017). Nevertheless, despite the substantial acknowledgement of the significance of emotional states in language learning, research specifically examining the influence of emotion lexicon encountered by students remains relatively sparse. This paucity of focused studies on the effects of emotion lexicon encountered by language learners is reflected in the broader research landscape. While considerable research exists concerning general emotional states in language acquisition (Dewaele & MacIntyre, 2019; Pekrun & Stephens, 2020), targeted investigations into emotion lexicon are comparatively limited (Kliueva & Tsagari, 2018; Yang & Dui, 2023).

The present study took on a corpus-based approach. In linguistics, a corpus is described as a plethora of texts, both written and spoken, that can be analyzed automatically and arranged according to a set of principles that exemplify samples of language usage responding to given linguistic criteria (McEnery et al., 2006). The present

corpus analysis studied the emotion lexicon content of 5 different English as a Foreign Language textbook used in Chile. The analysis was conducted using multiple tools. In the first place, a free, online pdf-to-text tool was used to turn the pre-existing pdf files into simple text. These files were then analyzed with the wordlist tool in AntConc to count all the words in the books. Finally, a different tool in the AntConc software allowed the researcher to search across the corpora for the different specific lemmas from a reference word list of emotion and emotion-laden words.

Consequently, the main objective of this study is to evaluate the representation of emotion lexicon in English textbooks utilized for 11th and 12th grade students in Chilean schools and assess its alignment with the official National Curriculum requirements. To do this, the study will 1) quantify the extent of inclusion of emotion lexicon within the English textbooks employed in 11th and 12th grade curricula in Chilean schools, 2) compare and contrast the prevalence of emotion words versus emotion-laden words within the analyzed textbooks, and 3) investigate the congruence between the emotion-related knowledge and skills mandated by the curriculum and the content provided in the English textbooks for 11th and 12th grades in Chilean educational settings.

## INTRODUCCIÓN

Durante la última década, se ha observado un interés creciente en el impacto que las emociones ejercen en la adquisición de un segundo idioma (Plonsky et al., 2022). Desde esta perspectiva, los investigadores presentan el aprendizaje de idiomas como un proceso profundamente emocional que involucra emociones tanto positivas como negativas, las cuales pueden, en última instancia, facilitar o dificultar la adquisición de un nuevo idioma. Se menciona una amplia gama de emociones, tanto en tipo como en intensidad, relacionadas con el proceso de aprendizaje de una segunda lengua, que abarcan desde la emoción y felicidad experimentadas al utilizar con éxito una estructura gramatical, hasta la ansiedad asociada a hablar en público y emplear el idioma de manera efectiva (Dewaele y MacIntyre, 2014; Dewaele y Dewaele, 2017). Sin embargo, aunque se reconoce la importancia de los estados emocionales en el aprendizaje de un idioma, los estudios sobre los efectos del léxico emocional al que se enfrentan los estudiantes son significativamente escasos. Esta escasez de investigaciones específicas acerca de los efectos del léxico emocional en aprendices de idiomas está respaldada por el panorama de investigación más amplio. Aunque existe una considerable cantidad de trabajos sobre los estados emocionales generales en la enseñanza de lenguas (Dewaele y MacIntyre, 2019; Pekrun y Stephens, 2020), los estudios específicos sobre el léxico emocional son, en efecto, menos frecuentes (Kliueva y Tsagari, 2018; Yang y Duan, 2023).

El presente estudio adoptó un enfoque basado en corpus. En lingüística, un corpus se describe como un conjunto extenso de textos, tanto escritos como orales, que pueden

analizarse automáticamente y organizarse de acuerdo con un conjunto de principios que ejemplifican muestras de uso del lenguaje según criterios lingüísticos específicos (McEnery et al., 2006). El presente análisis de corpus estudió el contenido léxico emocional de cinco libros de texto de inglés como lengua extranjera utilizados en Chile. El análisis se llevó a cabo utilizando varias herramientas. En primer lugar, se empleó una herramienta en línea gratuita de pdf-a-texto para convertir los archivos PDF preexistentes en texto simple. Luego, estos archivos se analizaron con la herramienta de lista de palabras en AntConc para contar todas las palabras en los libros. Finalmente, otra herramienta en el software AntConc permitió al investigador buscar a lo largo de los corpus los diferentes lemas específicos de una lista de referencia de palabras emocionales y con carga emocional.

En consecuencia, el principal objetivo de este estudio fue evaluar la representación del léxico emocional en los libros de texto de inglés utilizados para los estudiantes de 3° y 4° medio en las escuelas chilenas y analizar su alineación con los requerimientos del Currículo Nacional oficial. Para ello, el estudio 1) cuantificó la inclusión del léxico emocional en los libros de texto de inglés empleados en los programas de 3° y 4° medio en las escuelas chilenas, 2) comparó y contrastó la prevalencia de palabras emocionales frente a palabras con carga emocional en los libros de texto analizados, y 3) investigó la congruencia entre el conocimiento y habilidades relacionadas con emociones que exige el currículo y el contenido proporcionado en los libros de texto de inglés para 3° y 4° medio en los entornos educativos chilenos.

## THEORETICAL FRAMEWORK

### L2 Vocabulary

The teaching of vocabulary in educational institutions has become one of the most significant responsibilities undertaken by educators, as it constitutes a fundamental component of language acquisition (Alqahtani, 2015; Nation, 2020; Schmitt, 2019; Webb & Nation, 2017). Textbooks allocate entire units to topics such as planets, technology, or communication methods. Consequently, the lexical items imparted to students are generally confined within these specific lexical domains. Conversely, the development of students' emotional vocabulary appears to be of less importance (Dewaele & Li, 2021; Sánchez & Pérez-García, 2020; Sifakis & Bayyurt, 2018). The limited focus on this emotional lexicon by textbook and curriculum designers, as well as EFL educators, may plausibly explain why EFL learners frequently encounter difficulties in effectively articulating and comprehending emotions in the target language (Dewaele, 2015; Dewaele & MacIntyre, 2019).

Nowadays, in Chile, the country's Ministry of Education curriculum includes various objectives for which it is imperative to have knowledge regarding emotions to be able to talk about oneself, one's opinions, interests, likes, and dislikes. These objectives include, but are not limited to, the following statements:

Comprender información central de textos orales y escritos en contextos relacionados con sus intereses e inquietudes...", "...comprensión y

producción de textos orales y escritos breves y claros, con el fin de construir una postura personal crítica en contextos relacionados con sus intereses e inquietudes.” And “Producir y comprender con fluidez textos orales y escritos breves y claros en situaciones comunicativas que involucren otras visiones de mundo y la propia, con el fin de interactuar y tomar conciencia de su propia identidad.” (Ministerio de Educación de Chile, n.d.)

An argument could be made that, to comply with these fundamental objectives, students must possess the ability to understand, recognize, and articulate emotions related to their interests, opinions, and identity. Similarly, in 2018, the Common European Framework of Reference for Languages- Learning, Teaching, and Assessment (CEFR; Council of Europe, 2020)- updated its descriptors across various levels of language proficiency to include skills in emotion recognition and expression. For instance, the updated guidelines specify that learners should be able to “convey degrees of emotion and emphasise the personal significance of events and experiences” at a B2 level, and to “understand implicit as well as explicit attitudes, emotions, and opinions expressed in emails, discussion forums, vlogs/blogs, etc.” at a C1 level of English proficiency. As Sánchez and Pérez-García (2020) observe, the increased emphasis on emotion is evident in the frequency with which the words " emotion, " " emotional, " and " feelings " appear in the revised document compared to its predecessor. The 2001 handbook mentions these terms 24 times, whereas the 2018 revision records 87 occurrences of these items.

### **Emotion Vocabulary and Language Acquisition**

Emotion vocabulary is prevalent in everyday verbal exchanges, and consequently,

it has been extensively studied across various disciplines (Pavlenko, 2014; MacIntyre & Gregersen, 2016). However, traditionally, emotion has been regarded merely as a mental state and considered largely independent of language (Ekman, 1992; Wierzbicka, 1999). It is only in recent times that scholars have begun to reevaluate the hypothesis that language significantly influences cognitive processes. Pavlenko's seminal work in 2014 triggered this reappraisal, and since then, numerous studies have further substantiated and expanded upon this concept. For example, research by Deldar et al. (2020) illustrated the profound influence of language on memory encoding and retrieval, while Costa et al. (2017) demonstrated how linguistic structures can shape decision-making. These studies, among others, highlight the increasing acknowledgement within the scientific community of the complex relationship between language and cognition. Investigations into the potential correlation between emotion and language acquisition remain limited, particularly regarding the impact of emotion on vocabulary development (Frances et al., 2020). A central focus within this field pertains to the link between emotional vocabulary and memory retrieval. Scholarly research predominantly indicates that emotionally charged stimuli, regardless of valence (positive or negative), confer cognitive processing advantages over neutral stimuli. Similarly, Jimenez-Catalan and Dewaele (2017) identified a notable effect of positive valence on learners' access to emotional prompts.

The influence of emotional attributes on the processing and retention of lexical items has garnered attention in scholarly inquiry. Vinson et al. (2013) observed that participants exhibited faster response times when presented with words carrying positive or negative emotional valence compared to those with neutral connotations in a lexical-

decision task, a phenomenon subsequently corroborated by Scott et al. (2012) in the context of sentence reading. Furthermore Kousta et al. (2011) posited that emotion plays a particularly salient role in the semantic representations of abstract vocabulary. In a different study, Fraga et al. (2012) documented that emotionally charged words are more prone to serving as anchor points for relative clauses within sentences, as evidenced by constructions such as "Someone shot the servant of the actress who..." This body of research underscores the significance of emotion in shaping various linguistic processes, ranging from word recognition to syntactic organization in sentence comprehension.

More recent studies have continued to explore this phenomenon. For example, Wang et al. (2015) found that emotionally charged words can enhance memory retention compared to neutral words, suggesting a potential mechanism for the impact of emotion on lexical processing. In a similar vein, Liu et al. (2018) investigated the role of emotion in semantic representations and demonstrated that emotional valence influences the organization of conceptual knowledge. Moreover, Jiménez-Ortega et al. (2017) provided evidence that emotional arousal can affect syntactic processing during sentence comprehension, indicating a broader impact of emotion on linguistic processes. As observed, emotion does play a role in shaping various aspects of language comprehension and production.

Despite emotions being seen as "alien" to the educational setting (Huber & Krause, 2017), as well as their manipulation and instrumentalization to aid in the learning process being seen with skepticism before, many authors have studied the benefits of including emotion lexicon in the classroom and textbooks. Knaus (2023) mentions in his study that

textbooks correspond to a type of digital media that aids teachers and students in a given educational context. Moreover, he points out that these textbooks often draw on emotions to foster action-oriented learning, as stories or situations that elicit strong emotions are easier to remember. He also believes that feelings and emotions are ubiquitous to any learning environment and that introducing them to the classroom can serve as a steppingstone to provide students with holistic education. The author claims that emotions in textbooks foster knowledge acquisition and work as stimuli for memory.

### **Emotion Lexicon**

An emotion lexicon is a list of individual words or lexical entries that encodes their affective meanings. In its most simple form, affective meaning is encoded in terms of polarity which makes the distinction between a lexical item being considered as positive, negative, or neutral (Buechel et al., 2020). Nowadays, there is still a limited availability of such emotion lexicon lists, and it is heavily restricted to a small number of languages. Moreover, even when these repositories exist, they are often small in size, and the ones that comprise a large number of lexical items, still leave out important portions of the existing emotion-carrying vocabulary items in the language.

In terms of function, an emotion lexicon repository consists of emotion words and emotion-laden words. Emotion words make direct reference to any particular affective state. It includes words such as 'happy' or 'scared'. In contrast, emotion-laden words do not directly refer to affective states, but rather, they are comprised of nouns, adjectives or

verbs that elicit an emotional response (positive, neutral, or negative) in the reader or listener. Emotion-laden words include terms such as ‘party’, ‘funeral’, or ‘classroom’ (Sánchez & Pérez-García, 2020).

Emotion words and emotion-laden words can be examined in terms of valence, arousal and dominance, with valence and arousal being the two most studied semantic dimensions. The inclusion of these new dimensions responds to the growing interest in a more informative representation of the different emotional variables. Valence, arousal, and dominance are contained within the dimensional approach to emotion representation (Warriner et al., 2013). This dimensional approach proposes that emotional states are made up of several factors, where valence corresponds to polarity, arousal measures how calm or exciting a term is, and dominance states the degree of control perceived in any given social context (Hinojosa et al., 2015).

Customarily, the assignment of emotional values to the items in an emotion lexicon depository is done by means of a questionnaire where annotators would receive a list of words and rate the lexical items according to the different variables being studied. As an alternative, the rating of such lists can be done automatically by teaching software to predict the emotional rating of unseen words using word statistics and linguistic rules (Köper & Walde, 2016).

In English, the most recent work regarding emotion lexicon has been done by Warriner et al. (2013) who, based in the Affective Norms for English Words (ANEW) compiled by Bradley and Lang in 1999, expanded their list and provided emotional ratings for almost 14000 English lemmas. In their study, the authors distributed the 13195 lemmas

being examined into 43 lists containing 346 to 350 items each. The lists for each one of the three dimensions (arousal, valence, and dominance) were mostly identical and contained control words, non-ANEW items, and calibrator words. Finally, the ratings were given by US residents, who were allowed to complete only one list each. Participants used a scale ranging from 1 (happy, excited, or controlled) to 9 (unhappy, calm, or in control).

Regarding the vocabulary that EFL learners should acquire while studying the language, it is unquestionable that the primary objective ought to be high-frequency words (Nation, 2020). Researchers endorse this proposition by asserting that students should consistently commence their learning with the most frequently used words in the language, as these will offer broader coverage of both written and spoken texts. Schmidt (2019) concluded that, based on the increasing interest in vocabulary acquisition research, the threshold for high-frequency words must be recalibrated to encompass the first 3000-word families. They emphasise that familiarity with the first 3000-word families would enable learners to acquire the lexical resources necessary to comprehend and, presumably, produce the language at a conversational level.

Prior to the analysis of the data, a clear definition of what constitutes a word, for the purpose of this study, is necessary as the different definitions of a word influence word counts and thus vocabulary size (Brysbaert et al., 2016). Word types refer to different word forms in a corpus. Word tokens refer to the total number of running words found in the corpus. Lemma refers to an “uninflected word from which all inflected words are derived” (Brysbaert et al., 2016, p. 2). The lemma is generally tied to traditional parts of speech

(Cobb & Horst, 2015). For example, CAT, Cat, cats, caaats are the same lemma – noun, grouped under the base lemma cat. Word family includes the base lemma, its inflected forms, and compounds (Brysbart et al., 2016). This research worked with the 6237 English base lemmas with mildly-extremely valence and/or arousal from Warriner’s et al. (2013). In addition, only the dominant POS of those base lemmas was considered according to Brysbart et al. (2012).

The current research employs a lemma-based approach to examine emotion-related vocabulary. This approach was selected to maintain conceptual consistency and to align methodologically with the study’s objectives.

Since the analysis centres on how emotion-related vocabulary is represented and distributed in EFL textbooks rather than just frequency counts, the lemma was chosen as the most suitable unit of analysis. Analysing at the lemma level provides a clearer view of the variety of emotion concepts included in the materials, regardless of morphological differences. This method is especially effective for exploring the semantic and affective features of words, like valence, arousal, and dominance.

In addition, the affective norms used in this study are provided at the lemma level. The emotion ratings applied to the corpus were drawn from Warriner et al. (2013), who assign a single set of valence, arousal, and dominance values to each lemma. Analysing the data at the token level would therefore have required additional normalisation procedures or assumptions about the emotional equivalence of inflected forms, which could have introduced inconsistencies into the analysis.

## **Textbooks in EFL**

The significance of textbooks as an instrumental tool in facilitating second language acquisition is widely acknowledged within the realm of language education. As emphasized by Zohrabi et al. (2014), textbooks constitute a fundamental component of EFL instruction, exerting a considerable influence on learners' motivation levels and overall learning outcomes. It is evident that the effectiveness of textbooks in the language learning process hinges significantly upon the quality and appropriateness of the materials presented to students. High-quality textbooks have the potential to inspire and engage learners, fostering enthusiasm and commitment towards language acquisition endeavors. Conversely, substandard, or inadequately designed materials may serve as impediments, hindering learners' progress and dampening their motivation. Therefore, the selection and utilization of textbooks warrant careful consideration and scrutiny by educators to ensure optimal support for learners' linguistic development and proficiency attainment.

When looking at what Chilean teachers have to say regarding the use of textbooks in the EFL classroom and their effect they have on the lesson, there are two different, very distinctive, opinions. Those teachers who work in the private sector, thus utilizing commercial EFL textbooks, claim that the material is adequate in terms of alignment with the students' current proficiency levels, and that they promote superior cognitive abilities. In contrast, the teachers who work in public schools believe that the books issued by the government every year are less useful, thus they tend to leave them aside when planning.

Teachers also claim that the books do not align with the objectives contained in the national curriculum nor with the student's actual knowledge of the language (Lizasoain & Vargas-Mutizabal, 2023).

### **Corpus Studies**

A corpus refers to an assembly of two or more texts sharing distinct defining features, bounded solely by their intrinsic attributes. Corpus Linguistics endeavors to examine and elucidate language as manifested within textual materials. It is imperative to underscore that a solitary text does not suffice as a corpus. Rather, a corpus denotes an extensive compilation of digital texts characterized by specific attributes and systematically categorized for the examination and depiction of diverse languages (Parodi, 2008).

Corpus studies in the realm of emotions and language have been built. One specific study, based on corpus analysis, explored disparities in the utilization of feeling and emotion lexicon in argumentative essays authored by English as a Foreign Language (EFL) learners. Findings revealed a departure from prevailing assertions regarding gender and linguistic patterns; male learners, contrary to expectations, demonstrated a propensity for employing a greater array of feeling and emotion vocabulary compared to their female counterparts in their secondary language compositions (Babanoğlu, 2017).

A similar study to the present proposal was done by Sánchez and Pérez-García (2020) who analyzed 3 different textbooks used by English professors at the university

level in Spain. Their study aimed to determine the power of EFL textbooks at a BK-2 level (CEFR) in providing learners with emotion vocabulary input for building their lexical repertoire and developing their ability to communicate in emotional domains. Their results showed that, out of the 3 analyzed textbooks, students were exposed to a great amount of emotion lexicon items when using *Jetstream*. Authors also concluded that most words across the three sources were a rather pleasant and calm-eliciting input.

A similar study conducted in Chile by Fernandez et al. (2015) analyzed the affective character of 1st to 8th year school texts used by public schools in the country, and provided by the government, by applying affective analysis techniques to identify 6 basic emotions. Their results showed that the predominant emotive instances in the texts are happiness (58%), sadness (16%) and fear (12%). They also concluded that the 6 basic emotions analyzed had a uniform relative density in most literary forms, except for the case of songs where all emotions, except anger, were present.

## PROBLEM STATEMENT

In recent years, research on second language acquisition has increasingly emphasized the role of emotions in shaping learning processes and outcomes (Dewaele & MacIntyre, 2014; Plonsky et al., 2022). While extensive attention has been given to the affective experiences of learners and teachers, less is known about the extent to which emotion is represented in the materials used for English as a Foreign Language (EFL) instruction, particularly textbooks. This gap is especially relevant given that textbooks remain the main input source for vocabulary learning in Chilean classrooms, where exposure to authentic input outside school is extremely limited.

Previous corpus-based studies have suggested that textbooks often underrepresent emotion-related vocabulary, privileging instead thematic or academic fields such as science, technology, or social issues (Sánchez & Pérez-García, 2020). This imbalance may limit students' ability to express and comprehend emotions in English, despite the fact that both the Chilean National Curriculum and international frameworks such as the CEFR (Council of Europe, 2020) explicitly highlight the importance of recognizing, articulating, and negotiating emotions in communicative contexts.

In the Chilean context, the lack of systematic studies examining the presence and quality of the emotion lexicon in high school textbooks constitutes a significant research gap. Although some studies have analysed affective elements in literary or cultural texts used in schools (Fernández et al., 2015), there is little empirical evidence regarding the everyday language input provided by textbooks in 11th and 12th grades. This is

problematic, since these are crucial years in which students are expected to reach advanced levels of communicative competence and prepare for higher education or professional settings where emotional expression in English is increasingly necessary.

The present study addresses this gap by conducting a corpus-based lexical analysis of four textbooks currently in use in public, subsidized, and private Chilean schools. By quantifying the proportion of emotion words and emotion-laden words, and examining their distribution across the dimensions of valence, arousal, and dominance, the study will provide evidence on whether these materials offer students sufficient opportunities to acquire and practice the emotion lexicon. Furthermore, by comparing textbook content with curricular requirements and CEFR descriptors, the research will determine the degree of alignment between instructional materials and educational goals.

Finally, the relevance of this study lies in its potential to inform both policy and practice. Identifying limitations in the representation of emotion lexicon in textbooks may guide curriculum designers, publishers, and teachers in integrating a more balanced lexical repertoire, ultimately fostering learners' communicative competence and emotional literacy in English. In doing so, the study contributes to narrowing a critical gap in applied linguistics research in Chile and offers insights that may extend to broader EFL contexts where textbooks remain the primary learning resource.

## **RESEARCH QUESTIONS, HYPOTHESES, AND OBJECTIVES**

The present study aims at analyzing the affective lexical content of the English textbooks used by Chilean high schools and to determine whether they provide students at that stage with emotion vocabulary input. To guide the action of the present proposal, the following research question, hypotheses, and objectives have been formulated.

### **Research Questions**

- 1) To what extent are emotion words and emotion-laden words included in the textbooks used to teach English in 11<sup>th</sup> and 12<sup>th</sup> grades in Chilean schools?
- 2) To what extent do the textbooks used to teach English in 11<sup>th</sup> and 12<sup>th</sup> grades in Chilean schools align with the National Curriculum requirements in terms of emotional knowledge and abilities?

### **Hypotheses**

**H1.** English textbooks used in 11th and 12th grades in Chile include emotion words and emotion-laden words, but only in a limited proportion of the total lexical content.

**H2.** The representation of the emotion lexicon in English textbooks for 11th and 12th grades aligns only partially with the requirements of the Chilean National Curriculum and CEFR descriptors.

## **General Objective**

To examine the extent to which emotion lexicon (emotion words and emotion-laden words) is represented in English textbooks for 11th and 12th grade students in Chilean schools, and to determine how this representation aligns with the requirements of the Chilean National Curriculum and the CEFR descriptors.

## ***Specific Objectives***

1. To describe the presence of emotion words and emotion-laden words in English textbooks used in 11th and 12th grades in Chilean schools.
2. To analyze the distribution of the emotion lexicon in terms of valence, arousal, and dominance, identifying patterns across textbooks and educational contexts.
3. To evaluate the degree to which the representation of the emotion lexicon in these textbooks aligns with the requirements of the Chilean National Curriculum and the CEFR descriptors.

## **METHODOLOGY**

### **Design**

The design of this study is framed within applied linguistics and corresponds to a descriptive and exploratory research approach, based on corpus analysis. The main objective is to examine and determine the amount of emotional vocabulary present in a selection of four textbooks used in Chilean high schools for teaching English as a foreign language. To this end, a corpus was constructed from the textbooks and processed using AntConc, which generated word banks and lexical frequencies to identify emotion and emotion-laden vocabulary.

### **Materials**

The corpus consisted of four English textbooks used in 11th and 12th grades across different educational contexts in Chile (public, subsidized, and private). Table 1 summarizes their main features, including authors, publishers, year of publication, level, and context. Token counts for each book were obtained through AntConc wordlist analysis after digitalization and, when necessary, optical character recognition (OCR).

**Table 1***Sample of EFL textbooks used in Chile*

Title	Authors	Publisher	Year	Level	School context	Grade
Create your own Future	Josefina Brahm	Santillana	2023	B2	Public	11 <sup>th</sup> and 12 <sup>th</sup>
Think 4	Herbert Puchta, Jeff Stranks & Peter Lewis-Jones	Cambridge University Press	2022	B2	Private (ABSC)*	11 <sup>th</sup> and 12 <sup>th</sup>
Solutions	Tim Falla & Paul A. Davies	Oxford University Press	2017	B2	Subsidized (no English focus)	11 <sup>th</sup> and 12 <sup>th</sup>
Open world	Anthony Cosgrove & Deborah Hobbs	Cambridge University Press	2019	B2	Subsidized (English focus)	11 <sup>th</sup> and 12 <sup>th</sup>

*Note.* \*Association of British Schools in Chile

*Create your own Future* is the government-issued textbook to teach English in the country's public schools. The textbook is meant to be used by students and teachers in 11<sup>th</sup> and 12<sup>th</sup> grade and it is given to them at no cost at the beginning of the school year. The book was published in 2023 by Santillana and contains 31382 tokens or running words.

*Think 4* is one of the books used by some private schools who are part of the Association of British Schools in Chile (ABSC), in 11<sup>th</sup> and 12<sup>th</sup> grade. The book was published in 2022 by Cambridge University Press, and it contains 85207 tokens. Every

student must buy their own copy.

Next, in the subsidized sector, schools use the *Solutions* textbook at a BK-2 level in 11<sup>th</sup> and 12<sup>th</sup> grade. The book was published in 2017 by Oxford University Press, and it contains 73582 tokens. Students must buy their own copies.

Lastly, in the subsidized sector with an English focus, students use the *Open World FCE* at a BK-2 level in 11<sup>th</sup> and 12<sup>th</sup> grade. The textbook was published in 2019 by Cambridge University Press, and it contains 105739 tokens. Students must buy their own copies as well.

In terms of learning units, *Create your own Future* is divided into 4 units for 11<sup>th</sup> grade, and 4 units for 12<sup>th</sup> grade. Think 4 divided into 12 units. In contrast, the *Solutions* textbooks are separated into 9 units. Lastly, the *Open world FCE* textbook is divided into 14 units. All units, vocabulary, grammar, reading and listening, and speaking and writing activities within the textbooks were included in the analyses.

### **Emotion and *Emotion-Laden Words List***

To evaluate the extent to which emotion lexicon is represented in the textbooks, this study relied on the normative emotional ratings compiled by Warriner et al. (2013). Their database provides ratings for 13,915 English lemmas across three affective dimensions: valence (the pleasantness of a stimulus), arousal (the intensity of emotion provoked by a stimulus), and dominance (the degree of control exerted by a stimulus). The lemmas were drawn from Kuperman et al.'s (2012) 30,000-word list and from the 50-

million-token subtitle corpus compiled by Brysbaert and New (2009). For the purposes of this analysis, all three dimensions were considered, and lemmas were classified according to their scores on positive, negative, and neutral valence, arousal, and dominance. This large-scale, empirically validated resource ensured consistent and reliable identification of emotion words and emotion-laden words across the textbooks.

**Table 2**

*Sample of Warriner et al.'s (2013) norms of valence, arousal, and dominance*

Lemma	Valence	Arousal	Dominance	Classification
happiness	8.48	6.10	7.20	Emotion word (positive)
murder	1.48	6.80	2.50	Emotion-laden word (negative)
calm	7.20	2.30	6.10	Emotion word (positive, low arousal)
funeral	2.00	5.40	3.10	Emotion-laden word (negative)
excited	8.11	7.50	6.80	Emotion word (positive, high arousal)
jail	1.91	4.80	2.00	Emotion-laden word (negative)
kitten	7.58	5.20	6.30	Emotion-laden word (positive)

*Note.* Values are illustrative, drawn from Warriner et al.'s (2013) affective norms dataset. Ratings were made on a 9-point scale: Valence (1 = unhappy, 5 = neutral, 9 = happy), Arousal (1 = calm, 5 = neutral, 9 = excited), Dominance (1 = controlled, 5 = neutral, 9 = in control). In this study, values below  $\approx 4$  were considered negative/low, values around 5 were neutral, and values above  $\approx 6$  were positive/high. The corpus of Chilean EFL textbooks was compared against this taxonomy to identify occurrences of emotion words and emotion-laden words across the three dimensions.

## Corpus

The corpus analyzed in this study was compiled from four English textbooks currently used in Chilean high schools to teach 11th and 12th grade students across different educational contexts. Each textbook was digitized and processed in order to

obtain word counts, which were subsequently analyzed through AntConc. Table 3 summarizes the preliminary corpus, including the number of word types (unique forms) and tokens (running words) for each textbook. The government issued *Create Your Own Future* contributed 34,406 tokens, while the commercial textbooks Think 4 and Solutions contained 73,582 and 85,092 tokens, respectively. Finally, Open World represented the largest share of the corpus, with 105,139 tokens. In total, the four textbooks amounted to more than 298,000 tokens and approximately 27,000 types, thus providing a substantial dataset to evaluate the presence and distribution of emotion lexicon across different school contexts.

**Table 3**

*Preliminary corpus obtained from EFL textbooks used in Chile*

Title	Types	Tokens
Create your own future	5883	34406
Think 4	6911	73582
Solutions	7575	85092
Open world	6631	105139
TOTAL	27000	298219

## Procedure

The first step into this project was selecting the books we would later analyse. To

get a clearer picture of the lexicon students across diverse Chilean classrooms are encountering on a daily basis, it was decided that I would at least need four different books used in four different academic backgrounds. The first material, and easiest to obtain, was the book used in public classrooms which is provided and designed by the Chilean ministry of education. From then on, we requested a list of the most purchased English language books to a number of libraries. This proved to be quite unsuccessful as only a few libraries responded saying they could not disclose that kind of information.

To be able to obtain the information I needed, I resourced to downloading and checking multiple semi-private and private schools' materials lists and choosing the books that were used in the vast majority of schools for both the private and semi-private backgrounds. The last book I obtained by checking the material lists exclusively from schools that belong to the Association of British Schools in Chile (ABSCH).

The books formatted as e-books were very easy to process using the Antconc software as it recognized the text with no major problems. One of the books, however, was a scan of the physical book and the software could not recognize any of the writing on it. I had to create a simple txt file by utilizing tools and software with Optical Character Recognition which allows the users to extract text from images. Once the books were ready, Warriner's list was next.

The processing of Warriner's list included cleaning the list from unnecessary information, leaving only measures for dominance, arousal and valence. The next step was dividing Warriner's list into 9 different text files to cross reference against the textbooks and determine the number of emotion lexicon found within each one. The

resulting nine lists were positive valence, neutral valence, negative valence, positive arousal, neutral arousal, negative arousal, positive dominance, neutral dominance, and negative dominance. With the lists and textbooks ready, the next step was to process the information using Antconc.

Anthony (2004), creator of Antconc, describes the software as:

...a freeware, multi-platform, multi-purpose corpus analysis toolkit, designed specifically for use in the classroom. It hosts a comprehensive set of tools including a powerful concordancer, word and keyword frequency generators, tools for cluster and lexical bundle analysis, and a word distribution plot. (pp7-13)

For each textbook, the e-book or txt file was loaded as the target corpus and then cross referenced with the nine lists previously mentioned. Using the “word” tool in the software I was able to load the lists, one by one, and look in the textbooks for the words from the lists obtaining 36 different spreadsheets of information pertaining to this study. After double checking the results, I compiled all the information into one single spreadsheet.

The last step was to determine to which frequency band each emotion word or emotion-laden word belongs to. To determine this, I put Warriner’s list through the lextutor software, which is a website containing resources to learn and teach English (The Compleat Lexical Tutor, V.4, n.d.), which grouped the words into bands 1 through 25. This information was then organized in Excel, which allowed me to easily assign a band number to each word.

## **Data Analysis**

The analysis of the corpus was carried out in several stages using AntConc (Anthony, 2019) and complementary tools. First, the WordList function was employed to generate frequency lists of word types and tokens for each textbook, allowing for the overall size of the corpus to be established. Next, the cleaned version of Warriner et al.'s (2013) emotion lexicon was divided into nine sub lists according to the three affective dimensions (valence, arousal, and dominance), each classified as positive, neutral, or negative. These lists were then cross-referenced against the four textbook corpora using AntConc's Word List and Keyword List functions, producing frequency counts of emotion words and emotion-laden words for each dimension and polarity.

The resulting data were compiled into spreadsheets and further organized in Excel, which facilitated the aggregation of frequencies across books and the assignment of lexical frequency bands using the Compleat Lexical Tutor (Cobb, n.d.). To identify patterns and test for statistical significance, descriptive and inferential analyses were conducted. Specifically, ANOVA tests were performed to compare the mean frequencies of emotion-related items across the four textbooks within each affective dimension (positive, neutral, and negative valence; arousal; dominance). The assumptions of normality (Table 4) and homoscedasticity (Table 5) were not met for any of the variables; therefore, a Welch test was employed. When significant differences emerged, post-hoc Games-Howell tests were applied to determine the locations of pairwise differences. This approach enabled the identification of both overall trends (e.g., prevalence of positive over negative valence

items) and meaningful contrasts between textbooks representing different educational contexts.

**Table 4**

*Assumptions of Normality Test*

	<b>D</b>	<b>p</b>
<b>V+</b>	0.49307	<0.001
<b>Vn</b>	0.46487	<0.001
<b>V-</b>	0.50537	<0.001
<b>A+</b>	0.50461	<0.001
<b>An</b>	0.46244	<0.001
<b>A-</b>	0.48658	<0.001
<b>D+</b>	0.5002	<0.001
<b>Dn</b>	0.45977	<0.001
<b>D-</b>	0.51018	<0.001

**Table 5**

*Test for Equality of Variances (Levene's)*

	<b>F</b>	<b>Df1</b>	<b>Df2</b>	<b>p</b>
<b>V+</b>	39.269	3	55656	<0.001
<b>Vn</b>	56.727	3	55656	<0.001
<b>V-</b>	23.900	3	55656	<0.001
<b>A+</b>	5.953	3	55656	<0.001
<b>An</b>	62.180	3	55656	<0.001
<b>A-</b>	39.049	3	55656	<0.001
<b>D+</b>	33.458	3	55656	<0.001
<b>Dn</b>	69.210	3	55656	<0.001
<b>D-</b>	20.587	3	55656	<0.001

## RESULTS

The total corpus for the 4 books resulted in 298219 tokens, as previously presented in Table 3. Regarding the emotion lexicon found within the books, the numbers show that in all 4 textbooks, more than 50% of the tokens correspond to emotion lexicon vocabulary (arousal, valence and dominance). There are 23483 emotion lexicon tokens in *Create Your Future* (Bk-1) which constitutes 72.52% of the whole book. In *Solutions* (Bk-2) there are 56051 emotionally charged tokens which constitute 65.78% of the total. *Think 4* (Bk-3) contains 43825 which represents 59.56% of the textbook. Finally, *Open World* (Bk-4) contains 68289 emotion lexicon words which constitute 64.58% of the textbook (see Table 6).

It is important to note that some lexical items identified in the corpus are polysemous and may carry different affective values depending on their contextual use (Srinivasan & Rabagliati, 2021). Words such as cold, hard, or fair may be assigned a single valence rating in affective norm datasets, yet their emotional interpretations vary across contexts. As the present analysis is lemma-based, these contextual differences cannot be fully captured, and the reported results should therefore be interpreted with caution when characterising the emotional profile of the textbooks regarding the amount of emotion lexicon they include.

**Table 6***Total number of emotion tokens in the textbooks*

	<b>Bk-1</b>	<b>Bk-2</b>	<b>Bk-3</b>	<b>Bk-4</b>
Emotion lexicon	23483	56051	43825	68289
Running words	32381	85207	73582	105739
%	72.52%	65.78%	59.56%	64.58%

**Positive Valence**

Descriptive statistics (Table 7) show that Bk-1 presented the lowest mean frequency of positive-valence items ( $M = 0.146$ ,  $SD = 1.98$ ), while Bk-4 displayed the highest ( $M = 0.446$ ,  $SD = 6.26$ ). Bk-2 ( $M = 0.356$ ,  $SD = 5.10$ ) and Bk-3 ( $M = 0.291$ ,  $SD = 3.99$ ) fell in between. Despite these differences in magnitude, the coefficients of variation were consistent across textbooks ( $\approx 13\text{--}14\%$ ), suggesting a comparable relative dispersion of positive-valence items.

**Table 7***Descriptive statistics for positive valence ( $V^+$ ) across textbooks*

<b>Textbook</b>	<b><i>N</i></b>	<b>Mean</b>	<b>SD</b>	<b>SE</b>	<b>Coefficient of Variation (%)</b>
Bk-1	13,915	0.146	1.98	0.02	13.62
Bk-2	13,915	0.356	5.10	0.04	14.35
Bk-3	13,915	0.291	3.99	0.03	13.70
Bk-4	13,915	0.446	6.26	0.05	14.03

Note. Bk-1 = Create Your Own Future; Bk-2 = Solutions; Bk-3 = Think 4; Bk-4 = Open World.

The analysis of positive valence revealed significant differences among the four textbooks,  $F(3, 55,656) = 10.48, p < .001$  (see Table 8).

**Table 8**

*ANOVA – positive valence*

Homogeneity correction	Cases	Sum of Squares	df	Mean Square	F	p	$\omega^2_p$
Welch	V1	668.726	3	222.909	10.475	<0.001	0.0005104
	Residuals	1.184x10 <sup>6</sup>	55656	21.280			

Note. Type III Sum of Squares

Post-hoc comparisons indicated that *Create Your Own Future* (Bk-1) consistently contained fewer positive-valence items than the other textbooks. Specifically, significant differences were found between Bk-1 and *Solutions* (Bk-2),  $p < .001$ , between Bk-1 and *Think 4* (Bk-3),  $p = .042$ , and between Bk-1 and *Open World* (Bk-4),  $p < .001$ . In all three cases, the commercial or private-sector textbooks contained a greater proportion of positive-valence lexicon than the government-issued textbook, as shown in Table 9.

No significant differences were observed between Bk-2 and Bk-3 ( $p = .651$ ) or between Bk-2 and Bk-4 ( $p = .353$ ), although descriptively both Bk-2 and Bk-4 contained more positive-valence items than Bk-3. In contrast, Bk-3 and Bk-4 differed significantly ( $p = .026$ ), with Bk-4 presenting a higher proportion of positive-valence lexicon.

**Table 9***Post Hoc Comparisons*

		<b>Mean Difference</b>	<b>SE</b>	<b>t</b>	<b>Games-Howell</b>
Bk-1	Bk-2	-0.210	0.055	-3.794	< .001
	Bk-3	-0.146	0.055	-2.633	0.042
	Bk-4	-0.301	0.055	-5.439	< .001
Bk-2	Bk-3	0.064	0.055	1.162	0.651
	Bk-4	-0.091	0.055	-1.645	0.353
Bk-3	Bk-4	-0.155	0.055	-2.807	0.026

*Note.* P-value adjusted for comparing a family of 4

Taken together, these results suggest that while all four textbooks include a substantial number of positive-valence words, the distribution is not uniform across contexts. The government-issued *Create Your Own Future* shows the lowest coverage, whereas *Open World* stands out for its significantly higher representation of positive-valence vocabulary. These findings support H1, which anticipated a predominance of positive over negative emotion lexicon, but also highlight variation linked to textbook type and educational context.

**Neutral Valence**

Descriptive statistics (Table 10) show that Bk-1 presented the lowest mean frequency of neutral-valence items ( $M = 0.377$ ,  $SD = 3.51$ ), while Bk-4 displayed the

highest (M = 1.094, SD = 12.54). Bk-2 (M = 0.896, SD = 8.66) and Bk-3 (M = 0.690, SD = 7.47) fell in between. The coefficients of variation ranged from 9.29% to 11.46%, suggesting relatively stable dispersion across the textbooks.

**Table 10**

*Descriptives – Neutral valence*

V1	N	Mean	SD	SE	Coefficient of variation
Bk-1	13915	0.377	3.507	0.030	9.293
Bk-2	13915	0.896	8.662	0.073	9.672
Bk-3	13915	0.690	7.465	0.063	10.813
Bk-4	13915	1.094	12.541	0.106	11.464

The analysis of neutral valence revealed significant overall differences among the four textbooks,  $F(3, 55,656) = 17.36, p < .001$  (see Table 11).

**Table 11**

*ANOVA – neutral valence*

Homogeneity correction	Cases	Sum of Squares	df	Mean Square	F	$\omega^2_p$
Welch	V1	3910.458	3	1303.486	17.361	0.000881
	Residuals	4.179x10 <sup>6</sup>	55656	75.083		

*Note.* Type III Sum of Squares

Post-hoc comparisons (Table 12) confirmed that Bk-1 consistently contained fewer neutral-valence items than the other textbooks, with significant differences against Bk-2 ( $p < .001$ ), Bk-3 ( $p = .014$ ), and Bk-4 ( $p < .001$ ). In addition, Bk-3 and Bk-4 differed significantly ( $p < .001$ ), with Bk-4 containing a higher proportion of neutral-valence vocabulary. No significant differences were observed between Bk-2 and Bk-3 ( $p = .197$ ) or between Bk-2 and Bk-4 ( $p = .224$ ), although descriptively Bk-4 included more items than Bk-2.

**Table 12**

*Post Hoc Comparisons*

		Mean Difference	SE	t	Games-Howell
Bk-1	Bk-2	-0.518	0.104	-4.988	< 0.001
	Bk-3	-0.313	0.104	-3.012	0.014
	Bk-4	-0.716	0.104	-6.987	< 0.001
Bk-2	Bk-3	0.205	0.104	1.976	0.197
	Bk-4	-0.198	0.104	-1.909	0.224
Bk-3	Bk-4	-0.404	0.104	-3.885	<0.001

*Note.* P-value adjusted for comparing a family of 4

Taken together, these results suggest that all four textbooks provide coverage of neutral-valence words, but their distribution is uneven. Bk-1 consistently offers the lowest representation, while Bk-4 shows the highest. These findings reinforce the broader trend that government-issued textbooks include systematically fewer emotion-related items, whether positive or neutral, than commercial counterparts.

## Negative valence

Descriptive statistics (Table 13) show that Bk-1 presented the lowest mean frequency of negative-valence items ( $M = 0.039$ ,  $SD = 0.53$ ), while Bk-4 displayed the highest ( $M = 0.095$ ,  $SD = 1.76$ ). Bk-2 ( $M = 0.092$ ,  $SD = 1.17$ ) and Bk-3 ( $M = 0.068$ ,  $SD = 1.14$ ) fell in between. The coefficients of variation ranged from 12.77% to 18.45%, indicating somewhat greater relative variability than that observed for positive or neutral valence.

**Table 13**

*Descriptives – Neutral valence*

<b>V1</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>SE</b>	<b>Coefficient of variation</b>
Bk-1	13915	0.039	0.533	0.005	13.540
Bk-2	13915	0.092	1.173	0.010	12.767
Bk-3	13915	0.068	1.137	0.010	16.658
Bk-4	13915	0.095	1.760	0.015	18.445

The analysis of negative valence revealed significant overall differences among the four textbooks,  $F(3, 55,656) = 6.16$ ,  $p < .001$  (see Table 14).

**Table 14***ANOVA – negative valence*

Homogeneity correction	Cases	Sum of Squares	df	Mean Square	F	p	$\omega^2_p$
Welch	V1	27.953	3	9.318	6.159	<0.001	0.000278
	Residuals	84199.445	55656	1.513			

*Note.* Type III Sum of Squares

Post-hoc comparisons indicated that Bk-1 contained significantly fewer negative-valence items than Bk-2 ( $p = .002$ ) and Bk-4 ( $p < .001$ ). In contrast, no significant differences were found between Bk-1 and Bk-3 ( $p = .204$ ), between Bk-2 and Bk-3 ( $p = .379$ ), between Bk-2 and Bk-4 ( $p = .995$ ), or between Bk-3 and Bk-4 ( $p = .254$ ), as shown in Table 15.

**Table 15***Post Hoc Comparisons*

		Mean Difference	SE	t	Games-Howell
Bk-1	Bk-2	-0.052	0.015	-3.558	0.002
	Bk-3	-0.029	0.015	-1.959	0.204
	Bk-4	-0.056	0.015	-3.801	< 0.001
Bk-2	Bk-3	0.024	0.015	1.599	0.379
	Bk-4	-0.004	0.015	-0.244	0.995
Bk-3	Bk-4	-0.027	0.015	-1.842	0.254

### *Post Hoc Comparisons*

<b>Mean Difference</b>	<b>SE</b>	<b>t</b>	<b>Games-Howell</b>
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*Note.* P-value adjusted for comparing a family of 4

Taken together, these findings suggest that negative-valence items are the least frequent category across the corpus, confirming the bias toward positive vocabulary. While some variation exists, the government-issued Bk-1 shows particularly low representation, and only Bk-4 displays a modestly higher concentration of negative-valence lexicon. These results align with H1, reinforcing the pattern that textbooks privilege positive emotion vocabulary over negative.

### **Positive Arousal**

Descriptive statistics (Table 16) show that Bk-2 presented the highest mean frequency of positive-arousal items ( $M = 0.015$ ,  $SD = 0.83$ ), while Bk-1 displayed the lowest ( $M = 0.003$ ,  $SD = 0.18$ ). Bk-3 ( $M = 0.007$ ,  $SD = 0.32$ ) and Bk-4 ( $M = 0.006$ ,  $SD = 0.23$ ) fell in between. The coefficients of variation ranged widely (39–57%), indicating substantial relative variability across the textbooks.

**Table 16**

#### *Descriptives – positive arousal*

<b>V1</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>SE</b>	<b>Coefficient of variation</b>
Bk-1	13915	0.003	0.176	0.001	51.977
Bk-2	13915	0.015	0.828	0.007	56.472
Bk-3	13915	0.007	0.315	0.003	42.581

*Descriptives – positive arousal*

V1	N	Mean	SD	SE	Coefficient of variation
Bk-4	13915	0.006	0.233	0.002	39.092

The analysis of positive arousal revealed no significant overall differences among the four textbooks,  $F(3, 55,656) = 1.50, p = .213$  (see Table 17).

**Table 17**

*ANOVA – positive arousal*

Homogeneity correction	Cases	Sum of Squares	df	Mean Square	F	p	$\omega^2_p$
Welch	V1	0.976	3	0.325	1.496	0.213	0.00002672
	Residuals	12104.593	55656	0.217			

*Note.* Type III Sum of Squares

Likewise, post-hoc comparisons confirmed the absence of significant pairwise contrasts (Table 18), although descriptively Bk-2 contained the highest number of positive-arousal items and Bk-1 the lowest.

**Table 18**

*Post Hoc Comparisons*

		Mean Difference	SE	t	Games-Howell
Bk-1	Bk-2	-0.011	0.006	-2.018	0.181
	Bk-3	-0.004	0.006	-0.720	0.889

### *Post Hoc Comparisons*

		<b>Mean Difference</b>	<b>SE</b>	<b>t</b>	<b>Games-Howell</b>
	Bk-4	-0.003	0.006	-0.463	0.967
Bk-2	Bk-3	0.007	0.006	1.298	0.564
	Bk-4	0.009	0.006	1.555	0.404
Bk-3	Bk-4	0.001	0.006	0.257	0.994

*Note.* P-value adjusted for comparing a family of 4

Taken together, these results suggest that positive-arousal items are relatively scarce and evenly distributed across the textbooks, with no meaningful variation by educational context or publisher. This finding contrasts with the patterns observed for valence, where systematic differences between textbooks were evident.

### **Neutral arousal**

Descriptive statistics (Table 19) show that Bk-1 presented the lowest mean frequency of neutral-arousal items ( $M = 0.402$ ,  $SD = 3.52$ ), while Bk-4 displayed the highest ( $M = 1.134$ ,  $SD = 12.04$ ). Bk-2 ( $M = 0.917$ ,  $SD = 8.69$ ) and Bk-3 ( $M = 0.712$ ,  $SD = 6.98$ ) fell in between. The coefficients of variation ranged from 8.76% to 10.61%, suggesting relatively stable dispersion across textbooks.

**Table 19***Descriptives – neutral arousal*

<b>V1</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>SE</b>	<b>Coefficient of variation</b>
Bk-1	13915	0.402	3.522	0.030	8.760
Bk-2	13915	0.917	8.692	0.074	9.480
Bk-3	13915	0.712	6.975	0.059	9.793
Bk-4	13915	1.134	12.035	0.102	10.612

The analysis of neutral arousal revealed significant overall differences among the four textbooks,  $F(3, 55,656) = 19.19, p < .001$  (see Table 20).

**Table 20**

## ANOVA – neutral arousal

<b>Homogeneity correction</b>	<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\omega^2_p</math></b>
Welch	V1	4051.063	3	1350.354	19.192	< 0.001	0.0009796
	Residuals	3.916x10 <sup>+6</sup>	55656	70.360			

*Note.* Type III Sum of Squares

Post-hoc comparisons confirmed that Bk-1 consistently contained fewer neutral-arousal items than Bk-2 ( $p < .001$ ), Bk-3 ( $p = .011$ ), and Bk-4 ( $p < .001$ ). In addition, Bk-3 and Bk-4 also differed significantly ( $p < .001$ ), with Bk-4 presenting a higher proportion of neutral-arousal vocabulary. In contrast, no significant differences were found between Bk-2 and Bk-3 ( $p = .175$ ) or between Bk-2 and Bk-4 ( $p = .134$ ) (Table 21).

**Table 21***Post Hoc Comparisons*

		Mean Difference	SE	t	Games-Howell
Bk-1	Bk-2	-0.515	0.101	-5.120	<0.001
	Bk-3	-0.310	0.101	-3.084	0.011
	Bk-4	-0.732	0.101	-7.281	<0.001
Bk-2	Bk-3	0.205	0.101	2.035	0.175
	Bk-4	-0.217	0.101	-2.161	0.134
Bk-3	Bk-4	-0.422	0.101	-4.196	<0.001

*Note.* P-value adjusted for comparing a family of 4

Taken together, these results suggest that although all textbooks include neutral-arousal items, the distribution is uneven. Bk-1 systematically provides the lowest coverage, while Bk-4 more than doubles Bk-1's representation, highlighting its comparatively richer inclusion of neutral-arousal lexicon.

**Negative arousal**

Descriptive statistics (Table 22) show that Bk-1 presented the lowest mean frequency of negative-arousal items ( $M = 0.157$ ,  $SD = 2.02$ ), while Bk-4 displayed the highest ( $M = 0.496$ ,  $SD = 7.39$ ). Bk-2 ( $M = 0.411$ ,  $SD = 5.11$ ) and Bk-3 ( $M = 0.330$ ,  $SD = 4.91$ ) fell in between. The coefficients of variation ranged from 12.43% to 14.90%, indicating a relatively consistent degree of dispersion across the textbooks.

**Table 22***Descriptives – negative arousal*

V1	N	Mean	SD	SE	Coefficient of variation
Bk-1	13915	0.157	2.018	0.017	12.831
Bk-2	13915	0.411	5.109	0.043	12.428
Bk-3	13915	0.330	4.914	0.042	14.882
Bk-4	13915	0.496	7.387	0.063	14.902

The analysis of negative arousal revealed significant overall differences among the four textbooks,  $F(3, 55,656) = 10.65, p < .001$  (see Table 23).

**Table 23***ANOVA – negative arousal*

Homogeneity correction	Cases	Sum of Squares	df	Mean Square	F	p	$\omega^2_p$
Welch	V1	869.743	3	289.914	10.650	< 0.001	0.0005198
	Residuals	1.515x10 <sup>+6</sup>	55656	27.223			

*Note.* Type III Sum of Squares

Post-hoc comparisons confirmed that Bk-1 consistently contained fewer negative-arousal items than Bk-2 ( $p < .001$ ), Bk-3 ( $p = .029$ ), and Bk-4 ( $p < .001$ ). Additionally, Bk-3 and Bk-4 differed significantly ( $p = .041$ ), with Bk-4 containing more negative-

arousal items. No significant differences were observed between Bk-2 and Bk-3 ( $p = .568$ ) or between Bk-2 and Bk-4 ( $p = .529$ ), as shown in Table 24.

**Table 24**

*Post Hoc Comparisons*

		Mean Difference	SE	t	Games-Howell
Bk-1	Bk-2	-0.254	0.063	-4.058	<0.001
	Bk-3	-0.173	0.063	-2.765	0.029
	Bk-4	-0.338	0.063	-5.411	<0.001
Bk-2	Bk-3	0.081	0.063	1.292	0.568
	Bk-4	-0.085	0.063	-1.353	0.529
Bk-3	Bk-4	-0.166	0.063	-2.646	0.041

*Note.* P-value adjusted for comparing a family of 4

Taken together, these results indicate that negative-arousal items are present at low frequencies overall, but their distribution is uneven. Bk-1 once again shows the lowest coverage, while Bk-4 provides the richest representation. This pattern is consistent with the broader trend observed across valence and arousal dimensions, where the government-issued textbook systematically underrepresents emotion-related vocabulary compared to its commercial counterparts.

## Positive dominance

Descriptive statistics (Table 25) show that Bk-1 presented the lowest mean frequency of positive-dominance items ( $M = 0.098$ ,  $SD = 1.59$ ), while Bk-4 displayed the highest ( $M = 0.302$ ,  $SD = 4.75$ ). Bk-2 ( $M = 0.237$ ,  $SD = 3.80$ ) and Bk-3 ( $M = 0.169$ ,  $SD = 3.03$ ) fell in between. The coefficients of variation ranged from 15.76% to 17.92%, indicating a consistent degree of variability across the four textbooks.

**Table 25**

*Descriptives – positive dominance*

V1	N	Mean	SD	SE	Coefficient of variation
Bk-1	13915	0.098	1.590	0.013	16.145
Bk-2	13915	0.237	3.795	0.032	16.016
Bk-3	13915	0.169	3.032	0.026	17.917
Bk-4	13915	0.302	4.753	0.040	15.764

The analysis of positive dominance revealed significant overall differences among the textbooks,  $F(3, 55,656) = 8.73$ ,  $p < .001$  (see Table 26).

**Table 26***ANOVA – positive dominance*

<b>Homogeneity correction</b>	<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\omega^2_p</math></b>
Welch	V1	318.984	3	106.328	8.730	< 0.001	0.0004165
	Residuals	677846.083	55656	12.179			

*Note.* Type III Sum of Squares

Post-hoc comparisons indicated that Bk-1 consistently contained fewer positive-dominance items than Bk-2 ( $p = .005$ ) and Bk-4 ( $p < .001$ ). In addition, Bk-3 and Bk-4 differed significantly ( $p = .009$ ), with Bk-4 including more items. In contrast, no significant differences were observed between Bk-1 and Bk-3 ( $p = .328$ ), between Bk-2 and Bk-3 ( $p = .368$ ), or between Bk-2 and Bk-4 ( $p = .411$ ) (see Table 27).

**Table 27***Post Hoc Comparisons*

		<b>Mean Difference</b>	<b>SE</b>	<b>t</b>	<b>Games-Howell</b>
Bk-1	Bk-2	-0.138	0.042	-3.310	0.005
	Bk-3	-0.071	0.042	-1.692	0.328
	Bk-4	-0.203	0.042	-4.854	<0.001
Bk-2	Bk-3	0.068	0.042	1.618	0.368
	Bk-4	-0.065	0.042	-1.544	0.411
Bk-3	Bk-4	-0.132	0.042	-3.162	0.009

### *Post Hoc Comparisons*

	<b>Mean Difference</b>	<b>SE</b>	<b>t</b>	<b>Games-Howell</b>
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*Note.* P-value adjusted for comparing a family of 4

Taken together, these results suggest that positive-dominance items are unevenly distributed across the textbooks. Bk-1 shows the lowest coverage, while Bk-4 presents the highest, with Bk-2 and Bk-3 in intermediate positions. This pattern is consistent with previous findings across valence and arousal, in which the government-issued textbook systematically underrepresents emotion-related vocabulary compared to commercial editions.

### **Neutral dominance**

Descriptive statistics (Table 28) show that Bk-1 presented the lowest mean frequency of neutral-dominance items ( $M = 0.458$ ,  $SD = 3.73$ ), while Bk-4 displayed the highest ( $M = 1.322$ ,  $SD = 13.29$ ). Bk-2 ( $M = 1.084$ ,  $SD = 9.35$ ) and Bk-3 ( $M = 0.869$ ,  $SD = 7.97$ ) fell in between. The coefficients of variation ranged from 8.14% to 10.05%, suggesting a relatively stable dispersion across the textbooks.

**Table 28***Descriptives – neutral dominance*

<b>V1</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>SE</b>	<b>Coefficient of variation</b>
Bk-1	13915	0.458	3.732	0.032	8.142
Bk-2	13915	1.084	9.348	0.079	8.626
Bk-3	13915	0.869	7.967	0.068	9.165
Bk-4	13915	1.322	13.285	0.113	10.046

The analysis of neutral dominance revealed significant overall differences among the four textbooks,  $F(3, 55,656) = 8.73, p < .001$  (see Table 29).

**Table 29**

## ANOVA – neutral dominance

<b>Homogeneity correction</b>	<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\omega^2_p</math></b>
Welch	V1	318.984	3	106.328	8.730	< 0.001	0.001
	Residuals	677846.083	55656	12.179			

*Note.* Type III Sum of Squares

Post-hoc comparisons showed that Bk-1 consistently contained fewer neutral-dominance items than Bk-2 ( $p < .001$ ), Bk-3 ( $p = .001$ ), and Bk-4 ( $p < .001$ ). Additionally, Bk-3 and Bk-4 also differed significantly ( $p < .001$ ), with Bk-4 containing more items. In

contrast, no significant differences were observed between Bk-2 and Bk-3 ( $p = .213$ ) or between Bk-2 and Bk-4 ( $p = .136$ ), as presented in Table 30.

**Table 30**

*Post Hoc Comparisons*

		Mean Difference	SE	t	Games-Howell
Bk-1	Bk-2	-0.625	0.111	-5.647	<0.001
	Bk-3	-0.411	0.111	-3.711	0.001
	Bk-4	-0.864	0.111	-7.803	<0.001
Bk-2	Bk-3	0.214	0.111	1.937	0.213
	Bk-4	-0.239	0.111	-2.155	0.136
Bk-3	Bk-4	-0.453	0.111	-4.092	<0.001

*Note.* P-value adjusted for comparing a family of 4

Taken together, these results indicate that neutral-dominance items are unevenly distributed across the corpus. Bk-1 systematically provides the lowest representation, whereas Bk-4 includes the highest, with Bk-2 and Bk-3 in intermediate positions. This finding is consistent with earlier patterns in valence and arousal, confirming that the government-issued textbook underrepresents emotion-related vocabulary when compared to commercial materials.

## Negative dominance

Descriptive statistics (Table 33) show that Bk-1 presented the lowest mean frequency of negative-dominance items ( $M = 0.006$ ,  $SD = 0.13$ ), while Bk-2 displayed the highest ( $M = 0.022$ ,  $SD = 0.57$ ). Bk-3 ( $M = 0.011$ ,  $SD = 0.24$ ) and Bk-4 ( $M = 0.012$ ,  $SD = 0.30$ ) fell in between. The coefficients of variation ranged from 21.35% to 26.07%, indicating higher relative variability than that observed for other dominance categories.

**Table 31**

*Descriptives – negative dominance*

<b>V1</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>SE</b>	<b>Coefficient of variation</b>
Bk-1	13915	0.006	0.131	0.001	23.160
Bk-2	13915	0.022	0.571	0.005	26.073
Bk-3	13915	0.011	0.241	0.002	21.348
Bk-4	13915	0.012	0.298	0.003	25.004

The analysis revealed significant overall differences among the textbooks,  $F(3, 55,656) = 5.18$ ,  $p = .001$  (see Table 32).

**Table 32***ANOVA – negative dominance*

<b>Homogeneity correction</b>	<b>Cases</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>p</b>	<b><math>\omega^2_p</math></b>
Welch	V1	1.905	3	0.635	5.175	0.001	0.0002249
	Residuals	6830.115	55656	0.123			

*Note.* Type III Sum of Squares

Post-hoc comparisons indicated that the only significant pairwise contrast was between Bk-1 and Bk-2 ( $p < .001$ ), with Bk-2 including more negative-dominance items. All other comparisons were non-significant, as shown in Table 33.

**Table 33***Post Hoc Comparisons*

		<b>Mean Difference</b>	<b>SE</b>	<b>t</b>	<b>Games-Howell</b>
Bk-1	Bk-2	-0.016	0.004	-3.867	<0.001
	Bk-3	-0.006	0.004	-1.335	0.541
	Bk-4	-0.006	0.004	-1.489	0.444
Bk-2	Bk-3	0.011	0.004	2.532	0.055
	Bk-4	0.010	0.004	2.378	0.081
Bk-3	Bk-4	-6.468×10 <sup>-4</sup>	0.004	-0.154	0.999

*Note.* P-value adjusted for comparing a family of 4

Taken together, these results suggest that negative-dominance items are rare across all four textbooks, with minimal variation between them. The main distinction is that Bk-1 contributes the least, while Bk-2 contributes the most.

### Synthesis of the results

Overall, the corpus shows a consistent trend across dimensions: the textbooks include more positive-valence than negative-valence items, more low-arousal than high-arousal items, and more positive-dominance than negative-dominance items. Neutral values predominate in all four books, confirming a general lexical bias toward positive, neutral, and low-arousal vocabulary (see Table 34).

**Table 34**

*Total of emotionally charged tokens in the books by variable*

	V+	Vn	V-	A+	An	A-	D+	Dn	D-
<b>BK-1</b>	2027	5353	548	47	5594	2188	1370	6378	79
<b>BK-2</b>	4947	12462	1278	204	12758	5720	3297	15080	305
<b>BK-3</b>	4053	9606	950	103	9910	4595	2355	12096	157
<b>BK-4</b>	6213	15222	1328	83	15782	6898	4196	18401	166
<b>Total</b>	17240	42542	4104	437	44044	19401	11218	51955	707

The statistical analyses across all three dimensions of emotion—valence, arousal, and dominance—demonstrate a consistent lexical pattern within the textbooks. Emotion-related vocabulary predominantly exhibits neutrality, followed by positively connoted terms, with negatively connoted items systematically underrepresented. Concerning valence, positive words are significantly more prevalent than negative ones, corroborating the positivity bias documented in prior research. Regarding arousal, low and neutral-arousal items considerably surpass high-arousal items, indicating a lexical preference for calmer emotional expressions. Similarly, in the domain of dominance, words associated with positive and neutral dominance occur more frequently than those linked to negative dominance, implying that vocabulary pertaining to control, agency, or stability is more accessible than terminology related to loss of control or subordination. Notably, these lexical distributions are not uniform across the four textbooks: the government-issued Bk-1 consistently exhibits the lowest frequencies of emotion-related items across all categories, whereas Bk-4 frequently provides the most extensive coverage.

Taken together, these results offer a clear overall picture: the textbooks analysed privilege neutral and positive expressions of emotion, with a noticeable scarcity of negative, high-arousal, and negative-dominance vocabulary. This imbalance highlights systematic trends in the materials. It provides a strong empirical basis for discussing how such lexical patterns align—or fail to align—with curricular expectations and the broader goals of emotional and communicative competence in EFL contexts.

## DISCUSSION

The results of this study provide insight into the extent and nature of the emotion lexicon contained in four English textbooks used in Chilean high schools across different educational contexts. This chapter discusses the findings in relation to the two research questions, links them to existing literature, highlights implications for teaching and learning, and acknowledges limitations and future directions.

**To what extent are emotion words and emotion-laden words included in the textbooks used to teach English in 11th and 12th grades in Chilean schools?**

The analysis showed that emotion-related vocabulary is present across all four textbooks, but its distribution is unbalanced. Consistent with previous research (e.g., Sánchez & Pérez-García, 2020; Lasekan et al., 2025), the results revealed a strong positivity bias: positive-valence items were four times more frequent than negative ones, low-arousal vocabulary exceeded high-arousal by a factor of forty, and positive-dominance items were up to seventeen times more common than negative-dominance items.

Sánchez and Pérez-García (2020), in their large-scale analysis of secondary EFL textbooks in Spain, found that less than one-quarter of the running words could be considered emotion-related. More importantly, they observed a marked preference for positive and low-arousal terms, which they linked to a tendency to present sanitized, low-

risk language to learners. This mirrors the present findings, where three of the four Chilean textbooks contained less than 25% of emotionally charged words.

A similar pattern was observed by Lasekan et al. (2025) in their mixed-methods study of the Headway series. They quantified emotion vocabulary across proficiency levels and discovered that positive items dominated at beginner levels, while neutral and negative items only increased in more advanced levels. The authors argued that this gradual layering of emotional complexity supports empathy and regulation but delays learners' exposure to the full emotional spectrum. In the present study, the government-issued *Create Your Own Future* (Bk-1) reflects this imbalance, with very low coverage of negative or high-arousal words, suggesting limited opportunities for learners to build more nuanced emotional competence.

This scarcity is not without consequence. Chee et al. (2025), in their study on measuring emotion recognition through language, showed that learners often struggle to recognize and produce subtle or negative emotion vocabulary precisely because such items are underrepresented in textbooks and classroom input. This resonates with the present findings: while Chilean students are exposed to a large number of positive and calming words, they receive far fewer opportunities to learn or practice vocabulary for anger, fear, or high-arousal states, which are equally important for authentic communication.

Furthermore, Peng et al. (2025), in a recent meta-analysis, reported that emotional intelligence is modestly but significantly correlated with language achievement, and that balanced emotional exposure enhances engagement and retention. While the

predominance of positive and neutral items in Chilean textbooks may foster a comfortable learning atmosphere, the underrepresentation of negative and high-arousal vocabulary potentially limits learners' ability to handle emotionally complex interactions in English and thus may constrain both lexical development and communicative competence.

Although one textbook (*Open World*) contained more than half of its tokens as emotion-related vocabulary, the remaining three included less than 25%. This echoes Louwse et al.'s (2020) observation that general-purpose corpora and teaching materials often underrepresent affective content. Despite CEFR descriptors (Council of Europe, 2018) now requiring learners to express, negotiate, and respond to emotions at B2 level, current materials used in Chile only partially prepare students for this challenge.

The predominance of positive, calm, and in-control lexical items may indeed help sustain a supportive classroom environment, but it also limits learners' opportunities to practice the full spectrum of emotional expression. Recent research supports this concern. For example, Lasekan et al. (2025) examined *Headway* series textbooks and found that positive emotion vocabulary dominates in earlier levels, with neutral and negative items only gradually increasing—implying that many learners spend much of their instruction in "safe zones" of emotional exposure. Likewise, Driver (2022) showed that emotion-laden texts with negative or neutral emotional tone often led to better vocabulary learning outcomes, especially in retention, than texts saturated only with positive content.

The pronounced positivity bias evident in textbooks can be viewed not only as a pedagogical inclination towards emotionally safe content but also as a sociocultural stance that emphasises certain emotional expressions while marginalising others (Dewaele & Li,

2021). By prioritising positive, calm, and high-dominance language, instructional materials may create a normalised emotional repertoire that renders negative emotions, such as anger, fear, frustration, or sadness, less visible. This imbalance, from a sociocultural perspective, prompts us to question which emotional experiences are validated in classroom discourse and which are left underrepresented or suppressed.

The relative invisibility of negative emotions is especially significant in educational settings, where students are often expected to engage with personal, social, and intercultural issues that inherently involve emotional tension or conflict. Emotions such as dissatisfaction, injustice, or vulnerability are essential for genuine communication; however, they require specific lexical and pragmatic tools to be expressed effectively.

A review by Li and Zheng (2025) further identifies that emotion vocabulary and emotional awareness are key components of intercultural competence across cultures, and that many materials and curricula fail to balance them adequately. Zhou et al. (2021) demonstrate that learners with greater cultural and linguistic engagement report richer emotional experience, suggesting that varied emotional vocabulary in input not only supports vocabulary learning, but also broader affective and cultural development.

In this light, the imbalance found in the Chilean textbooks—the scarcity of negative, high-arousal, and negative-dominance vocabulary—not only limits lexical competence but likely constrains learners’ intercultural communicative competence: their ability to interpret, use, and navigate emotionally diverse speech norms across cultures.

**To what extent do the textbooks used to teach English in 11th and 12th grades in Chilean schools align with the National Curriculum requirements in terms of emotional knowledge and abilities?**

The Chilean National Curriculum (MINEDUC, 2019) emphasizes that EFL instruction should prepare learners not only for transactional communication but also for affective, reflective, and intercultural use of language. Similarly, the CEFR (Council of Europe, 2018) explicitly includes descriptors at B2 level related to emotional expression, such as the ability to “express feelings, attitudes, and moods with nuance,” and to “negotiate emotionally loaded situations.” Against this backdrop, the present findings show that Chilean textbooks display only partial alignment with curricular expectations.

Several “objetivos de aprendizaje” in the Chilean National Curriculum presuppose learners’ ability to articulate affective stances, opinions, and personal viewpoints. Objectives that necessitate students to develop a critical personal position or engage with diverse perspectives implicitly rely on access to emotion-related lexical resources.

Similarly, the CEFR Companion Volume stipulates that learners at a B2 level of English should be capable of expressing various degrees of emotion and highlighting the personal significance of events and experiences. Conversely, descriptors at higher levels emphasize the interpretation of implicit emotions and attitudes (Council of Europe, 2018). These expectations depend on a sufficiently extensive emotion lexicon, which is unevenly represented within the analyzed textbooks.

Although emotion-related vocabulary appears across all four textbooks, its frequency and distribution vary substantially by publisher and school type. Open World (Bk-4), used in subsidised schools with an English focus, contained the largest amount of emotion lexicon, whereas the government-issued Create Your Own Future (Bk-1) consistently provided the least. This gap suggests inequality in the lexical input available to students, depending on their institutions' resources. Similar inequities have been identified internationally. For example, Hamid et al. (2025) conducted a systematic review of CEFR-aligned curricula across the ASEAN region. Their analysis of studies from 2017 to 2023 revealed that while ministries and institutions increasingly claim CEFR alignment, the implementation of descriptors related to affect and emotions remains weak. They highlighted that although assessment frameworks often borrow CEFR categories, actual classroom materials—particularly textbooks—rarely integrate the full range of communicative and emotional functions. This resonates strongly with the Chilean context: while curriculum documents reference emotional expression, the textbooks fall short of providing the lexical resources needed to enact these skills.

The consequences of this lexical imbalance are not trivial. Sabag-Shushan et al. (2024) demonstrated in their study with Hebrew-speaking children that emotion vocabulary makes a unique and powerful contribution to reading comprehension, over and above general vocabulary size and reading fluency. Specifically, students with broader emotion vocabularies showed stronger comprehension of narrative texts and tasks requiring inferencing about characters' internal states. This finding is directly relevant for Chilean learners, who are expected to engage with increasingly complex texts by 11th and

12th grade. If textbooks disproportionately emphasize neutral and positive vocabulary while neglecting negative or high-arousal words, students may lack the lexical tools needed for deeper comprehension, limiting their ability to meet CEFR reading and interpretation descriptors.

At the same time, curricular alignment is not only about what textbooks contain but also about how teachers use them. In Chile, a study of pre-service teachers by Palma-Luengo et al. (2025) found moderate correlations between emotional intelligence and critical thinking. Their findings suggest that teachers' ability to foster emotional vocabulary depends on their emotional competence, which in turn shapes their classroom practice. They argue that Chilean pedagogy programmes should explicitly integrate emotional intelligence into teacher training. This has direct implications: even if textbooks included a richer emotional lexicon, without teacher preparation to exploit these resources, the alignment between materials, curriculum, and CEFR descriptors would remain incomplete.

Taken together, these studies converge on a common point: alignment with global frameworks like the CEFR requires more than formal curricular adoption. As Hamid et al. (2025) show, implementation gaps are widespread internationally; as Sabag-Shushan et al. (2024) demonstrate, emotional vocabulary directly contributes to critical outcomes like reading comprehension; and as Palma-Luengo et al. (2025) highlight, teachers' emotional intelligence is central to integrating affect into pedagogy. In the Chilean case, the consistent underrepresentation of emotion lexicon in Bk-1 (the government-issued textbook) suggests that public-school students may be less equipped to meet both national

and international standards than peers in private or English-focused subsidized schools, who use richer materials like *Open World*.

The broader implication is that curricular and material inequalities risk translating into inequalities of competence: students in better-resourced contexts may have more opportunities to engage with emotional vocabulary, practice nuanced expression, and develop intercultural communicative competence, while others may remain restricted to “safe” zones of neutral or positive expression. This not only undermines alignment with the CEFR but also perpetuates systemic inequities in access to communicative and emotional competence through English.

## **Implications**

The findings of this study highlight important implications for curriculum designers, textbook publishers, policymakers, and teachers. First, the consistent imbalance in the representation of emotion lexicon indicates that textbook development needs to move beyond a positivity bias and incorporate a fuller range of emotional vocabulary, including negative, high-arousal, and negative-dominance words. Such balance would support learners in developing not only lexical depth but also emotional literacy, which is increasingly recognized as a crucial component of communicative competence (Lasekan, Godoy, & Méndez-Alarcón, 2025; Dewaele, 2025).

Second, given that textbooks used in public schools (*Create Your Own Future*) provide systematically less exposure to emotion vocabulary than commercial alternatives

(*Open World, Solutions*), the results point to a structural inequality in lexical input across school contexts. Policymakers must consider this disparity if the goal is for all learners — regardless of school type— to meet national curriculum standards and CEFR descriptors related to emotional expression.

Third, teachers play a decisive role in how textbooks are used. As Palma-Luengo et al. (2025) argue, teachers' own emotional intelligence influences their ability to integrate affective content into language instruction. This means that curricular and material reform should be complemented by professional development initiatives that equip teachers with strategies for fostering emotional awareness and practice in the classroom. Finally, given evidence that emotion vocabulary enhances reading comprehension and intercultural awareness, integrating a broader emotional lexicon into materials could have cascading benefits beyond vocabulary growth, supporting learners' literacy, empathy, and intercultural communicative skills.

### **Limitations and Future Research**

This study is limited in several respects. It analysed only four textbooks currently in use in Chile, which provides a valuable but partial snapshot of the national landscape. Future research should expand the corpus to include a wider range of materials— especially those used in technical or vocational schools —to establish whether the patterns observed here are representative of the broader context.

Second, this study focused on the lexical content of textbooks rather than actual classroom practices. It remains unclear how often students encounter or use the identified emotion words in classroom interaction, and how teachers supplement materials with authentic texts or communicative tasks. Classroom-based studies, including discourse analysis or ethnographic observation, would shed light on how emotion vocabulary is enacted in real practice.

Third, while the study relied on Warriner et al.'s (2013) affective norms to categorize words, future work could incorporate more context-sensitive or multilingual norms to account for cross-linguistic influence and cultural interpretation of emotion terms. This would be especially relevant in Chile, where Spanish serves as the L1 and may mediate learners' perception of English emotional vocabulary.

Fourth, the construction of the corpus relied on OCR-based conversion of textbook PDFs into editable text. Although this procedure enabled large-scale analysis, OCR processes are known to introduce noise into textual data, including character substitution and token loss, which may affect frequency counts. To improve the quality of the corpus, future research could integrate OCR error correction by creating a manual dataset in the English textbook domain.

Finally, cross-national comparisons would be valuable. As Hamid et al. (2025) show, CEFR alignment challenges are not unique to Chile but reflect global trends where affective descriptors are often under implemented. Comparative studies across Latin America or beyond could establish whether the observed positivity bias and

underrepresentation of negative/high-arousal lexicon are local publishing practices or global tendencies in EFL textbook production.

## CONCLUSIONS

This study examined the extent and distribution of emotion-related vocabulary in four EFL textbooks currently used in Chilean high schools, and their alignment with national curricular goals and CEFR descriptors concerning emotional knowledge and abilities. The corpus-based analysis revealed that while all textbooks contained a measurable proportion of emotion-related vocabulary, coverage was uneven and consistently positive. Across the dimensions of valence, arousal, and dominance, positive, neutral, and low-arousal words predominated, whereas negative, high-arousal, and negative-dominance items were systematically underrepresented.

In relation to the first research question, the findings highlight a clear tendency for learners to be exposed more frequently to emotionally supportive, low-risk lexical content than to vocabulary reflecting more intense, ambivalent, or negative emotional states. This pattern is consistent with international research on EFL materials and suggests a preference for emotionally “safe” language in instructional contexts. With regard to the second research question, the study identified only partial alignment between textbook content and the emotional and communicative demands articulated in the Chilean National Curriculum and the CEFR. Notably, substantial disparities emerged across school contexts: commercial and English-focused textbooks provided richer emotional coverage, whereas the government-issued Create Your Own Future consistently offered the least, raising concerns about unequal access to diverse emotional vocabulary among learners.

Taken together, these findings point to the relevance of the observed positivity bias not only as a lexical tendency but also as a feature of how emotional meanings are positioned within instructional materials. By privileging positive, calm, and high-dominance vocabulary, textbooks may delimit the range of affective stances most readily available for classroom-mediated communication. This observation does not imply direct effects on learners' emotional development or communicative performance; rather, it highlights the affordances and constraints associated with the emotional scope of textbook input, particularly in light of curricular expectations that emphasise emotional expression, stance-taking, and interaction with diverse perspectives.

Despite its methodological limitations, this study makes a meaningful contribution by systematically documenting patterns of emotion-related vocabulary in Chilean EFL textbooks and situating them within broader applied linguistic and sociocultural discussions. Although the analysis was limited to four textbooks and relied on affective norms developed outside the Chilean context, it provides empirical evidence of consistent lexical tendencies that warrant closer examination. Future research could extend this work by expanding the corpus, incorporating classroom-based data, and exploring learners' and teachers' engagement with emotion-related vocabulary in interaction. Comparative studies across educational contexts and regions may also help determine whether the observed positivity bias reflects local publishing practices or broader global trends in EFL materials development.

From a pedagogical perspective, the findings underscore the importance of attending not only to the presence but also to the diversity of emotion-related vocabulary

in instructional input. Communicative competence involves the ability to interpret and express a range of affective meanings, including disagreement, uncertainty, concern, and emotional nuance, which are central to authentic interaction. While positive emotional language plays a valuable role in fostering supportive learning environments, a restricted emotional register may limit opportunities for learners to engage with more complex interpersonal meanings expected at upper secondary levels.

In addition, the results offer guidance for the design of EFL materials. Textbook developers and curriculum designers may benefit from considering a more balanced representation of emotion-related words and emotion-laden expressions across units and proficiency levels. This could involve the deliberate inclusion of texts, dialogues, and tasks that reflect a wider range of emotional situations, such as conflict, emotional ambivalence, and differing viewpoints, in pedagogically scaffolded and age-appropriate ways. Such an approach may better align instructional materials with national curricular objectives and CEFR descriptors that emphasise emotional expression, pragmatic competence, and intercultural communicative ability.

Overall, this study highlights emotion-related vocabulary as a meaningful and often underexamined dimension of lexical input in EFL education. By integrating corpus-based evidence with applied linguistic and sociocultural perspectives, it contributes to ongoing discussions on how emotional language is represented, legitimised, and operationalised in instructional materials. A more deliberate and equitable integration of emotional vocabulary has the potential to support learners' readiness to engage

thoughtfully, empathetically, and effectively in English across diverse communicative and cultural contexts.

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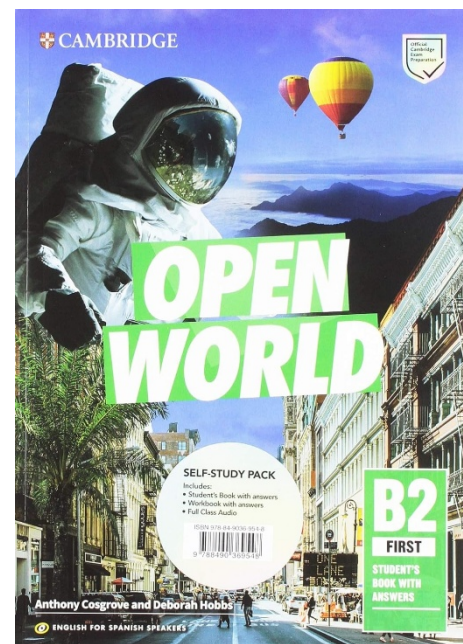
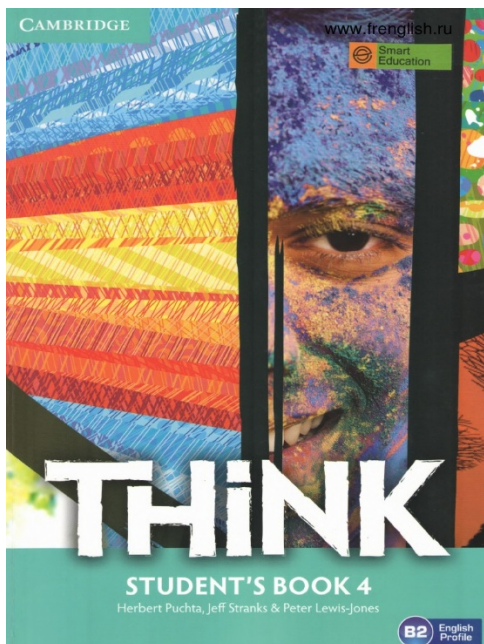
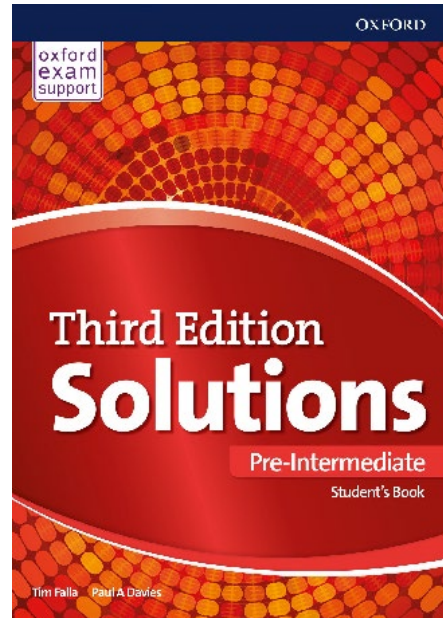
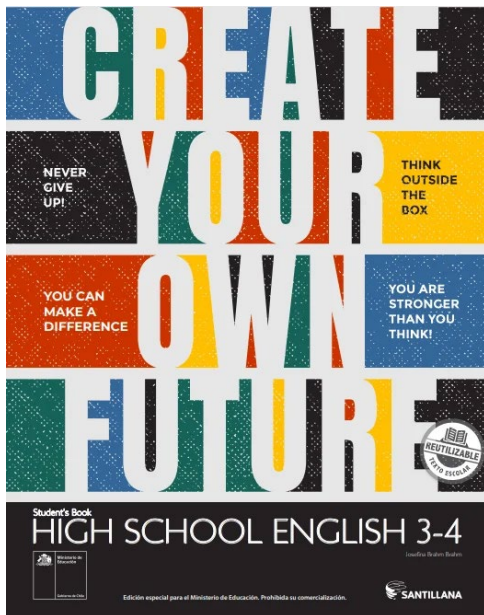
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## APPENDIXES

### Appendix 1. Book covers



## Appendix 2. Database samples per book

### 2.1 Create your own future

V+	Vn	V-	A+	An	A-	D+	Dn	D-
audio	function	project	Money	article	understanding	pictures	article	fear
Listen	meaning	project	Money	article	understanding	pictures	article	Government
pictures	meaning	damage	money	audio	Beginning	Brainstorm	audio	bottom
pictures	segment	resolution	money	Listen	letter	pictures	essay	death
text	Beginning	action	money	pictures	part	pictures	information	abuse
pictures	part	want	die	video	title	pictures	structure	plead
poem	hold	hesitant	die	article	rest	pictures	technology	blind
text	one	action	money	article	rest	pictures	text	crowded
Listen	title	want	video	blog	rest	pictures	video	desperate
Read	soil	passport	Video	Listen	care	pictures	article	hunger
Legacy	one	ability	rich	pictures	one	positive	editorial	Die
Legacy	start	verse	succeed	poem	corner	positive	Listen	die
nature	corner	refuse	laugh	Listen	surface	pictures	Read	horror
mind	surface	want	Money	Report	member	Think	text	die
river	use	fail	Money	Legacy	part	pictures	audio	war
bold	world	ability	argue	Legacy	significance	pictures	essay	inferior
picture	sense	ability	laugh	seeds	system	pictures	poem	disease
game	member	credit	money	community	significance	pictures	text	anxiety
internet	part	want	money	community	base	knowledge	definition	Blind
important	significance	email	money	mind	one	language	table	Blind
important	reflection	want	money	river	member	spelling	Fish	Blind
important	forces	want	dangerous	bold	part	spelling	monologue	DEMISE
important	system	commune	happiness	people	name	research	Listen	damage
important	significance	want	Happiness	campaign	sight	research	Report	wrong
important	impact	want	money.	game	History	community	Legacy	STRIKE
important	base	threat	explosive	internet	understanding	community	Legacy	damage
important	role	want	die	important	understanding	language	seeds	burden
important	one	ability	rich	important	one	development	side	anxiety
picture	forefront	DEGRADE	plague	important	Title	recognize	nature	employer
pictures	member	STRIKE	Happiness	important	image	pictures	Year	lonely
nature	part	want	laugh	important	part	effective	Valley	war

## 2.2 Solutions

V+	Vn	V-	A+	An	A-	D+	Dn	D-
Complete	Use	want	exciting	Use	Complete	Complete	Use	dangerous
Complete	Use	want	happiness	Use	Complete	Complete	Use	dangerous
Complete	Use	want	lightning	Use	Complete	Complete	Use	steal
Complete	Use	want	money	Use	Complete	Complete	Use	police
Complete	use	want	scream	use	Complete	Complete	use	dangerous
Complete	use	want	rich	use	Complete	Complete	use	eruption
Complete	use	want	lightning	use	Complete	Complete	use	War?
Complete	use	want	money	use	Complete	Complete	use	enemy?
Complete	use	want	exciting	use	Complete	Complete	use	Crime
Complete	use	want	money	use	Complete	Complete	use	murder
Complete	use	want	money	use	Complete	Complete	use	police
Complete	use	choose	money	use	Complete	Complete	use	police
Complete	use	want	money	use	Complete	Complete	use	crime
Complete	Write	refuse	cash	Write	Complete	Complete	Write	frightening
Complete	form	want	money	form	Complete	Complete	form	cry?
Complete	Use	want	money	Use	Complete	Complete	Use	crime
Complete	Use	want	money	Use	Complete	Complete	Use	dangerous
Complete	use	want	spider	use	Complete	Complete	use	arrest
Complete	use	attempt	money	use	Complete	Complete	use	steal
Complete	use	want	money	use	Complete	Complete	use	dangerous
Complete	use	choose	invasion	use	Complete	Complete	use	Tomb
Complete	use	want	money	use	Complete	Complete	use	crime
Complete	use	want	money	use	Complete	Complete	use	robbery
Complete	use	want	rich	use	Complete	Complete	use	terrifying
Complete	use	want	money?	use	Complete	Complete	use	crime
Complete	use	want	spider	use	Complete	Complete	use	lonely
Complete	form	want	money	form	Complete	Complete	form	politics
Complete	form	want	money	form	Complete	Complete	form	crime
Complete	Use	want	money	Use	Complete	Complete	Use	bottom
Complete	use	choose	money	use	Complete	Complete	use	crime
Complete	use	want	dangerous	use	Complete	Complete	use	bottom
Complete	Use	trip	money	Use	Complete	Complete	Use	bottom
Complete	use	crime	money	use	Complete	Complete	use	bottom
Complete	use	love	money	use	Complete	Complete	use	afraid
Complete	Write	want	money	Write	Complete	Complete	Write	crime
Complete	Write	unwilling	dangerous	Write	Complete	Complete	Write	depression
Complete	Use	dangerous	dangerous	Use	Complete	Complete	Use	depression

### 2.3 Think 4

V+	Vn	V-	A+	An	A-	D+	Dn	D-
Complete	meaning	want	money	listen	Complete	Complete	listen	exile'
Complete	meaning	want	money	listen	Complete	Complete	listen	bottom
Complete	meaning	want	money	listen	Complete	Complete	listen	dilemma
Complete	meaning	want	money	listen	Complete	Complete	listen	afraid
Complete	meaning	want	money	listen	Complete	Complete	listen	bottom
Complete	introduction	want	money	listen	Complete	Complete	listen	incapable
Complete	introduction	noise	money	meaning	Complete	Complete	listen	fool
Complete	go	want	money	meaning	Complete	Complete	listen	government
Complete	go	want	money	meaning	Complete	Complete	listen	shortage
Complete	come	want	dangerous	meaning	Complete	Complete	listen	shortage
Complete	come	ought	money	meaning	Complete	Complete	introduction	war
Complete	come	moon	money	listen	Complete	Complete	introduction	terrible
Complete	way	choose	money	listen	Complete	Complete	listen	attack
Complete	get	choose	money	listen	Complete	Complete	point	trick
Complete	go	want	money	listen	Complete	Complete	go	unhappiness
Complete	go	want	money	grateful	Complete	Complete	go	steal
Complete	go	old	money	grateful	Complete	Complete	come	earthquake
Complete	message	ability	money	grateful	Complete	Complete	come	crime
Complete	presentation	want	money	introduction	Complete	Complete	listen	low
Complete	move	want	exciting	introduction	Complete	Complete	listen	dangerous
Complete	close	refuse	kill	listen	Complete	Complete	come	politics
Complete	article	failure	kill	point	Complete	Complete	way	awful
Complete	article	want	attack	interesting	Complete	Complete	listen	worry
Complete	article	want	money	Listen	Complete	Complete	get	dangerous
Complete	update	attempt	kill	go	Complete	Complete	go	inaccessible
Complete	point	want	celebrate	go	Complete	Complete	go	gunpoint
Complete	come	unable	earthquake	come	Complete	Complete	go	panic
Read	refer	want	dangerous	come	Complete	Complete	visit	extinct -
Read	adapt	want	rich	listen	Complete	Complete	presentation	terrible
Read	get	want	dangerous	listen	Complete	Complete	night	unable
Read	react	unable	snake	come	Match	Complete	Listen	wrong
Read	mission	wrong	gunpoint	listen	Match	Choose	move	employer
Complete	similar	hesitate	exciting	get	Discuss	Choose	close	unable
Complete	side	hesitate	scream	go	Match	Choose	article	unable
Complete	sell	want	succeed	indebted	Complete	Choose	article	strike
Complete	come	want	kill	go	Answer	Choose	article	indebted
complete	go	want	kill	go	Answer	Choose	listen	worry

## 2.4 Open world

V+	Vn	V-	A+	An	A-	D+	Dn	D-
complete	Go	want	money	Go	complete	Choose	Go	unsuccessful
complete	Go	Want	money	Go	complete	Choose	Go	insomnia
Complete	Go	ability	spectacular	Go	Complete	Choose	Go	awful
Complete	Go	want	money	Go	Complete	Choose	Go	dangerous
Complete	Go	want	money	Go	Complete	Choose	Go	violence
Complete	Go	bad	succeed	Go	Complete	Choose	Go	wrong
Complete	Go	want	money	Go	Complete	Choose	Go	sick
Complete	Go	want	adventurous	Go	Complete	Choose	Go	illness
Complete	Go	want	money	Go	Complete	Choose	Go	illness
Complete	Go	want	adventurous	Go	Complete	Choose	Go	worry
Complete	Go	want	alarm	Go	Complete	Choose	Go	worry
Complete	Go	want	money	Go	Complete	Choose	Go	worry
Complete	Go	want	money	Go	Complete	Choose	Go	doubt
Complete	Go	want	attack	Go	Complete	Choose	Go	worry
Complete	Go	attempt	succeed	Go	Complete	Choose	Go	worry
Complete	Go	want	speed	Go	Complete	Choose	Go	panic
Complete	Go	want	exhilarating	Go	Complete	Choose	Go	afraid
Complete	Go	want	money	Go	Complete	Choose	Go	wrong
Complete	Go	want	dangerous	Go	Complete	Choose	Go	annoying
Complete	Go	want	lightning	Go	Complete	Choose	Go	wrong
Read	Go	want	lightning	Go	Complete	Choose	Go	wrong
Read	Go	want	money	Go	Complete	Choose	Go	wrong
Read	Go	want	money	Go	Complete	choose	Go	wrong
Read	Go	want	money	Go	Complete	choose	Go	wrong
Read	Go	cult	stunning	Go	Complete	choose	Go	wrong
Read	Go	want	money	Go	complete	choose	Go	wrong
Read	back	want	money	Go	Complete	Choose	back	terrified
Read	back	late	pleasure	Go	Complete	Choose	back	die
Read	back	stress	winner	Go	Complete	Choose	back	die
Complete	Go	stress	winner	festival	answer	Choose	Go	afraid
Read	Go	stress	lightning	project	Answer	Choose	Go	bottom
Read	Go	want	money	Listen	Discuss	Choose	Go	government
Complete	go	trip	money	listen	Discuss	Choose	Listen	unable
Complete	go	project	succeed	go	Discuss	Choose	listen	unable
Complete	due	damage	exciting	go	Discuss	Choose	go	damage
Complete	due	pace	video game	due	Discuss	Choose	go	abuse
Complete	go	want	video game	due	Discuss	Choose	due	wrong



