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Fostering Transformative Digital Pedagogical Practices through Open Education in ETPs:

a Framework for Digitally-Enhanced Content-Specific Embedded Literacy in Virtual Mobility

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Rationale, research problems, purpose, and contribution of the study

English-Taught Programs (ETPs) have developed extensively in Europe and worldwide. Most ETPs can be classified as English-Medium Instruction (Lin 2016; Schmidt-Unterberger 2018) since language-supporting methodologies are not usually implemented. This lack of language awareness in ETPs is likely to represent a challenge for students who need to develop subject-specific discourses in English (Swerts and Westbrook 2013; Wächter and Maiworm 2014; Henriksen, Holmen, and Kling 2019). When language awareness is provided, the development of English subject-specific literacies is usually fostered through various types of ESP (English for Specific Purposes) and/or EAP (English for Academic Purposes) courses, taught by English language experts, which run parallel to content courses or are available before the courses start (Schmidt-Unterberger 2018). However, for an effective development of content and language learning, the integration of content and language instruction during content classes is pivotal (Lyster 2007; Lightbown 2008; Lightbown 2014). The need to develop practices integrating content and language effectively has thus emerged: "major constructs (language, content, and the integration of these) […] are not sufficiently developed" (Dafouz and Smit 2016: 397). In this respect, Systemic Functional Linguistics (SFL), which sees language as a meaning-making process (Halliday and Matthiessen 2014), seems to provide a suitable theoretical framework to develop content-specific literacy embedded into content classes in ETPs. SFL conceives language awareness as pivotal to promote additional language users' development of disciplinary literacies (Byrnes 2019). Also elaborated to prevent the

marginalization of linguistically diverse subgroups, SFL-informed approaches, which aim to promote social equity (Christie 2007; Harman 2018), have been implemented with success in various Higher Education Institutions (Byrnes 2009; Mahboob, Dreyfus, Humphrey, and Martin 2010; Humphrey 2011; Martin 2013; Byrnes 2012; Byrnes 2014; Ramìrez 2018) fostering disciplinary critical language awareness from a multilingual perspective (Ramírez 2018).

The internationalization of Higher Education, including the development of ETPs, and the increasing use of English-only knowledge practices are likely to affect language and cultural diversity negatively (Singh 2017; Dìaz 2018). In this light, from a superdiverse perspective (Vertovec 2019), ETPs need to help students become aware of the main features of Anglo-English subject-specific discourses so as to prevent learners from adopting English-only theorizing practices implicitly (Singh 2017; Dìaz 2018).

Since only a minority of students take part in physical mobility (de Wit and Leask 2015; Ubachs and Henderikx 2018), virtual mobility, as part of Internationalization at Home, might be instrumental in providing all students, including those domestic students who would never be able to take part in physical international mobility, with a global experience. Virtual mobility is likely to increase in the future (de Wit and Hunter 2015) also thanks to the development of innovative digital practices and the use of Open Educational Resources (European Commission 2013b; Inamorato dos Santos, Punie, and Castaño Muñoz 2016; Inamorato dos Santos 2019).

In the attempt to address the issue of language awareness in ETPs, the present study aims to provide a framework suitable for embedding technology-enhanced SFL-informed content-specific literacy into content classes delivered through virtual mobility in ETPs from an Open Educational perspective. To accomplish this objective, a subject-specific 3x3 matrix, adapted from previous linguistic toolkits (Humphrey, Martin, Dreyfus, and Mahboob 2010; Humphrey and Robinson 2012; Humphrey and Robinson 2013; Pessoa, Mitchell, Miller 2018; Mitchell, Pessoa 2017; Caplan 2019) has been devised to enable ETP instructors to embed language awareness, targeted at students' subject-specific literacy development, into content classes using text analysis and Open Educational Resources (OERs). From the Open Educational perspective adopted, the framework entails the use of text analysis software provided as OERs to devise digitally-enhanced embedded literacy activities created using open textbooks. Through text analysis programs, instructors can create visualization-enhanced content-specific embedded literacy; as research shows, visualization is likely to foster conceptual knowledge development (Dori and Belcher 2005; Borkin, Vo, Bylinskii, Isola, Sunkavalli, Oliva, and Pfister 2013; Borkin, Bylinskii, Kim, Bainbridge, Yeh, Borkin, Pfister, and Oliva 2016). The SFL-informed language awareness framework devised aims to foster students' critical language awareness in keeping with a superdiverse view of a multilingual society. The creation of an SFL-informed textbook-customized subject-specific 3x3 matrix implemented through the use of free text analysis tools employed to embed digitally-enhanced content-specific literacy in ETPs using Open Educational Resources is the contribution of the study. Examples of

activities have been provided to show how text analysis can be applied to implement visualization-based content-specific embedded literacy in virtual mobility classes in ETPs; the activities also aim to show how students can engage in language awareness actively while focusing on content learning. In the present study, strategies to implement content-specific embedded literacy through transformative digital pedagogical practices in ETPs from an Open Educational perspective have been devised and examples have been provided.

Organization of the thesis

The present work aims to provide a framework suited to implement digitally-enhanced content-specific embedded literacy in virtual mobility in ETPs through Open Educational Resources and text analysis.

In chapter 1, first, the theoretical tenets of CLIL are introduced. Second, the types of English-Taught Programs available and especially the various ways in which content and language are integrated in these learning environments are presented. Third, the increasing use of Anglo-English subject-specific discourses is analyzed from a superdiverse perspective. Fourth, the role that internationalized outcomes and thus internationalized curricula play in the development of Internationalization at Home in particular is outlined.

In chapter 2, Systemic Functional Linguistics, which sees language as a meaning-making process, is outlined to show how the adoption of an SFL perspective can inform critical language awareness in content classes in ETPs. In the second part

of the chapter, Open Education is analyzed with a special focus on Open Educational Resources and Practices along with their digital dimension; the educational benefits of Zero Textbook Cost degree programs are also introduced. In the last section of the chapter, an analysis of the perceptions of a group of students on the affordances of digitally-enhanced activities experienced in a disciplinary course taught through the medium of English is presented; the study has been carried out to identify possible affordances to adopt while planning activities in keeping with the framework elaborated in the present work and introduced in chapter 3.

In chapter 3, the digitally-enhanced SFL-informed embedded disciplinary literacy framework implemented through text analysis from an Open Educational perspective, elaborated in the present study, is introduced. The subject-specific 3x3 matrix developed is provided and the various text analysis tools used are introduced. In the second part of the chapter, some activities devised using the framework elaborated are provided to exemplify how content-specific embedded literacy can be implemented in virtual mobility in EPTs within a SFL framework.

1. English-Taught Programs and internationalization

1.1 CLIL

Content and Language Integrated Learning (CLIL) is a content-driven approach targeted at teaching disciplinary content through the medium of an additional language; this dual-focused approach aimed at both content and language acquisition (Mehisto, Marsh, and Frigols 2008; Coyle, Hood, and Marsh 2010) "calls for the development of a special approach to teaching, in that the non-language subject is not taught in a foreign language but with and through a foreign language" (Eurydice 2006: 7). To achieve the dual objective, CLIL thus entails the implementation of language-supportive methodologies along with an array of content and language instructional practices (Coyle, Hood, and Marsh 2010; Marsh and Frigols Martín 2012) because "By teaching content through an additional language, we aim to reach higher levels of L2 proficiency within the curricular programme, without lowering the aims for content learning outcomes" (de Graff 2016: xiii). In relation to CLIL learning environments, an additional language has been defined as any language, such as a foreign, a second or a minority language, except the mother tongue (Marsh 2002: 17).

CLIL was developed in Europe in the 1990s; Marsh coined the term CLIL in 1994 (Eurydice 2006: 8). The new European-centered didactic paradigm was devised to address the increasing urge to develop multilingualism and multiculturalism as well as foreign language learning/teaching practices in the countries of the European Union (Marsh 2002; Morton and Llinares 2017). CLIL is an umbrella construct which includes various approaches and pedagogical practices integrating content and

language development to different degrees (Marsh 2008; Mehisto, Marsh, and Frigols 2008; Coyle, Hood, and Marsh 2010; Dalton-Puffer, Nikula, and Smit 2010); in this respect, as Lin suggests, "CLIL programmes […] can […] vary a lot in terms of their balancing of content and language goals and might not approach the ideal of equal focus" (2016: 150). CLIL may also include immersion (Mehisto, Marsh, and Frigols 2008; Cenoz, Genesee, and Gorter 2013) although Eurydice provides a stricter definition of CLIL where immersion is not included (2006: 8). Pinpointing the differences between CLIL and the various types of immersion has often been a challenge (Cenoz, Genesee, and Gorter 2013; Cenoz 2015; Lin 2016):

> Our examination of the definition and scope of the term CLIL both internally, as used by CLIL advocates in Europe, and externally, as compared with immersion education in and outside Europe, indicates that the core characteristics of CLIL are understood in different ways with respect to: the balance between language and content instruction, the nature of the target languages involved, instructional goals, defining characteristics of student participants, and pedagogical approaches to integrating language and content instruction. (Cenoz, Genesee, and Gorter 2013: 13)

A sub-distinction of CLIL refers to weak and strong CLIL programs. In weak CLIL programs, content subject materials are used to teach a foreign language thereby pursuing language objectives in language teaching environments; in strong CLIL programs, instead, the additional language serves as the medium of instruction and both content and language development are targeted in the discipline-specific learning environments implemented (Cenoz 2017: 241).

Overall, the CLIL construct encompasses various approaches and methodologies fostering content and language learning to different degrees (Morton and Llinares 2017: 1). CLIL is thus envisioned as a flexible learning environment which can be

adapted to the needs and characteristics of the educational contexts in which it is implemented (Mehisto, Marsh, and Frigols 2008; Coyle, Hood, and Marsh 2010).

1.1.1 English-Taught Programs

An ever-increasing number of Higher Education Institutions have been offering disciplinary courses and/or entire degree programs in an additional language, mainly English, in Europe over the last two decades (Wächter and Maiworm 2014; Dearden 2015; Wilkinson 2018). The development of English-Taught Programs (ETPs) in Higher Education has especially been fostered by the European Higher Education Area (EHEA) policy: "the establishment of a European Higher Education Area (EHEA) has greatly strengthened this view of universities as global institutions, whose main aims include student and staff mobility, curricular harmonization, and international research collaboration" (Dafouz and Smit 2016: 397).

The development of ETPs is mainly the result of globalization processes encouraging internationalization in Higher Education (Henriksen, Holmen, Kling 2019: 13). The distinction between internationalization and globalization is provided below:

> internationalisation […] describes a process of intensifying exchange between nations (or other securely internationalized organizations and agencies), most of which occurs within the public domain. [Globalisation] describes the progressive integration of economic structures within global (but also volatile) arrangements and the homogenisation (but also hybridisation) of distinctive national cultures, both of which occur largely in the private domain. (Scott 2011: 61)

Teaching content subjects through the medium of an additional language, especially English, has thus increased consistently in European universities

characterized by multicultural and multilingual contexts (Henriksen, Holmen, and Kling 2019: 42). In this respect, a divide has emerged between Northern and Southern Europe. The Nordic and Baltic countries, along with the Netherlands, have developed a much higher number of degree programs in English, attended by both domestic and international students, in comparison with the other European countries (Wächter and Maiworm 2014: 27). Students' higher English proficiency in Northern Europe and the Netherlands is likely to have promoted the development of ETPs (Henriksen, Holmen, Kling 2019: 42). Students' lower English proficiency in Southern Europe represents instead a challenge for the ETPs implemented in the area (Wächter and Maiworm 2014: 98).

ETPs may be the result of top-down and/or bottom-up decision-making processes. In general, institutions rarely produce official language policies (LPs) focusing on the role of language in relation to courses and/or degree programs taught in an additional language unless challenges emerge (van der Walt 2013: 13), which reveals how subsidiary language is considered in comparison with content in these contexts. For example, in the Nordic area, where students are expected to develop high levels of competence in English to manage content-specific concepts in ETPs, challenges related to the increasing use of English have emerged and "concerns have been expressed about possible domain loss for the national language in specialized technical fields as well as in relation to general academic language use" (Henriksen, Holmen, Kling 2019: 14). Interestingly, to address the issue and manage the use of

various languages especially English, the Nordic area has conceptualized the parallel language use construct:

> The term 'parallel language use' or 'parallellingualism' was introduced in Nordic language policy debates around 2000 and included in the Nordic Language Declaration in 2006. Here it refers to the concurrent use of two or more languages in a situation where none of the languages abolish or replace each other. In principle, it applies to contact between the many languages relevant in the Nordic region, but its main focus is on the balance between the national language and English. (Henriksen, Holmen, Kling 2019: 18)

1.1.2 Types of ETPs

ETPs are Bachelor and/or Master degree programs taught entirely in English; degree programs where English is studied as a subject, such as in foreign language degree programs, are not usually considered ETPs (Wächter and Maiworm 2008: 18-19). In ETPs, the focus is usually on content knowledge development while language awareness is not likely to be pursued as an explicit objective. Overall, ETPs have increased significantly during the last two decades not only in Europe but also worldwide, developing a global perspective while, at the same time, catering to the multifarious characteristics of local contexts (Dafouz and Smit 2017: 287).

Teaching disciplinary content through an additional language, especially English, in Higher Education has been defined in various ways: Content and Language Integrated Learning (CLIL) (Smit and Dafouz 2012; Fortanet-Gomez 2013), Integrating Content and Language in Higher Education (ICLHE) (Smit and Dafouz 2012; Bradford and Brown 2017; Valcke and Wilkinson 2017), English-Medium Instruction (EMI) (Dafouz and Camacho-Miñano 2016; Henriksen, Holmen, and Kling 2019; Bradford and Brown 2017; Macaro, Curle, Pun, An, and Dearden 2018), and

English-Medium Education in Multilingual University Settings (EMEMUS) (Dafouz and Smit 2016). Overall, however, there is not a complete consensus on the various definitions of curricular subject teaching through English at tertiary level (Macaro, Curle, Pun, An, and Dearden 2018: 46). In this respect, Dafouz and Smit's English-Medium Education in Multilingual University Settings EMEMUS represents a recent attempt to devise a framework including the multifarious and complex variables affecting the implementation of ETPs in multilingual Higher Education contexts; EMEMUS does not endorse any specific pedagogical practice (2016: 398-399).

1.1.2.1 EMEMUS and Continua of Multilingual Education

Informed by a sociolinguistic, dynamic and transnational view of increasingly shifting spaces, EMEMUS is a framework consisting of six interconnected discourse-based dimensions, elaborated to conceptualize the social, discourse-focused multifaceted and ever-evolving nature of English-Medium Education (EME) (Dafouz and Smit 2016: 397-400).

The EMEMUS framework consists of six discourse-centered dimensions which conceptualize the various components affecting ETPs: "Roles of English (in relation to other languages) (RO), Academic Disciplines (AD), (language) Management (M), Agents (A), Practices and Processes (PP), and Internationalization and Glocalization (ING), we will refer to it by the acronym made up of the initial letters of the dimensions: ROAD-MAPPING" (Dafouz and Smit 2016: 408-409). From an eco-linguistic perspective, Roles of English, Academic Disciplines, Agents, Practices and

Processes are deeply interconnected; in a sociolinguistic perspective highlighting super-diversity and transnational flows, Internationalization and Glocalization deeply affect Agents as well as Practices and Processes (Dafouz and Smit 2016: 403).

Within an ecological conceptualization of multilingual education, the EMEMUS framework claims that English as an additional language (the Roles of English dimension) is likely to have a more prominent role than other languages in university language policies due to its widespread use in research and instructional practices worldwide (Dafouz and Smit 2016: 403-404). In particular, English-Medium Education (EME) is conceived as targeted to foster the acquisition of subject-specific content and the concurrent development of discipline-specific literacies through content-specific practices (Academic Disciplines dimension) (Dafouz and Smit 2016: 405). In this context, pedagogical practices and assessment formats emerge as strictly affected by the epistemological features of the various disciplines. The way disciplinary epistemologies affect teaching/learning and assessment practices is pivotal in ETPs (Dafouz and Smit 2017: 290). Disciplines, which are defined as "an association between knowledge and learning and instruction within an organization, typically a university" (Neumann 2009: 487), have various interconnected components: "modes of knowledge production[,] […] epistemology and social aspects of knowledge communities. […] Disciplines consist of conglomerates of individuals and specialist groups, connected by subject matter and shared methodological approaches" (Neumann 2009: 487-490). Biglan in particular has devised a three-dimension framework to classify knowledge constructs (1973: 207):

1. Hard-soft: the degree to which there is a shared inquiry paradigm.
2. Pure-applied: the concern for application to practical problems.
3. Life-non-life: the extent of orientation to living organisms. (Neumann 2009: 492)

The various dimensions of disciplines refer to the way knowledge is constructed and conveyed. These epistemological aspects emerge in the way the content subject is presented and the most prominent cognitive objectives are pursued as well as the type of assessment implemented (Neumann 2003: 228). Disciplinary knowledge is consistently changing and, as a result, content-specific discourse practices are in constant flux (Neumann 2009: 490). At university level, content instruction implies not only fostering subject-specific content acquisition but also enabling students to become competent in professional discourse practices (Neumann 2009: 488). In this perspective, the development of both disciplinary knowledge and academic literacies is pivotal in ETPs. In these contexts, an approach fostering the development of genre-based subject literacies focusing on the discursive dimensions of content-specific discourses seems especially suitable (Dafouz and Smit 2016: 405): "Here, genre is seen as a means to 'map' the types of discourse and specialized language that are used to communicate knowledge in different disciplinary areas" (Dafouz and Smit 2016: 405). In ETPs, it seems especially pivotal to make the English culture-specific paradigms of disciplinary discourses explicit in order to avoid the implicit development of an English-only conceptualization and theorizing framework: "it is vital to remain critically aware of the risk of homogenizing disciplines and following an (Anglocentric) monocultural model potentially triggered by the use of English as the language of instruction" (Dafouz and Smit 2016: 405-406).

In ROAD-MAPPING, Language Management refers to how language policies are handled at national, university, and classroom level (Dafouz and Smit 2016: 406). In particular, in EME, where a wide range of institutional and individual Agents (such as departments, administrative staff, teachers, and learners) are involved with language policy development and implementation (Dafouz and Smit 2017: 290), challenges are likely to emerge when stakeholders, such as content and language experts, need to collaborate to reach shared objectives, such as the concurrent development of content and language knowledge (Dafouz and Smit 2016: 406).

In terms of Practices and Processes, EMEMUS is operationalized through multifaceted context-dependent teaching/learning practices informed by both a socio-constructivist view of knowledge building and instructors' beliefs about learning processes; in this context, the issue of content-specific literacy development, namely the question of who is responsible for academic literacy teaching practices between content and language specialists, takes center stage (Dafouz and Smit 2016: 407-408).

Within the ROADMAPP framework, the Internationalization and Glocalization (ING) dimension highlights the necessity for tertiary education to develop guidelines and practices, such as internationalized curricula, suitable for catering to multilingual contexts by interconnecting global dimensions with local characteristics (Dafouz and Smit 2016: 408). The development of internationalized curricula, virtual mobility and Internationalization at Home (IaH), which we analyze later in this work, fall within this dimension.

Through her Continua of Multilingual Education, Cenoz has tried to provide a dynamic framework suited to analyze the various forms of multilingual instruction available, including CLIL (2009, 2017; Cenoz and Gorter 2010). The factors underpinning the Continua are the features of the additional language used as the medium of instruction, the sociolinguistic environments, and the educational contexts where CLIL programs are implemented (Cenoz 2017: 243).

The Continua pinpoints first of all the degree to which the language status of the additional language adopted as the medium of instruction, such as English, is likely to affect students' motivation in CLIL programs (Cenoz 2017: 243). Furthermore, the typological distance between the additional language adopted and students' first language/s is identified as a key dimension when planning CLIL courses and assessment, along with the opportunity to use the additional language consistently if the contact between the two languages is extensive (Cenoz 2017: 244). In terms of sociolinguistic contexts, the extent to which the target language is used or is available somehow in students' families and communities can affect the success of CLIL programs including students' perceptions of the added value of CLIL; thus, this aspect needs to be accounted for when analyzing CLIL programs and their results (Cenoz 2017: 245).

CLIL educational contexts also need to be examined in terms of subject-specific dimensions especially in relation to the extent to which content and language may be integrated through teaching and learning practices (Cenoz 2017: 246). This factor

raises the issue of the integration of language learning into content learning in an additional language, which is further analyzed in the following section.

1.1.2.2 Forms of integration of language instruction into content knowledge courses in ETPs

The latest attempt to classify the various types of English-Taught Programs available in higher education in non-Anglophone countries in relation to English-medium pedagogies has been undertaken by Schmidt-Unterberger, who has developed the English-medium Paradigm (2018). The paradigm analyzes, in particular, the way and the degree to which language objectives are integrated into programs and/or disciplinary courses and at which level, namely whether at class, curriculum, and/or program level. To classify English-medium education especially in relation to English-medium/language pedagogy, Schmidt-Unterberger thus focuses on the way and the extent to which explicit teaching of content-specific language, academic language, and subject-specific genres are implemented in EMI settings (2018: 529). The paradigm also zeroes in on the content and language pedagogies content experts and language specialists adopt respectively, along with the types of collaboration occurring between the two kinds of experts (Schmidt-Unterberger 2018: 531).

In EMI, explicit language teaching is not perceived as a requirement at program design level although students appear to face challenges to build implicitly the language competence necessary to manage discipline-specific knowledge (Airey 2011b; Fortanet-Gómez 2011). At the same time, at class level, content experts do not

usually feel language awareness as their own responsibility (Airey 2012: 64-79). Highlighting the deep connection between language development and content knowledge production, Schmidt-Unterberger advocates for the combination of English-Taught Programs and explicit language teaching through ESP (English for Specific Purposes) and/or EAP (English for Academic Purposes) (2018: 530). Various combinations of language awareness and English-taught disciplinary courses are illustrated in the English-medium Paradigm. The English-medium paradigm includes, in particular, five kinds of explicit language instruction forms, which are integrated to various degrees into English-Taught Programs, that is "Pre-sessional ESP / EAP, Embedded ESP / EAP, Adjunct ESP, EMI and ICLHE" (Schmidt-Unterberger 2018: 531). Thanks to Schmidt-Unterberger's English-medium Paradigm, the language dimension in English-Taught Programs has recently come to the fore with striking force.

Drawing on students' prior subject-specific knowledge, the ESP instructor fosters the development of content-specific vocabulary and genre competences while through English for Academic Purposes language specialists enable EMI students to acquire cross-disciplinary academic skills, such as giving presentations, taking notes, and writing essays (Schmidt-Unterberger 2018: 530). In order for all students to enter disciplinary courses in ETPs with the same language proficiency, pre-sessional ESP/EAP classes, tailored to the needs of a specific program, may be offered before the beginning of the English-taught subject courses; content experts are expected to collaborate with language specialists to devise customized pre-sessional ESP/EAP

classes suitable for helping students develop the skills necessary to accomplish the content objectives featured in the disciplinary course syllabi (Schmidt-Unterberger 2018: 531). Pre-sessional ESP/EAP classes may however convey implicit messages. In particular, delivering language courses before content courses can lead stakeholders to think that subject-specific literacy development is not as important as content development since language is not fully integrated into the disciplinary courses (Schmidt-Unterberger 2018: 532). Offered at program level, embedded ESP/EAP classes are instead program-customized courses, taught concurrently with disciplinary courses; embedded ESP/EAP classes, designed as an integral part of the English-medium curriculum, are likely to make stakeholders perceive language development as a key dimension of English-taught disciplinary courses (Schmidt-Unterberger 2018: 531-533).

An adjunct ESP course is customized for a specific disciplinary course. Using materials taken from the targeted disciplinary course, every adjunct ESP course focuses on the content-specific language and genres of the disciplinary course targeted (Schmidt-Unterberger 2018: 534). The adjunct ESP course and the combined disciplinary course are taught concurrently. Adjunct ESP courses can cater to the previously established and on the fly language-specific needs of discipline-specific courses effectively; thanks to adjunct ESP courses, content experts do not have to worry about nor work on subject-specific literacies (Schmidt-Unterberger 2018: 534). Providing adjunct ESP courses may represent, however, a challenge for program

designers due to the close collaboration required between content experts and language specialists (Schmidt-Unterberger 2018: 533).

The main difference between EMI and ICLHE consists in the absence in EMI and presence in ICLHE respectively of explicit language objectives and language awareness integrated into disciplinary courses. In EMI, content experts teach content through the medium of English, but language aspects are not taught explicitly since language learning is expected to occur incidentally. In particular, in EMI, English is mainly seen as a medium of instruction and rarely considered as an object of study and thus as a course learning outcome (Coleman 2006; Costa 2016; Pecorari and Malmström 2018; Schmidt-Unterberger 2018), which entails that language learning is conceived as incidental (Schmidt-Unterberger 2018: 534). If language-supporting methodologies are implemented somehow in EMI, they are only subsidiary while in CLIL both content and language development are explicit learning objectives. In ICLHE, a dual objective, namely content knowledge and language development, is thus pursued explicitly (Schmidt-Unterberger 2018: 534) through the integration of systematic language awareness into the programs (Lin 2016: 146-7). However, ICLHE often seems to end up being EMI since language awareness is not actually implemented and language objectives are thus not pursued (Unterberger 2014; Lin 2016; Schmidt-Unterberger 2018) although the necessity to integrate explicit language instruction into ETPs is increasingly advocated due to some detected shortcomings, such as students' low language proficiency and slightly higher drop-out rates and lower grades (Swerts and Westbrook 2013; Wächter and Maiworm 2014).

Overall, awareness of the necessity to foster content and language development in ETPs has increasingly emerged. Interestingly, in this respect, stakeholders perceive the necessity to adopt new teaching practices in EMI contexts not only to shift from transmissive to more interactive teaching resources but also to cater to students' needs in terms of disciplinary literacy development in English (Henriksen, Holmen, and Kling 2019: 14-20). A solution to the lack of language awareness detected in EMI has been the implementation of adjunct ESP and/or pre-sessional ESP/EAP classes (Schmidt-Unterberger 2018: 534). To this purpose, in the Northern European area, where EMI is mainly implemented, students have been increasingly provided with access to language development practices through "language training in separate teaching modules dedicated to […] English as a second language" (Henriksen, Holmen, and Kling 2019: 20). The need for scaffolding language acquisition along with content development has thus increasingly emerged in EMI settings. To foster the development of students' disciplinary literacies in English, content experts can either pursue both content and language objectives on their own in class through language awareness, or they can collaborate with language experts to jointly plan adjunct ESP courses. To design explicit language instruction, language specialists need to help content specialists to identify challenging language structures for students, which is instrumental in promoting the development of disciplinary literacy (Airey 2011b; Unterberger 2014). Overall, jointly constructed adjunct ESP classes seem to be perceived as the most feasible model by stakeholders especially because content

experts are not likely to feel explicit language teaching as part of their responsibility (Henriksen, Holmen, and Kling 2019: 21).

Content specialists need to develop various competences to teach in an additional language in multicultural and multilingual learning environments. Besides developing classroom management and lecturing language in English, content experts need to be made aware of the content-specific language aspects of the discipline they teach. Since epistemological constructs vary across disciplines, content specialists need to be introduced to the specific language features used to convey various epistemological aspects in their own disciplines. To foster the collaboration between content and language experts to plan ESP/EAP courses, training of content specialists in EMI should thus focus not only on lecturing language skills in English but also on the role of disciplinary literacies in content knowledge construction (Schmidt-Unterberger 2018: 36). Students' development of disciplinary literacy needs to be an explicit learning outcome in ETPs since it is necessary to develop "the ability to appropriately participate in the communicative practices of a discipline" (Airey 2011a: 3). To plan language awareness in ETPs, content experts' perceptions of the role of content-specific literacies in knowledge construction need to be taken into account: "In the sciences, language is often viewed as a passive bearer of meaning—an unproblematic means for reporting quantitative results […]. Clearly, this is not the case in the humanities and social sciences where language is conceived as integral to the thoughts and meanings being expressed" (Airey, Lauridsen, Räsänen, Salö, and Schwach 2017: 571). Fostering the development of content-specific literacies in the additional

language is instrumental in modeling an effective content and language integrated teaching approach in ETPs while also providing students with the skills necessary to build disciplinary knowledge effectively; the present work aims to elaborate on this dimension. Thus, in ETPs, English-medium teaching entails the development of content specialists' subject-specific literacy competence and genre awareness in the additional language (Henriksen, Holmen, and Kling 2019: 43) as well as pedagogical skills suited to teach in multilingual and multicultural settings (Henriksen, Holmen, and Kling 2019: 20).

1.2 Super diverse learning environments and ETPs

Vertocec coined the concept of super-diversity to define the newly emerging complex migration flows which have characterized the English society since the early 1990s (2007: 1024). Besides newcomers' ethnicity, the dimensions embedded in the super-diversity phenomenon are:

> differential legal statuses and their concomitant conditions, divergent labour market experiences, discrete configurations of gender and age, patterns of spatial distribution, and mixed local area responses by service providers and residents. The dynamic interaction of these variables is what is meant by "superdiversity". (Vertovec 2007: 1025)

Vertocec's super-diversity comprises not only the dimension of the new migration flows but also the socio-economic consequences of the phenomenon, including the emergence of new social hierarchical structures and related inequalities (2019: 126). In this respect, Vertovec shares Sigona's view on the effects of the concept of superdiversity emerging as: "ways of looking at a society getting increasingly complex, composite, layered and unequal" (Vertovec 2019: 127-136).

The concept of superdiversity, which emerged in the Anglo-English monolingual context, has outlined new sociolinguistic-economic phenomena in an overall monolingual context: "Within a monolingual mindset, the fluidity and heterogeneity characteristic of multilingualism is […] treated as a novel discovery called 'superdiversity'" (Singh 2017: 4-5). Over the years, the concept of superdiversity, which was originally coined to refer exclusively to "recognizing multidimensional shifts in migration patterns … (which) entail a worldwide diversification of migration channels, differentiations of legal statuses, diverging patterns of gender and age, and variance in migrants' human capital" (Meissner and Vertovec 2014: 541), has been applied to various contexts with different meanings all including the dimension of complexity in terms of socio-cultural processes from the local to the global perspective (Vertovec 2019: 127-136). In this respect, Sigona highlights the opportunities superdiversity entails in terms of methodological and epistemological perspectives: "Here there is me trying to look at my research through a superdiversity lens and think at what spaces a superdiversity turn would open in terms of new research questions, methodological challenges and ways of looking at a society getting increasingly complex, composite, layered and unequal" (2013).

The originally social anthropological concept of 'super-diverse' societies (Vertovec 2007: 1024-1049) has recently been applied to the educational field "by educationalists (Cole and Woodrow 2016) as a way of problematizing, re-imagining and re-configuring how knowledge is produced and disseminated at a global scale" (Díaz 2018: 22). Instructors in ETPs thus need to engage with superdiversity to

understand how education and globalization affect each other in a global context where ever-changing socio-cultural processes occur consistently. In particular, the concept of superdiversity challenges the overarching English-only monolingual knowledge building processes and as a result the use of English is being questioned: "the domination of Western epistemic perspectives both affirms and perpetuates a monolingual (English) and monocultural (Eurocentric) model of knowledge production that ignores any divergent perspectives" (Díaz 2018: 23). English academic discourses shape the monocultural Anglo-English way scientific knowledge is conceptualized and disseminated at global level; in this respect, superdiversity has worked as awareness raising to the necessity to open up to linguistically diverse epistemological knowledge constructs in disciplinary fields (Díaz 2018: 23-24).

From a superdiversity-driven perspective, teaching content through the medium of English to non-English speaking students thus entails fostering diversity and complexity in both language and knowledge construction in a multilingual and multicultural perspective. As a result, teaching content through the medium of English in non Anglo-English contexts, instructors need to make sure that learners view English not as a homogenous language where native speakers' standard is the norm but rather as an additional language also belonging to those who use it in international contexts:

> Engagement with postcolonial/decolonial practices entails problematising the structuralist notion of national languages as homogenous objects of study which have historically privileged the 'standard' ("the French", "the Spanish") varieties attached to largely imagined homogenous communities of speakers. Such reductive conceptualisations perpetuate native speakership norms and turn a blind eye to the plurality and complexity of evolving landscapes of speakership in the world. (Díaz 2018: 27)

In this perspective, students need to know how the English language works in Anglo-English subject-specific discourses to attain awareness of how knowledge constructs are created in these contexts. Thanks to this awareness, students can start to develop new hybrid epistemic knowledge frameworks complexifying knowledge creation processes and constructs.

The internationalization of Higher Education implemented through English-only knowledge practices is often perceived as affecting language and cultural diversity negatively by fostering standardization: "In so far as English is the only language used to bring theories into existence, this furthers intellectual homogenization and conformity. Today, such standardization is in danger of drowning theoretic-linguistic divergences throughout the whole world" (Singh 2017: 13). In this respect, teaching disciplinary content through English raises issues in terms of "debates about the geopolitics of local/global knowledge production, research and theorizing" (Singh 2017: 12). However, teaching content through the medium of English in non-English speaking countries and/or to students with non-English speaking backgrounds does not have to entail necessarily the implicit development of an English model in conceptualizing and theorizing content; a critical approach to English subject-specific discourses may be instrumental to this purpose. Divergence in theorizing discourses – "Theorizing is the capability to make sense of evidence using concepts and reasoning to offer credible interventions that are likely to make a desirable difference" (Singh 2017: 4) – is necessary in fact to avoid the emergence of a monolingual standardized theorizing discourse (Singh 2017: 1). The development of a multilingual mindset in

scientific theorizing processes is advocated by Singh's post-monolingual research methodology, targeted at intellectual equality, in relation to researchers of non-English speaking backgrounds studying in English-only speaking countries:

> post-monolingual research methodology, a […] theoretic-pedagogical framework for doctoral education whereby Multilingual Higher Degrees Researchers (MHDRs) can:
> 1. make original contributions to theoretical knowledge by using concepts, metaphors, images and modes of critical thinking from their full linguistic repertoire, and
> 2. deal with the tensions created by English-only monolingual theory, research and education, including rigidities associated with just using English and theories available in English. (2017: 2)

In this light, teaching disciplinary content through the medium of English (or other additional languages) in non-English speaking countries in Higher Education calls for a view of language diversity and divergence in theorizing discourses to "give[…] rise to a diversity of 'multilingualisms' within and across universities" (Singh 2017: 2). To foster a multilingual mindset in ETPs, it is pivotal to help students develop their knowledge building abilities, which entails understanding not only how subject knowledge systems build disciplinary knowledge but also how disciplinary discourses are constructed in English. This critical approach to disciplinary literacies can be fostered through various forms of language awareness in ETPs. In this light, language awareness in disciplinary courses taught in English can work as consciousness raising geared towards students' development of metacognition in subject-specific literacy in the additional language. As a result, the role of language in meaning-making processes at scientific level takes center stage since "languages are necessary and important for theorizing" (Singh 2017: 4-5). This view is in keeping with a Systemic Functional Linguistic approach to disciplinary learning (in a first or additional language), which will be introduced later in this work, instrumental in

making the role language plays in subject-specific discourse meaning-making processes explicit while also fostering a critical perspective on disciplinary discourses (Martin 2009, 2013, 2014; Halliday and Matthiessen 2014; Harman 2018). Language awareness as consciousness raising in CLIL practices can thus perform an important metacognitive objective at both language and discourse level:

> Bennett considers consciousness-raising as the only course of action. She highlights the importance of opening our minds to the possibility that alternative ways of construing knowledge exist. This entails denaturalising and problematising the normativity of the epistemological assumptions behind the ways in which we approach and evaluate scholarly texts. (Díaz 2018: 31)

Within this multilingual framework, in English-based learning environments, Singh calls for the explicit integration of students' first language-driven subject-specific and socio-cultural knowledge dimensions into the creation of new content and language hybrid knowledge building processes, which can help to renegotiate the positions of various epistemic knowledge constructions (2017: 2-12). The development of students' critical thinking in relation to the additional language used to convey disciplinary concepts "is necessary to bring to the fore forces, imagination and connections that structure and affect perceptions, concepts and experiences" (Singh 2017: 10). In this perspective, teaching content through the medium of English has found in Singh's post-monolingual research methodology a view which "brings to the fore the place of […] intellectual equality in theorizing and knowledge production" (2017: 7). Language awareness integrated into the teaching of content in English can thus be conceived as instrumental in fostering divergence in disciplinary and theorizing discourses in an additional language (Singh 2017: 13). In this light, in ETPs, it is even

more important that content experts focus on the disciplinary theorizing literacies used in their subject-specific domains since it is through subject-specific literacies that knowledge is constructed. Thus, for students to understand knowledge systems produced in an additional language thoroughly, it is important to analyze the disciplinary discourse practices specific to the subjects in which they engage. Through the promotion of students' metalinguistic knowledge of disciplinary discourses in the additional language, instructors can enable students to contribute actively to the "debates about the geopolitics of local/global knowledge production, research and theorizing" (Singh 2017: 12).

Within this theoretical framework, engagement with superdiversity may be fostered in ETPs. Through a critical approach to language and disciplinary knowledge building, elements of knowledge systems usually positioned at the periphery may have the opportunity to surface, challenging the norm. These practices may be especially suitable to virtual mobility learning environments where students from distant locations and with different mother tongues engage in epistemic co-construction in English as an additional language. To attain this result through virtual mobility, an internationalized curriculum may represent the starting point to highlight, through internationalized learning outcomes, the divergent perspective adopted to content teaching through the medium of English in a global perspective.

1.3 The internationalization of the curriculum

The internationalization process has witnessed the development of various concepts and formats, namely Internationalization, Comprehensive Internationalization (CI), Internationalization of the curriculum (IoC), and Internationalization at Home (IaH).

Knight's definition of the internationalization of Higher Education, based on his previous definition appearing in 2004 (Knight 2004: 11), is the following: "Internationalization of higher education is the process of integrating an international intercultural, and global dimension into the purpose, functions (teaching, research, and service), and delivery of higher education at the institutional and national levels" (Knight 2008: XI). The latest definition of internationalization in Higher Education, which slightly expands on Knight's, reads as follows: "The intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of postsecondary education, in order to enhance the quality of education and research for all students and staff, and to make a meaningful contribution to society" (de Wit, Hunter, Howard, and Egron-Polak 2015: 29). The term internationalization has been increasingly used as a general concept, namely as "a broad umbrella term that covers […] credit and degree mobility for students, academic exchange and the search for global talent, curriculum development and learning outcomes, franchise operations and branch campuses, for both cooperation and competition" (de Wit and Hunter 2015: 45). Comprehensive internationalization, in particular, highlights the importance of "infus[ing] international and comparative

perspectives throughout the teaching, research, and service missions of higher education" (Hudzik 2011: 6).

Internationalization has been further classified into two main broad streams, namely Internationalization abroad and Internationalization at Home (IaH). Internationalization abroad entails physical mobility of students, staff, and providers as well as cross-border education, specifically transnational education (TNE) which is "Award- or credit-bearing learning undertaken by students who are based in a different country from that of the awarding institution" (O'Mahony 2014: 8). Internationalization at Home, which has been recently pinpointed as "a nascent but rapidly emerging critical focal point for internationalization" (Matross Helms and Rumbley 2019: 131), was first defined as "[a]ny internationally related activity with the exception of outbound student and staff mobility" (Wächter 2000: 6). The latest definition of IaH also includes a series of strategies suitable for developing non-mobile campus-based students' international and intercultural competences: "Internationalization at Home is the purposeful integration of international and intercultural dimensions into the formal and informal curriculum for all students within domestic learning environments" (Beelen and Jones 2015: 69). This definition of IaH highlights in particular the necessity for the systematic integration of international and intercultural elements into its practices: "The definition stresses intentional inclusion of international and intercultural aspects into curricula in a purposeful way. This implies that adding or infusing random internationalized elements or electives would be insufficient to internationalize a program" (Beelen and Jones 2015: 69). In this light,

IaH entails the development of curriculum-based teaching/learning practices – targeted at fostering the development of intercultural and global dimensions on campus – which may also include the engagement of both international students and/or scholars present on campus and the members of the local/ethnic communities (Knight 2008: 22-24). IaH thus requires an internationalized curriculum of degree programs and/or subject-specific courses since "the internationalization of learning outcomes, pedagogy and assessment are at the heart of Internationalization at Home, just as for curriculum internationalization in general" (Beelen and Jones 2015: 64). Within this theoretical framework, interestingly, ETPs may not contribute to IaH unless they develop an internationalized curriculum:

> simply switching the medium of instruction to English […] for an international group of students does not constitute an internationalised curriculum. It is the content, the pedagogical approach and the learning outcomes, as well as the support services, that need to be internationalised if a meaningful international experience is to be offered to all students. (de Wit and Hunter 2015: 51)

Likewise, Leask warns against the idea that the mere presence of international students can result in an internationalized curriculum (2015: 11). In this perspective, it is important to notice that for quite a long time in Europe internationalization has mainly entailed student and staff mobility while in the Anglophone area, such as the United Kingdom and Australia, internationalization has mostly been implemented through the internationalization of the curriculum and learning outcomes (de Wit and Hunter 2015: 44). Internationalized learning outcomes, the driving force of the internationalized curriculum, represent the core dimension underpinning the latest internationalization processes (Beelen and Jones 2015: 66). In this perspective, for

internationalization to be effective, degree programs and disciplinary courses require an internationalized curriculum. Leask, who provided the first definition of the Internationalization of the Curriculum (IoC) in 2009 (2009: 209), has recently revised the definition as follows: "Internationalization of the curriculum is the incorporation of international, intercultural, and/or global dimensions into the content of the curriculum as well as the learning outcomes, assessment tasks, teaching methods, and support services of a program of study" (2015: 9).

From a pedagogical perspective, Leask advocates for the availability of scaffolding strategies suited to foster students' learning processes within an internationalized curriculum (2015: 72). Noticeably, Leask envisages an internationalized curriculum as fostering the development of students' global, intercultural, and language competences: "An internationalized curriculum will engage students with internationally informed research and cultural and linguistic diversity and purposefully develop their international and intercultural perspectives as global professionals and citizens" (2009: 209). In particular, for a curriculum to be internationalized, intercultural discipline-specific learning outcomes[1] need to be embedded into disciplinary course syllabi (de Wit and Hunter 2015: 49).

The internationalization of the curriculum thus entails the inclusion of explicitly stated international, global, and intercultural dimensions – which go beyond the subject-specific content – in the degree/course learning outcomes. International and

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[1] "Learning outcomes are statements of what we want students to learn as the result of the learning activities they undertake during a course and a program" (Leask 2015: 11).

intercultural learning outcomes embedded into course syllabi need to be fully integrated into teaching/learning and student engagement practices (Leask 2015: 10). International and intercultural learning outcomes encompass various dimensions including those suitable for developing global professionals, such as "communicating and working effectively across cultures, the ability to think globally and consider issues from a variety of perspectives, awareness of one's own culture and the capacity to apply international standards and practices within the discipline or professional area" (Leask 2015: 13).

The internationalization of the curriculum thus requires the refocusing of learning outcomes at program and/or course level through the inclusion of a global perspective entailing an "effective and responsible engagement with a multicultural and globalising world" (Killick 2011: 1). In this light, as exemplified by the internationalization of the curriculum implemented at Leeds Metropolitan University, refocused learning outcomes are expected to foster explicitly students' development of "the graduate[2] attribute of a Global Outlook […] [which connects] inclusivity and global relevance […] to contribute to the development of graduates as global citizens" (Jones and Killick 2013: 166-170). The working definitions of inclusivity and global relevance, devised at Leeds Metropolitan University, follow:

> 1. inclusive – non-discriminatory, appropriate, transparent […]. Each student is part of the diversity of the institution, and as such they benefit when we interrogate and improve our practice to best meet individual student needs and value individual student perspectives and contributions whatever their nationality, ethnicity, gender, etc. A similarly inclusive attitude

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[2] "Internationalization and equalization, framed as a process through which we seek to develop learning experiences which enable all our students to make their way in a multicultural and globalizing world, requires decisions concerning the capabilities which our students-as-graduates will need. The ways those capabilities are framed needs to be applicable to all our students, regardless of their chosen discipline. Such capabilities have come to be described in some contexts as graduate attributes" (Killick 2017: 57).

towards 'others' locally and globally is encompassed in the graduate attribute of 'global outlook'.
2. globally relevant – for all students graduating, seeking employment and going on to shape their personal lives in a multicultural, globalising world, with its increased connectivities, unpredictabilities and mobilities. In internationalisation of the curriculum work, the concern is to ensure the student sees how their discipline and the professions to which it relates fit into this rapidly evolving global context, and to equip them with attributes such as cross-cultural capability and global perspectives which will enable them to 'make their way' responsibly in this world, professionally and personally. (Killick 2011: 18-19)

In the global outlook, interconnected dimensions, such as global relevance, inclusivity, equality and diversity, thus emerge as pivotal components (Jones and Killick 2013: 165). Within "an inclusive learning culture" (Killick 2017: 164), at Leeds Metropolitan University, the refocusing of the learning outcomes has been carried out by making the dimensions of the attributes related to the global outlook explicit in subject-specific course syllabi (Jones and Killick 2013: 170). Other institutions may adopt the guidelines devised at Leeds Metropolitan University to refocus internationalized learning outcomes by embedding the graduate attributes related to global relevance and inclusivity at curriculum and/or subject-specific course levels:

Students will be able to [make appropriate subject-specific substitutions to the bracketed sections]:
• explain how [specific aspects of practice] impact upon the lives of people locally and in diverse global contexts
• critically review [current UK practice] through reference to practice in [two] other countries
• present an analysis of [the subject] appropriately for an audience of diverse cultures and first languages
• make a significant positive contribution as a member of a multicultural/international team work project
• effectively conduct primary research involving participants from a range of cultural backgrounds
• synthesise a range of international data sources as the basis for an analysis of potential problems and benefits associated with [the expansion of this practice]
• critique the themes presented in [this area] from [two] alternative international perspectives
• find commonly acceptable ethical solutions to complex global problems relating to [this area]
• present a critically reasoned and respectful argument in favour of one specific socio-cultural response to [this area]
• detect bias, stereotypical thinking and prejudicial opinion in published material relating to [this issue]

advance creative solutions for [this problem] which demonstrate appropriate consideration of at least one global (non-UK) context in which they will be applied. (Killick 2011: 7-8)

Some examples of internationalized learning outcomes follow (Killick 2011: 11):

Original Learning Outcome Students will be able to …	Modified Learning Outcome Students will be able to …
debate the ethical responsibilities of science in society with reference to current issues	debate the ethical responsibilities of science with reference to current issues in a multicultural society
list the different components of fitness and evaluate their contribution to functional capacity	list the different components of fitness and evaluate their contribution to functional capacity with appropriate reference to issues of race, gender and cultural contexts

In this light, it is important to mention that while refocusing the learning outcomes, instructors have experienced challenges such as the following:

• make the attribute explicit even though it might be "understood" to permeate the subject; […]
• ensure that issues identified as globally relevant are not limited to an outward-looking perspective but also include awareness of how U.K. or Anglo-centric disciplinary practice/culture might appear from other perspectives; […]
• make explicit that inclusivity requires an active approach not a passive one, for example, using group work to address diversity in a positive way, not merely assuming that multicultural/mixed nationality groups will be effective;
• recognize that IOC might not be relevant to every single module but that it should appear progressively in some modules at each level of study. (Jones and Killick 2013: 173-174)

The internationalization of the curriculum implemented through the refocusing of learning outcomes through a global outlook entails an analysis of culturally loaded subject-specific components of the disciplinary knowledge systems with which students engage along with other dimensions, such as "understanding of the cultural foundations of knowledge within the discipline and practice within related professions […] [and] learning activities focused on the progressive development in all students of international and intercultural skills, integrated across a programme of study" (Leask 2011: 11-12), in keeping with the superdiverse critical perspective previously introduced.

The internationalization of the curriculum thus emerges as a pivotal pedagogical practice necessary for ETPs to serve as active agents of inclusive internationalization processes although the implementation of the various facets of this construct seems still to be a challenge for Higher Education Institutions (de Wit and Hunter 2015: 50). Implementing an internationalized curriculum within ETP virtual mobility may represent an opportunity and an asset in this perspective:

> The key priorities on internationalisation at home and digital learning for higher education institutions and Member States are to:
> - Capitalise on the international experiences and competences of the staff of HEIs, aiming to develop international curricula for the benefit of both non-mobile and mobile learners. (European Commission 2013a: 8)

1.4 IaH, virtual mobility, and the internationalized curriculum

Mobility is part of the Internationalization process. All mobility formats available as part of the ErasmusPlus program, namely physical, virtual and blended, aim for learners to become engaged in an international multi-campus experience instrumental in the development of multifaceted internationalization (Henderikx and Ubachs 2019: 11-14).

While physical exchange mobility has not affected the content of the university courses, newly emerging mobility schemes, such as international networked curricula[3], also entail the reorganization of courses to a certain extent (Henderikx and Ubachs 2019: 10). Blended and online mobility, which have emerged as new mobility formats

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[3] "international networked curricula[:] […] each university retains its own programme, but opens a consistent mobility window for organized mobility flows from other universities. Networked curricula and mobility windows have an impact on curricula and courses, because universities divide (specialized) course packages between them and offer structured mobility flows within the network" (Henderikx and Ubachs 2019: 10).

mainly in the last decade along with the use of open educational resources, are conceived as instrinsically connected with the development of innovative and trasformative pedagogical practices (Henderikx and Ubachs 2019: 5-11). In this respect, a significant drive towards the development of innovative digital pedagogical practices, embedded in blended discipline-specific curricula and courses delivered through virtual mobility, along with the acquisition of foreign languages have been strongly fostered by the European University Initiative (European Council 2017: 3-4):

> By including IaH in the recent European Policy statement, European higher education in the world (European Commission 2013), it might even be said that IaH has gained momentum, and has moved into the centre of the debate on the internationalization of higher education. It has made its way into the policy agendas of many universities, and is also on the way to becoming part of the educational policies of some member states. (Beelen and Jones 2015: 67)

Various kinds of interrelationships between degree/course curriculum and mobility formats are available:

> - Embedded mobility within a course
> - Exchange mobility for individual students (virtual Erasmus mobility)
> - Networked mobility in networked curricula and courses with mobility windows
> - Integrated mobility in joint curricula. (Henderikx and Ubachs 2019: 16)

In terms of course-embedded mobility, part of the same course curriculum can be delivered "through learning activities such as summer or winter schools, intensive programmes (physical mobility) or international virtual seminars, think tanks, projects (blended or virtual mobility)" (Henderikx and Ubachs 2019: 17). The most widespread mobility format, exchange mobility, may consist in both physical and virtual experiences; in networked programs, each partner institution offers (physical/blended/virtual) mobility windows through courses which are not available in the other universities and that students from the various networked universities can

attend (Henderikx and Ubachs 2019: 20-25). Through (physical/blended/virtual) mobility, students can pursue a degree program, featuring a joint curriculum, delivered by two or more universities to which the program belongs (Henderikx and Ubachs 2019: 26).

In general, however, only around 20% of European students participate in physical mobility (de Wit and Leask 2015; Ubachs and Henderikx 2018). As a result, virtual mobility might be instrumental in also providing those domestic students who would never be able to take part in physical international mobility with a global experience. Providing students with the skills suitable for enhancing their employability is also key in IaH development. This objective has emerged as the result of studies which show that students with an international experience abroad are more likely to be employed compared to those who have no international experience, which suggests that virtual mobility may play a key role especially for non-mobile students: "the Erasmus Impact Study (European Union 2014) […] drives the message home that the non-mobile majority of European students depend on the domestic curriculum for the acquisition of the employability skills that mobile students acquire through study, or […] internship abroad" (Beelen and Jones 2015: 68).

In this perspective, the integration of virtual exchanges as part of IaH is likely to increase in the near future (de Wit and Hunter 2015: 49-53) also thanks to the development of innovative technology-enhanced practices and the use of Open Educational Resources (European Commission 2013b: 8). Virtual mobility fostered through joint international technology-enhanced projects represents one of the key

strategies of IaH for "equal access to internationalization opportunities for all students" (Beelen and Jones 2015: 64). Joint virtual and blended international projects require the integration of internationalized learning outcomes into discipline-specific course syllabi and curricula: "it is the articulation and assessment of internationalized learning outcomes within the specific context of a discipline which will allow such environments to be used as a means of achieving meaningful international and intercultural learning" (Beelen and Jones 2015: 69).

Overall, these virtual mobility contexts still represent a challenge for universities: "While growing importance is being attached to incorporating an international dimension into the curriculum, […] operationalisation within the institutions remains a challenge" (de Wit and Hunter 2015: 50). In particular, in virtual mobility, which entails the interaction of distant-located learners with various mother tongues, disciplinary knowledge systems and knowledge production are mainly constructed through subject-specific discourses in English. In these learning environments, language can thus constitute a challenge students have to face: "In international courses, language can be an issue, which in most cases is solved by using English as a lingua franca" (Henderikx and Ubachs 2019: 39). The framework introduced in the present work aims to provide some language awareness guidelines suitable for implementation in virtual mobility in ETPs in general, and virtual mobility carried out through the medium of English in particular, in keeping with the "general tendency for universities to develop a more strategic approach to internationalisation" (de Wit and Hunter 2015: 44). The framework is targeted at scaffolding additional

language learners' English subject-specific discourse development from a critical and diverse perspective for all students: "This raises the question: "How can we shift, in many institutions, from an almost exclusive focus on mobility for the elite to a focus on curriculum and learning outcomes for all students, mobile or not?" (de Wit and Leask 2015: 11). The present work thus aims to elaborate some pedagogical practices suitable for scaffolding the academic literacy dimension of virtual mobility, a component of IaH, within ETPs thereby addressing a challenge research has highlighted:

> In this super-complex world, multiple dimensions of being are required of both individuals and institutions. In this world, coherent and connected approaches to international education, which address epistemological, praxis, and ontological elements of all students' development, are urgently needed. Focusing attention on these goals has the capacity to transform an institution's approach to internationalization and the identity of the institution. The curriculum is the vehicle by which the development of epistemological, praxis, and ontological elements can be incorporated into the life and learning of today's students, ensuring that they graduate ready and willing to make a positive difference in the world of tomorrow. (de Wit and Leask 2015: 10)

The necessity for the development of a framework consisting of transformative inclusive practices to be implemented as part of the IaH has increasingly emerged especially within English-medium virtual mobility: "These unresolved questions highlight a shifting focus in approaches to internationalization—away from ad hoc, marginal, and fragmented activities toward broader, more diverse, and more integrated and transformative processes" (de Wit and Leask 2015: 12). In this respect, recent surveys conducted by the International Association of Universities (IAU) worldwide show that among ten expected affordances of the internationalization of Higher Education, the respondents ranked first "enhanced international cooperation and capacity building" (Marinoni, Egron-Polak, and Green 2019) and second "improved

quality of teaching and learning" (Marinoni, Egron-Polak, and Green 2019). The perceived added value of improved pedagogical practices as part of the internationalization processes thus emerges strikingly, which suggests that this is the context in which practitioners can work intensively to provide an ever-transformative learning experience to all learners. In this light, institutions need to find their own specific approach to internationalization while also building on the practices experimented by other institutions (Marinoni, Egron-Polak, and Green 2019).

2. The development of content-specific embedded literacy in ETPs and the affordances of Open Education

2.1 The integration of language awareness in CLIL learning environments

Research has highlighted how providing students only with exposure to subject-specific content in an additional language without implementing language awareness is not enough to foster high levels of language development (Lyster 2007; Lightbown 2014). In this respect, the integration of content and language instruction has been increasingly identified as instrumental in fostering effective content and language learning: "The goal is to strengthen students' metalinguistic awareness, which then serves as a tool for detecting linguistic patterns in content-based input and thus for learning language through subject-matter instruction" (Lyster 2017b: 22-23). Focusing on both content and language development in learning environments where disciplinary content is conveyed through the medium of an additional language has thus emerged as a pivotal practice: "Educators may believe that students should focus on science or mathematics while they are in the science or mathematics class, reserving the focus on language for a separate lesson. Such separation may deprive students of opportunities to focus on specific features of language at the very moment when their motivation to learn them may be at its highest" (Lightbown 2014: 48). In this respect, Lyster has advocated for a counterbalanced approach pursuing both content and language objectives through proactive and reactive practices in immersion programs; proactive activities entail engaging learners in planned subject-specific language noticing and awareness processes followed by practice activities while reactive

practices refer to instructors' subject-specific language feedback provided to students on the fly during classroom instruction (2007: 44-48).

The integration of content and language through language awareness represents a key dimension of CLIL where learners are provided with authentic input-rich learning environments which expose them to a wide range of complex subject-specific language instrumental to content and language knowledge development. In CLIL contexts, instructors integrate content and language through language-supportive methodologies implemented during content classes, which is likely to be more effective than what occurs in immersion programs where content and language development have usually been pursued in separate classes thereby preventing students from developing high levels of language competence: "It is a relatively rare occurrence for teachers to refer to what has been learned in a grammar lesson when they are involved in content teaching, and even more rare for teachers to set up content-based activities for the purpose of focusing on problematic language forms" (Allen, Swain, Harley, and Cummins 1990: 75).

In CLIL environments, language awareness may focus on various language aspects, such as language functions specific of disciplinary discourses (e.g. defining, classifying, etc.), subject-specific language, and genre-specific features including logical relationships (e.g. cause/effect, comparison, etc.) (Lyster 2017a: 9-10).

2.1.1 Language as a meaning-making process and the integration of content and language in CLIL

A view of language as deeply intertwined with meaning-making processes needs to be adopted to integrate language awareness into CLIL learning environments: "CLIL needs an approach which moves beyond structural aspects of L2 proficiency" (Coffin 2017: 101). Systemic Functional Linguistics (SFL), along with a Vygotskian socio-cultural view of learning (Vygotsky 1978; Lantolf 2000; Lantolf and Thorne 2006), seems to address this issue:

> In recent research into teaching through language and in studying language in a range of subject areas, the theoretical framework of Systemic functional linguistics (SFL) (Halliday and Matthiessen 2014) combined with a Vygotskian-inspired model of pedagogy […] provide valuable insights into the development of pedagogy, regardless of the language background of the students. These studies demonstrate the importance of a pedagogy that is underpinned by the role of language in the development of knowledge in the classroom. (Forey and Polias 2017: 146)

Within an SFL framework, where language is conceptualized as a meaning-making process, language and content are conceived as deeply intertwined: "SFL privileges […] [the] perspective on language as sets of resources for meaning making, rather than rules for ordering structures" (Martin 2009: 21). In SFL, language makes sense of experience since "it is through language that speakers construe the world of experience" (Rose and Martin 2012: 20); thus, language and meaning develop concurrently. In particular, in SFL, language consists of four meaning-making interrelated strata where semantics and lexicogrammar make up the content plane while phonology and phonetics make up the expression plane (Halliday and Matthiessen 2014: 25-26). The strata are interconnected through the realization process: "what

becomes accessible to us is the text as realized in sound or writing" (Halliday and Matthiessen 2014: 51).

In SFL, instantiation informs text production where texts are conceived as instances of the potential of the language system (Halliday and Matthiessen 2014: 27). System and text, which are the two ends of the instantiation cline, interact through the instantiation process: "the relationship between system and text is a cline – the cline of instantiation […]. System and text define the two poles of the cline – that of the overall potential and that of a particular instance" (Halliday and Matthiessen 2014: 29). It is the underpinning system of language, from which texts are instantiated, which holds the potential for meaning making (Halliday and Matthiessen 2014: 27).

In particular, it is through the interplay of the four strata (semantics, lexicogrammar, phonology, and phonetics) that language informs meaning-making processes which perform two main functions: they construe experience and enact interactants' social relationships (Halliday and Matthiessen 2014: 30). It is through semantics, the highest language stratum, that language interacts with the outside world (Halliday and Matthiessen 2014: 42). At the same time, semantics interfaces with a lower stratum of the language system, namely lexicogrammar, which builds meaning through the integration of linguistic components, that is vocabulary and grammatical structures: "Semantics transforms experience and interpersonal relationships into linguistic meaning, and lexicogrammar transforms this meaning into words […] adopting the speaker's perspective" (Halliday and Matthiessen 2014: 43). In lexicogrammar, vocabulary and grammatical structures interconnect along the same

stratum, which is the continuum where vocabulary and grammar represent the two poles (Halliday and Matthiessen 2014: 24). At the lexicogrammatical level, wording occurs while interfacing with semantics above and phonology below thereby enacting a three-level perspective: "lexicogrammar, the stratum of wording. […] [T]he stratum 'above' is the semantics, that 'below' is the phonology. We cannot expect to understand the 'grammar' just by looking at it from its own level; we also look into it 'from above' and 'from below', taking a trinocular perspective" (Halliday and Matthiessen 2014: 48). In lexicogrammar, in addition to intertwining with the sematic level above, words are also interconnected with elements from their own level through collocational and colligational processes (Halliday and Matthiessen 2014: 59).

In brief, through realization, phonological or graphological patterns generate lexicogrammatical wording patterns at clause level while lexicogrammatical wording patterns produce discourse meaning patterns at clause and text level; a text is thus the product of patterns of patterns occurring at various levels (Rose and Martin 2012: 21).

2.1.1.1 The functional component

In SFL, grammar is defined as functional because it is viewed as a meaning-making process, "that is, from the standpoint of how it creates and expresses meaning" (Halliday and Matthiessen 2014: 20). In particular, SFL features two functional dimensions: "First, it is concerned with the ways in which the various parts of the language function together in order to provide the resources for meaningful communication. Second, it is concerned with the ways in which language functions in

society as a means of communication" (Banks 2019: 7-8). In SFL, meaning-making thus takes center stage in language conceptualization in general and in grammar conceptualization in particular (in this respect, lexicogrammar is functional because it is conceived as a meaning-making system rather than as a set of language structure): "The perspective moves away from structure to consideration of grammar as system, enabling us to show the grammar as a meaning-making resource and to describe grammatical categories by reference to what they mean" (Halliday and Matthiessen 2014: 10). Both language and grammar are thus envisaged as networked systems grounded in meaning-making choices: "Giving priority to the view 'from above' means that the organizing principle adopted is that of system: the grammar is seen as a network of interrelated meaningful choices. […] Each system has its own point of origin at a particular rank: clause, phrase, group and their associated complexes" (Halliday and Matthiessen 2014: 49). In this perspective, constituency informs the compositional structure of language in SFL, which means that "larger units are made up out of smaller ones: […] a syllable out of sequences of phonemes […]. We refer to such a hierarchy of units, related by constituency, as a rank scale, and to each step in the hierarchy as one rank" (Halliday and Matthiessen 2014: 5). In terms of English-specific lexicogrammatical rank scales, clauses are made up of phrases, phrases are made up of words, and words are made up of morphemes; overall, units are made up of one or more units belonging to the rank below and more units of the same rank can create complexes, such as clause and phrase complexes (Halliday and Matthiessen 2014: 9). Meaning is generated at the clause level through lexicogrammar. Overall, the systemic

dimension of SFL relies on the concept of language as the result of selection among meaning-making options: "SFL is called systemic because […] it foregrounds the organisation of language as options for meaning. In this view, the key relations between the elements of language are relationships of choice – basically between what you say and what you could have said instead if you handn't decided on what you did say" (Martin 2009: 21).

In SFL, people make sense of experience through language, that is they construe their experience and negotiate it with the other interactants while establishing social relations (Rose and Martin 2012: 19). In particular, in SFL, language is operationalized through three main types of meaning or metafunctions: the ideational/content meaning, which makes sense of experience and construes ideas; the interpersonal meaning, which enacts interactants' roles and their social relationship building; and the textual meaning, which is related to the organization of the information in the text also enabling speakers/writers to relate the text to its context (Martin 2009: 24). As a result, any text, which is an instantiated example of the language system, encapsulates meaning through: field, which refers to the subject being discussed and the ideas construed; tenor, which refers to the interactants' roles in the exchange and the way they encode and negotiate the social relationships between the people involved in the exchange; and mode, which refers to the rhetorical dimension, the degree of the dialogic/monologic dimension implemented, and the channel of communication used to convey meaning (Halliday and Matthiessen 2014: 33-34).

2.1.1.2 The text

In SFL, a text is the result of two processes, namely realization and instantiation, the latter featuring system and text as the two poles of a cline; in the instantiation cline, the system represents the potential of the language while instantiation, operationalized through texts, is the process responsible for producing instances of the potential of the system. A text is characterized by semantic patterns produced through lexicogrammatical patterns which word the meaning originating from the interfacing process that semantics holds with the world of experience (Halliday and Matthiessen 2014: 43). Thus, texts are instances of the potential of the (semantic) system. A text is "language functioning in context […]. Language is […] a resource for making meaning; so text is a process of making meaning in context" (Halliday and Matthiessen 2014: 3). In particular, the social contexts in which language operates is encoded in text types through three different entry points, which contribute to register building and patterning:

> As language has three general functions because of the way it is used, so the social contexts of language use can be viewed from three perspectives: the relationships that are enacted by language, the experiences that are construed by it, and the role that language plays in the context. These three dimensions of social context are known as the tenor of social relations (who is involved), the field of experience (what they are involved in or speaking about), and the mode of communication, such as speaking or writing. Together, field, tenor and mode are known as the register of a text. (Rose and Martin 2012: 22)

A text, which is the product of systemic choices foregrounding language as a meaning-making process, has interoperating internal and external organizing elements: "A text is organized internally as patterns of logical, experiential, interpersonal and textual meaning. At the same time, it is organized externally as a unit operating in

context: the structure of the context of situation that a text operates in is, as it were, projected onto the text" (Halliday and Matthiessen 2014: 43).

Along the instantiation cline, moving away from the text pole, other intermediate meaning-making products, such as text types and registers, featuring various degrees of patterns at various levels are produced (Halliday and Matthiessen 2014: 29). Texts are context-dependent: "The time and place in which a text is produced is part of the immediate context of the text, and is usually called the 'register' to distinguish it from the wider context, frequently called 'genre'" (Banks 2019: 90). In terms of register, field, tenor, and mode may vary depending on whether the topic is related to everyday topics or subject-specific content:

> Field can shift along the continuum between concrete and commonsense reality and technical or abstract meaning; tenor can shift between the more informal, subjective roles and close relationships and the more formal, objective, and distant; while mode can shift between spoken language accompanying action and written language that constitutes the meaning. (Forey and Polias 2017: 147)

In particular, in the register continuum, field moves between "everyday, commonsense, concrete [and] technical, abstract" (Forey and Polias 2017: 148); tenor moves between "personal, informal, familiar people [and] impersonal, formal, unfamiliar people" (Forey and Polias 2017: 148); and mode between "language accompanying action, spoken [and] language constituting meaning, written" (Forey and Polias 2017: 148). The language of theoretical subject-specific knowledge features higher lexical density and lower clausal complexity (Gray 2015; Biber and Gray 2016; Lin 2016). Being able to move back and forth between higher and lower lexical density

and clausal complexity is pivotal for students to access disciplinary texts in an additional language successfully.

2.1.1.3 Grammatical metaphor

Grammatical metaphor constitutes a recurring pattern in content-specific discourse, where nominalized processes and qualities are often used: "Grammatical metaphor is the use of a non-congruent form, such as the encoding of a process as a noun rather than a verb" (Banks 2019: 86). In English, verbs are marked as the most suitable way to convey processes, nouns to convey entities, and adjectives to convey qualities; when these patterns are modified – that is, they are produced in a non-congruent form (for example a process is conveyed through nouns) –, grammatical metaphor occurs (Banks 2019: 83).

Grammatical metaphor realized for example through nominalization affects subject-specific text construction deeply (Banks 2019: 84). In this case, grammatical metaphor controls meaning making by: turning processes into entities, which can be modified and qualified; turning processes into entities which are not explicitly linked to who or what is enacting the process or what the consequences of the process are; and by making processes, which entail a beginning and an end, permanent and thus more difficult to argue with (Banks 2019: 84). Grammatical metaphor and nominalized processes in particular are consistent patterns of subject-specific discourse building: "Nominalization and grammatical metaphor play an important role in construing

rationality […] by enabling the writer to construct logical semantic relations in the text" (Lin 2016: 53).

2.1.1.3.1 Packing and unpacking

Shifting from a dynamic representation of knowledge through verbs to a static representation through nouns is a dimension of subject-specific content that students need to be able to master since using nouns instead of verbs entails modifying the way people experience reality:

> Not because the word motion is a noun, but because in making it a noun we have transformed 'moving' from a happening into a phenomenon of a different kind: one that is at once both a happening and a thing. … By calling 'move' motion, we have not changed anything in the real world; but we have changed the nature of our experience of the world. (Halliday 2004: 15-16)

To this purpose, especially in ETPs, students need to learn how to unpack, that is, to express subject-specific concepts using everyday language, and repack, that is, to rephrase concepts expressed in everyday language through subject-specific technical language. Information density reduction can thus be pursued through unpacking: "The information conveyed by abstract nouns can be unpacked with phrases and sentences. […] Condensed noun phrases can also be unpacked with less compressed dependent clauses. […] WH-clauses are also used to reduce the information density" (Hu and Gao 2018: 176-177). Abstraction can also be diminished through noun replacement, namely "by replacing abstract nouns with nouns which are more concrete and easier […] to understand. […] Simple nouns can also replace complex noun phrases" (Hu and Gao 2018: 176). Denominalization, which consists in substituting nouns with verbs and adjectives, can decrease both abstraction and information density (Hu and Gao 2018:

177). Repacking implies moving from mainly verbal forms to nominal forms and especially complex noun phrases (Lin 2016: 50). Subject-specific meaning making is envisaged as featuring higher lexical density and at the same time lower clausal complexity.

Analyses of textbooks used in EMI settings show some deficiencies, such as a lack of unpacking and packing suitable for additional language learners and the right balance and increase in information density and abstraction, which may cause students' problems in processing disciplinary texts (Lo and Lo 2014; Hu and Gao 2018). Content and language experts are thus likely to play a key role in planning and devising together teaching resources and/or adapting texts to cater to EMI students' needs by using practices such as unpacking and repacking, denominalization, and noun replacement (Hu and Gao 2018: 178).

Within a genre-based pedagogy, language awareness in ETPs needs to focus on "lexicogrammatical resources that have evolved in the English language […] to construct technicality and abstraction in different academic disciplines through nominalization and the use of grammatical metaphor" (Lin 2016: 50). Learning how to unpack and then repack nominalizations and grammatical metaphor within subject-specific contexts enables students to unravel the cognitive processes underpinning language constructs in English. In the case of grammatical metaphor, scaffolding students in unpacking and repacking metaphors is pivotal. In ETPs, students need scaffolding to move comfortably between the abstract and concrete poles. Through customized scaffolding, students can learn how to unpack and repack technical and

abstract terms and grammatical metaphor, that is to shift back and forth along the register continuum: "The extent to which grammatical metaphor is important in language can be brought out by trying to rewrite a text, removing all examples of grammatical metaphor. This is known as 'unpacking' the metaphor. It involves replacing the grammatical metaphors with congruent forms" (Banks 2019: 85). In this context, it is noteworthy that grammatical metaphor realized through nominalized processes represents one of the most increasingly used practices in English subject-specific discourse (Biber and Gray 2016: 67-122). Over time, this phenomenon has emerged as the result of an increased use of nominal groups made up of two, three, four or more nouns in a row (which is considered more important than nominalization as a process) and concurrently a decrease in the use of of-phrases, an increase of phrasal over clausal embedding by means of an extensive use of pre- and post-modifiers, and an increase of the use of appositions in the scientific subjects (Biber and Gray 2016: 67-217). Increased phrasal embedding has led both to a decrease in the use of lexical verbs and to an increase in implicitness since in phrasal embedding logical relationships are not explicit (Biber and Gray 2016: 218-243).

2.1.1.4 Genre

A higher-level discourse patterning, in comparison with register, characterizes a genre:

> Beyond the register is the global social purpose of a text, its genre. […] Field, tenor and mode are woven together at the level of genre: for example, in an explanation genre the field may be a natural process such as a life cycle, or a social activity such as a global financial crisis; its

mode may be spoken or written; and its tenor may be personal and entertaining or cool and objective. (Rose and Martin 2012: 22-23)

A supervenient relationship between language and context, which conceives context as a higher stratum of meaning, is given priority in SFL over a circumvenient perspective, which views context as an extra linguistic dimension into which language is embedded (Martin 2014: 10). Context envisioned as a higher stratum of meaning is pivotal in SFL meaning-making conceptualization (Martin 2014: 10-14).

As a result of a supervenient stratal perspective of context, genre and register are viewed as the product of increasingly complex patterns of meaning, register and discourse semantics; patterns of discourse semantics are the product of lexicogrammatical patterns, which are produced by phonological patterns (Martin 2014: 14). The supervenient approach highlights how language users have to dive into all the lower strata to understand genre: "it is very common for SFL and corpus linguists to base context analysis simply on lexicogrammatical patterns, setting aside discourse semantics, or register (i.e. field, tenor and mode), or both, as if these levels of articulation were not crucial. Supervenience demands a full spectrum of analyses, across the strata proposed" (Martin 2014: 14).

As part of a stratified view of context (Martin 2014: 17), in the interpersonal discourse semantic approach, the interpersonal function deals with the relationship that the speaker/writer establishes with both the other interactants and the meaning of the message conveyed (Banks 2019: 10): "The first type of relationship is mainly dealt with by the system of 'mood' and the second by the system of 'modality'" (Banks 2019: 39). In terms of mood, speakers/writers act as information givers or questioners

while listeners/readers act as receivers of information or answerers (Banks 2019: 39). Modality, instead, refers to how speakers/writers negotiate their relation with their messages/texts; speakers/writers can do that through modalization, which refers to how they can encode the possibility of something as true, and modulation, which refers to how they can convey obligation and permission (Banks 2019: 47). Modality, obligation, and permission are mainly expressed through modal verbs but also lexical verbs (such as seem and allow), nouns (such as possibility), adjectives (such as possible), and adverbs (such as possibly) (Banks 2019: 47-48).

2.1.1.4.1 Appraisal

From a stratified view of context, Appraisal, namely a model of evaluation of language, has emerged as part of the SFL two-level interpersonal function:

> This reflects the fact that a feeling like happiness can be realised through many different systems (happily they lost, it cheered him they lost, he felt happy, a happy chappy, his happiness etc.). As discourse analysts we wanted a system that would generalise across these diverse lexicogrammaticalisations, bringing feelings together in relation to one another so that we could describe prosodies of evaluation in relation to genre […]. This meant turning from a grammatical perspective on evaluation to a discourse semantic one. (Martin 2014: 18)

The interpersonal metafunction has thus been further developed through the Appraisal framework consisting of three systems: attitude, engagement and graduation, which are made more complex by means of subsystems (McCabe and Whittaker Rachel 2017: 108). Through Appraisal, it is possible to analyze the way speakers/writers' subjectivity is encoded in the texts through attitude, engagement, and graduation (Martin and White 2005; Banks 2019).

Attitude, which refers to the speaker/writer's feelings and emotions as well as

the way feelings and emotions are encoded in texts (Banks 2019: 74-78), consists of:

- Affect [which] deals with the expression of emotion.
- Judgment [which] concerns the expression of attitudes towards people and their behavior
- Appreciation [which] is about evaluation. (Banks 2019: 78)

In particular, affect represents the speaker/writer's feelings and emotions, which can be either positive or negative, produced in relation to the topics of the texts (Martin and White 2005: 42). Judgment, which may encode "social esteem and social sanction" (Banks 2019: 75), refers to how the speaker/writer conveys attitudes in relation to people and their actions, for example by praising or criticizing them (Martin and White 2005: 42). Appreciation, which can be either positive or negative like affect, refers to how the speaker/writer conveys evaluation (Martin and White 2005: 43).

Engagement, which refers to the degree to which the speaker/writer accounts for other peoples' opinions can be monoglossic and heteroglossic depending on whether the speaker/writer refers either only to his/her own ideas or also to others' ideas (Banks 2019: 76-78).

Graduation refers to the language devices used to make the feelings and attitudes expressed sound stronger or weaker (Banks 2019: 78).

Appraisal is being increasingly used to analyze various kinds of subject-specific discourses in CLIL contexts (Dalton-Puffer 2017; McCabe and Whittaker 2017).

2.1.1.5 Genre pedagogy and language awareness

Moving from genre by means of discourse semantics, a reconceptualized interpersonal function has emerged enabling the analysis of not only dialogical but also monological texts, including subject-specific texts (Martin 2014: 19).

Within the supervinient view of context, SFL has thus moved beyond the clause level through discourse semantics, register, genre, and the development of Appraisal (Martin 2014: 19). In this perspective, genre is conceived as a:

> 'staged, goal-oriented, social process' - social because we are inevitably trying to communicate with readers […], goal-oriented because we always have a purpose for writing and feel frustrated if we do not accomplish it, and staged because it usually takes us more than one step to achieve our goals. (Rose and Martin 2012: 54)

In SFL, where language is seen as a meaning-making process, genre pedagogy envisions language awareness, focusing on first and additional languages, as a key component of learning: "the approach of genre pedagogy is to make the entire language-learning task explicit, and this means building up a lot of new knowledge about language (or KAL) for both teachers and students" (Rose and Martin 2012: 10). As a result, within an SFL framework, content-specific knowledge development requires the implementation of language awareness targeted at disciplinary literacy development (Rose and Martin 2012: 18). The necessity to integrate language, conceived as a meaning-making process, and content in CLIL environments thus emerges clearly: "The distinctive characteristic of human learning is that it is a process of making meaning – a semiotic process; and the prototypical form of human semiotics is language. Hence the ontogenesis of language is at the same time the ontogenesis of learning" (Rose and Martin 2012: 18).

2.1.1.5.1 Text analysis

In SFL, supraclausal patternings interwoven at text level fall into a discourse dimension which is made up of six meaning systems: periodicity (textual function), conjunction (ideational function), identification (textual function), ideation (ideational function), appraisal (interpersonal function), and negotiation (interpersonal function):

> Periodicity is the flow of information in a text, particularly as starting and end points of clauses, paragraphs and texts. Information patterns at the level of clause include Themes and News […]. At the level of paragraph they include topic sentences, and at the level of whole texts they include introductions and conclusions.
>
> Conjunction is the logical relations between clauses, sentences and phases. Logical relations include addition (and/or), comparison (like/unlike), time (then/before) and consequences (so/because).
>
> Identification includes the words that identify people, places and things, and keep track of them from sentence to sentence, such as articles (a, the), demonstratives (this, these, those), comparatives (each, other, more, less) and pronouns (he, she, it, they, you, me).
>
> Ideation includes the lexical words that express the meanings of processes, people, things, places and qualities, as well as the relations between lexical words from sentence to sentence, such as repetitions, similarities and contrasts. These are known as lexical relations.
>
> Appraisal includes the words we use for evaluating feelings, people and things. Appraisals can be positive or negative: happy/sad, good/evil, beautiful/ugly. They can also be amplified: happy/joyous/ecstatic. And they can be sourced to the writer, I believe that …, or to others It is widely acknowledged that …
>
> Negotiation is the resources that speakers use to interact with each other, including speech functions like question, statement, command, but also the responses to each of these moves in an exchange between speakers.
>
> Because they are concerned with interacting and evaluating feelings, the functions of negotiation and appraisal are interpersonal. As ideation and conjunction are concerned with people, things, processes and relations, their functions are ideational. Periodicity and identification are concerned with organising discourse so it is meaningful in context, so their function is textual. (Rose and Martin 2012: 270)

Periodicity, identification, ideation, and appraisal can be especially useful to sensitize students to subject-specific literacies in CLIL environments.

2.1.1.5.1.1 Transitivity analysis

The ideational metafunction, based on the relationship between participants (subjects and objects of a clause), processes (verbs/verbal groups), and circumstances (prepositional phrases), can be analyzed through transitivity analysis:

> A simple clause consists of a process (action, event or state) and one or more participants in that process. To this may be added various circumstances. The relationship between a process and its participants and circumstances is known as 'transitivity', and this constitutes a major part of the ideational metafunction. (Banks 2019: 29)

In SFL, functional labelling is especially instrumental in making speakers and writers' stance to surface at the ideational level where language users construe experience: "functional labels […] can help to reveal language users' particular ways of viewing the world – their 'angle of representation' […] [while] conjunctions serve to express very general logical relations, such as time or cause, and are an aspect of ideational meaning" (Coffin, Donohue, and North 2009: 284-285). A critical analysis of texts at the ideational level can be carried out through transitivity analysis which entails "analysing the components of language that function to represent 'who does what, to whom, where, when, and how'. A transitivity analysis thus reveals how the world is represented" (Coffin, Donohue, and North 2009: 288). Transitivity analysis can be especially instrumental in critical content-specific text analysis.

In SFL, functional labels, such as participants, processes, and circumstances, are used:

> (a) Participants: Who or what is involved in the event or situation? […]
> (b) Processes: What is the action or event or relationship presented in the clause? […]
> (c) Circumstances: What kind of information are we given about the situation surrounding the process, e.g. Where is the event occurring (location in space)? When is it occurring (location in time)? Why did it occur (cause)? And how did it occur (manner)? (Coffin, Donohue, and North 2009: 286)

The overall congruent correspondence of nominal groups as participants (subjects and objects), verbal groups as processes, and prepositional phrases as circumstances is highlighted in the SFL form-function connection:

> From the perspective of form, […] each functional component tends to be grammatically expressed, as follows:
> - Participants tend to be realised by nominal groups.
> - Processes tend to be realised by verbal groups.
> - Circumstances tend to be realized by prepositional phrases. (Coffin, Donohue, and North 2009: 290-291)

However, participants and circumstances can also be produced in noncongruent ways, which generates grammatical metaphor: "Participants may […] be realized by adjectival groups or even an entire clause [and] […] circumstances […] by grammatical forms other than prepositional phrases, namely nominal groups or adverbial groups (Coffin, Donohue, and North 2009: 322).

In SFL, there are different types of processes, and for each process type there are different labels for the participants involved; all the choices involved in terms of processes, participants, and circumstances inform and make language users' worldview visible (Coffin, Donohue, and North 2009: 292-293). The most commonly used processes are material, behavioural, relational, existential, mental, and verbal and each process has got its own type of participants (Coffin, Donohue, and North 2009: 239). When language users select a process type entailing specific participants, they start enacting their worldview: "the presence of material clauses means that people or things are 'doers' (i.e. agents): they act and do and, as a consequence, there are changes: the emerging account feels more dynamic" (Coffin, Donohue, and North 2009: 295).

There are also different types of circumstances which can be realized through prepositional phrases (congruent way) or grammatical metaphor, specifically "circumstantial dependent clauses" (Coffin, Donohue, and North 2009: 300):

Circumstance type	subcategory	Question/test to identify type of circumstance
extent	Distance	How far?
	Duration	How long?
	Frequency	How many times?
location	Space	Where?
	Time	When?
manner	Means	How? What with?
	quality	How?
cause	reason	Why?

Table 1: Types of circumstances (Coffin, Donohue, and North 2009: 301)

In a transitivity analysis, participants, processes, and circumstances are analyzed to detect speakers/writers' worldview emerging from lexicogrammatical choices. Through transitivity analysis, language users examine form and meaning concurrently to identify their interconnections: "to bring together function and form in a systematic fashion, it may […] be useful to adopt a mode of analysis that shows the relationship between the functional components and the formal structures at the rank of group or word (Coffin, Donohue, and North 2009: 322). This model of analysis targeting content and language concurrently seems especially suitable to CLIL contexts.

2.1.1.5.1.2 Thematic structure

The textual metafunction refers to the way the content is organized at the clause and text level with a special focus on the way the clause starts (Banks 2019: 10). Thematic structure and information structure represent the two main dimensions

informing text structuring in terms of information flow and argument structures: "Thematic structure has the clause as its basic unit and distinguishes between a 'theme' and a 'rheme'. Information structure has the tone group as its basic unit and distinguishes between a 'given' and a 'focalized'" (Banks 2019: 53).

Thematic structure refers to how theme and rheme work at clause and interclause level. The theme, which is usually a nominal group or a noun positioned at the beginning of the sentence in English, represents the information shared by speakers/writers and listeners/readers while the rheme represents the new information provided by speakers/writers within the clause (Banks 2019: 53). Thematic progression, which refers to how themes are interwoven in a text in relation to argument structure organization, encode the way themes may be taken up from previous clauses (Banks 2019: 59). In particular, thematic progression can be constant or linear: "When a theme is derived from a previous theme we say it is a case of 'constant progression', and when a theme is derived from a preceding rheme we call it 'linear progression'" (Banks 2019: 59). Overall, linear progression is more likely to characterize argumentative texts while constant progression is more likely to appear in narrative and descriptive texts (Banks 2019: 60).

Periodicity, refers to the organization of information in relation to theme and rheme. The repacking of the rheme of a sentence often occurs through nominalization in the following sentence; a denser nominal group is thus likely to become the theme of the new sentence (Lin 2016: 53). In disciplinary discourse, a rheme is likely to be conveyed in a congruent way and highly likely to appear as a grammatical metaphor

as the theme of the following clause (Banks 2019: 56). Helping students to notice and unpack these practices in ETPs, including nominalization and grammatical metaphor, may be highly beneficial in order for them to learn how to manage content-specific information flows in an additional language:

> Halliday argues that the linguistic resources of nominalization and grammatical metaphor enable the academic or scientific writer to achieve systematicity and logicality—rationality— in their writing. Learning how to mobilize these linguistic resources to achieve a systematic information flow and logical argument in their writing is precisely that part of invisible learning that confronts every school child if he/she is to participate successfully in different school subject lessons. (Lin 2016: 55)

Information structure includes the new and the focalized (Banks 2019: 61): "The information structure is something which a reader imposes on the text as he reads it; it is part of his way of decoding, and hence understanding, the text" (Banks 2019: 62).

In terms of cohesion, in subject-specific texts, it may be especially useful to work on lexical chains, which occur "when a word is repeated in a text, or words with the same meaning are used or even with a series of words cluster round the same idea" (Banks 2019: 65-66). Texts can be subdivided into parts on the grounds of the lexical chains identified.

2.1.1.6 SFL in CLIL

SFL has been increasingly adopted in CLIL research thanks to its view of language as meaning-making in context, which seems to address the integration of content and language dimensions effectively (Byrnes 2011; Dalton-Puffer 2011; Byrnes 2012; Llinares, Morton, and Whittaker 2012; Lin 2016; Byrnes 2017; McCabe and Whittaker Rachel 2017; Müller and Dalton-Puffer 2018; Byrnes 2019). In this

respect, research in CLIL has increasingly pinpointed the need of going beyond the integration of content and language by advocating for subject literacy development as deeply intertwined with subject-specific learning outcomes (Cenoz, Genesee, and Gorter 2014: 16-17).

SFL enables researchers to see content knowledge and subject literacy development as deeply connected in CLIL environments. SFL is thus instrumental in fostering language awareness as part of subject-specific meaning-making process:

> instances of language […] need to be experienced and noticed in a meaningful text-in-context. And this 'noticing' process (or 'focus on form') must not impede content learning (i.e. not turning a content lesson into a language lesson), and this requires skilful 'shifting' between focus on form and focus on content on the part of the teacher. (Lin 2016: 44)

This perspective pinpoints the necessity to map subject-specific knowledge in terms of language patterning, which needs to be targeted through language awareness to foster the development of subject knowledge construction in an additional language (Coffin 2017: 91-92).

Within an SFL framework, the integration of content and language development is thus deeply entrenched. As a result, the necessity to provide students with language awareness emerges as a key practice to enable CLIL students to generate content knowledge effectively in an additional language:

> If learning is interpreted as a process of learning language and learning through language, and in many senses also learning about language (Halliday 2004, pp. 308-326), then central to learning history or science (or any subject) is learning the language of history and science and learning about the language of history and science. This draws attention to the need for researching and making explicit the language of academic disciplines. (Coffin 2017: 97)

In CLIL, students need to develop the language necessary to understand subject-specific knowledge constructs and how writers position themselves in relation to the

knowledge constructed. Overall, in an SFL perspective, the added value of language awareness in CLIL emerges: "the aim is to make visible to teachers and students the role of language in knowledge making within and across different subject areas" (Coffin 2017: 100).

Thanks to Martin's work on genre (2014), SFL has moved from clause to text structure; text structure, realized through genre-specific lexicogrammatical patterns, is informed by language users' worldview in relation to the social purpose of the text produced (Coffin, Donohue, and North 2009: 245-246). In this perspective, SFL is especially useful to investigate language in content-specific settings, because it enables readers to engage with English subject-specific texts critically in a superdiverse perspective while working simultaneously on content and language. In particular, as an instructional tool, SFL:

1   […] places great importance on how grammar varies in relation to context;
2   […] views grammar as a meaning-making tool;
3   […] is designed to be useful to professionals who engage with language-related real-world issues and problems (for example, educators […]). (Coffin, Donohue, and North 2009: 191-192)

In an SFL perspective, the construction of content-specific knowledge in an additional language, acting as the medium of instruction, entails the implementation of "language based subject pedagogy" (Coffin 2017: 92). SFL seems especially suitable to the CLIL learning environment also due to its focus on genres as the product of patterns of language produced through lexicogrammatical constructs (Morton and Llinares 2017: 6). Furthermore, it is noteworthy that a functional linguistic view of genre is in keeping with the approach used in corpus linguistics, with the latter being

more quantitative than the former but much less informed by meaning analysis (Martin 2009: 20).

2.1.1.6.1 SFL and a critical view of disciplinary discourses

SFL was theorized as a way to foster equity by avoiding the (also institutional) marginalization of subgroups, including the effacement of their cultural identities, due to their often hybrid language practices (Christie 2007; Harman 2018).

SFL-informed approaches have been adopted first in Australia and then in North America to foster the development of subject-specific literacy for all students, including emergent bilinguals (EBs)[4] and multilingual students who seem to find the approach effective (Harman and Simmons 2014; Humphrey 2010; Fang 2013; Schleppegrell 2013; Harman 2018; Humphrey 2018; Potts 2018). As Harman highlights: "SFL-informed approaches to disciplinary and social literacy instruction need to incorporate students' cultural, multimodal and linguistic repertoires" (2018: 2). EBs' language and cultural tenets thus become invaluable assets for the development of critical disciplinary discourses and practices in the target language through "a culturally sustaining SFL praxis" (Harman 2018: 14):

> I offer the term and stance of culturally sustaining pedagogy […] as a term that supports the value of our multiethnic and multilingual present and future. Culturally sustaining pedagogy seeks to perpetuate and foster—to sustain—linguistic, literate, and cultural pluralism as part of the democratic project of schooling. In the face of current policies and practices that have the explicit goal of creating a monocultural and monolingual society, research and practice need

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[4] "Informed by Garcia et al. (2008) we use the term emergent bilinguals (EBs) to highlight how students acquiring English through school or other social contexts are in the process of becoming bilingual, a fact that is eliminated by use of deficit terms such as English learners" (Harman 2018: 20).
"Multilingual learner is a term used in this book to include a range of populations: heritage learners, second language learners, code switchers among various dialects etc." (Harman 2018: 20).

equally explicit resistances that embrace cultural pluralism and cultural equality. (Paris 2012: 93)

In keeping with Singh's view (2017), culturally sustaining SFL practices can promote the "integration of students' cultural repertoires and academic literacy practices" (Harman 2018: 8) while at the same time preventing the implicit adoption of Anglo-English subject-specific theorizing. Through SFL-informed approaches, students can be provided with content-specific language-focused activities suitable for fostering critical language awareness on content-specific discourses conveyed in an additional language; this practice is instrumental in helping students to learn how to decode first and encode afterwards subject-specific literacies in an additional language effectively. In this respect, Harman highlights "the importance of providing students with an SFL-informed metalanguage that fosters their understanding of how to read, write and create semiotic texts in normative and resistant ways" (2018: 11). To this purpose, Martin's discourse semantics makes various language tools available, such as Appraisal, to foster students' critical language awareness (Martin and White 2005):

> Martin's discourse semantic system provides a fine tuned metalanguage to discuss texture (e.g. cohesion through repetition) and ideation (e.g. what features as major and minor participants at clause or whole text level). In an SFL-informed pedagogical design, teachers and students can investigate, for example, how and why a pattern of adverbials, nouns and verbs construct a particular evaluative stance in a text. […] [A] focus on the appraisal resources in literature or ideational resources in informational texts (e.g. use of nominalization and other noun group patterns) [can] support[…] students in developing an emergent critical language awareness of how language is configured for ideological purposes. (Harman 2018: 5-6)

Through SFL-informed approaches, students can learn to investigate critically how disciplinary discourse is the result of a series of networked choices, made at different strata levels (from phonetics/phonology to lexicogrammar and semantics): "Having a metafunctional perspective on genres can support disciplinary teachers and

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students in focusing on more than just the content or field of texts" (Harman 2018: 6). Working on discipline-specific genres that students are expected to master in an additional language seems to be especially useful to foster learners' critical language awareness and subject-specific literacies while also empowering them.

SFL views language learning as language users' development of disciplinary literacies (Byrnes 2019: 517). Research shows that SFL-informed critical language awareness can foster the development of students' genre- and discipline-specific skills at elementary (Schleppegrell and Moore 2018), high school (Simmons 2018; Khote 2018) and tertiary levels (Ramírez 2018).

Research shows in particular the efficacy of SFL-informed approaches to foster students' disciplinary critical language awareness in an additional language from a multilingual perspective (Harman 2013; Daniello 2014; Harman and Khote 2017): "SFL-informed approaches to disciplinary and social literacy instruction need to incorporate students' cultural, multimodal and linguistic repertoires. […] SFL supports multilingual students to have equitable access to twenty-first century disciplinary discourses" (Harman 2018: 2). The use of Appraisal has been especially beneficial to foster multilingual students' development of critical language awareness also at the elementary level (Schleppegrell and Moore 2018: 32); likewise, SFL-informed practices have enabled the creation of culturally and linguistically diverse learning environments suited to foster EBs' development of critical language awareness from a multilingual perspective (Brisk and Ossa Parra 2018: 128). The language of power has been successfully investigated by high school multilingual students with a migrant

background through SFL-informed critical language awareness (Humphrey 2018: 47-65); translanguaging has also been successfully integrated into SFL-informed critical language awareness through culturally sustaining praxis targeted at the development of persuasive writing (Khote 2018: 171-173). SFL-informed approaches have also been effectively implemented at the tertiary level to help additional language learners work on college-specific disciplinary genres while learning how to master the culture-specific language-driven ideological stances of the genres investigated (Byrnes 2009; Mahboob, Dreyfus, Humphrey, and Martin 2010; Humphrey 2011; Martin 2013; Byrnes 2012; Byrnes 2014; Ramìrez 2018). As a result, the necessity to provide instructors with SFL-informed pedagogy tenets has emerged as pivotal at teacher-training level (Achugar and Carpenter 2018; de Oliveira and Avalos 2018; Harman 2018).

SFL is connected to Vygotsky's sociocultural theory of learning, which sees meaning making, such as concept building, as the result of socially constructed practices (Harman 2018: 6). In a Vygostyan socio-cultural perspective, language, as a symbolic and culturally-informed tool, mediates the relation between the human mind and the world thereby foregrounding knowledge production (Vygoskty 1978; Lantolf 2000; Lantolf and Thorne 2006). In the socio-cultural view, knowledge is conceived as socially constructed: "developmental processes take place through participation in cultural, linguistic, and historically formed settings such as […] peer group interaction, and in institutional contexts like schooling" (Lantolf, Thorne, and Poehner 2015: 207).

Within a sociocultural framework, concepts are viewed as co-constructed first and internalized afterwards:

> internalization or the riconstruction on the inner, psychological plane, of socially mediated external forms of goal-oriented activity. […] Internalization, then, assumes that the source of consciuosness resides outside and is in fact anchored in social activity. […] sociocultural theory argues […] that […] human psychological processes do not preexist inside the head waiting to emerge at just the right the maturation moment. (Lantolf 2000: 13-26)

Furthermore, in language classroom instruction, activities carried out in a collaborative way are instrumental in fostering languaging:

> Languaging is the use of language to mediate cognition and affect. When one languages, one uses language, among other purposes, to focus attention, solve problems and create affect. What is crucial to understand here is that language is not merely a means of communicating what is in one person's head to another person. Rather, language serves to construct the very idea that one is hoping to convey. It is a means by which one comes to know what one does not know. (Swain and Lapkin 2013: 105)

Inner speech is also conceptualized as socially mediating concept formation:

> Languaging may also take the form of private speech, that is, speech for the self, speech that most often occurs covertly, but may surface when an individual needs to take control of his/her mental processes (Lantolf & Torne, 2006). […] much of what is observed as social speech also functions as private speech in that the individual's talk is mediating his/her thinking. (Swain and Lapkin 2013: 107)

In CLIL environments, the socially constructed knowledge dimension of sociocultural theory informs the implementation of collaborative dialogue, conceptualized as a form of languaging (Swain and Lapkin 2013: 106), which is instrumental in disciplinary concept and language development: "the goals are to learn content and to learn a target language. Languaging is relevant to both" (Swain and Lapkin 2013: 107). Languaging emerges thus as pivotal to enhance disciplinary knowledge construction in ETPs:

> languaging, in the form of collaborative dialogue or private speech, constitutes part of the process of formulating the idea; it mediates the formulation of the idea. Indeed, it is when language is used to mediate conceptualization and problem-solving, whether that

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conceptualization or problem-solving is about language-related issues or science issues or mathematical ones, that languaging takes place. (Swain and Lapkin 2013: 106-107)

SFL-informed critical language awareness adopts the following definition of an additional language: "we define the object of inquiry of SLA as additional language learning at any point in the life span after the learning of one or more languages has taken place in the context of primary socialization in the family" (The Douglas Fir Group 2016: 21). SFL also adopts the term additional language 'development' instead of 'acquisition' since the latter is conceived as referring to language envisaged as a fixed rule-based construct which sees native speakers as the ideal language speakers and thus triggers the concept of a deficient additional language user, a model which has been challenged by Cook's (2012; 2016) conceptualization of multicompetent / multilingual users (Byrnes 2019: 515-516). SFL's adoption of the term language development is also related to Vygotsky's sociocultural view of learning (Vygostky 1978; Lantolf 2000; Lantolf and Thorne 2006). SFL adopts the term language development also in keeping with the transdisciplinary approach to language development elaborated by the Douglas Fir Group, which is the result of a newly developed socio-semiotic conceptualization of additional language development, conceived as a meaning-making multistratal system, envisioned as taking place at individual, institutional and national levels and within a sociocultural framework (2016: 20):

Specifically, the term 'development' is now used to indicate a distinct shift toward [...] 'transdisciplinary' approaches to the study of language in the age of globalization. Their essence can be described as foregrounding an understanding of language as a socio-semiotic resource for meaning-making in nested layers of social action, from the micro level of social activity on the part of the individual, to the meso level of sociocultural institutions and communities, to the macro level of ideological structures that manifest belief systems and cultural, political,

religious, and economic values, all of which affect language use in complexly interrelated ways. (Byrnes 2019: 514)

2.2 Open Education

The democratizing of higher education is one of the thriving forces of Open Education (OE) (Blessinger and Bliss 2016: 1). OE refers to the practices which foster the adoption of openly licensed educational materials to various degrees worldwide: "The open education […] movement is built around the idea of open society and free sharing and the use of knowledge and educational resources" (Ilkka Väänänen and Kati Peltonen 2016: 282). OE, which is seen as strategically instrumental in making knowledge available to everybody (Dastur 2017: 174) also in terms of free lifelong learning (Blessinger and Bliss 2016: 2), has become an overarching term which "encompasses resources, tools and practices that employ a framework of open sharing to improve educational access and effectiveness worldwide" (Open Education Consortium). The 2007 Cape Town Open Education Declaration also pinpointed the role open digital tools play in OE:

open education is not limited to just open educational resources. It also draws upon open technologies that facilitate collaborative, flexible learning and the open sharing of teaching practices that empower educators to benefit from the best ideas of their colleagues. It may also grow to include new approaches to assessment, accreditation and collaborative learning. (The Cape Town Open Education Declaration 2008)

The European Union increasingly advocates for the implementation of OE to foster access and equity in education (European Commission 2013b; Inamorato dos Santos, Punie, and Castaño Muñoz 2016; Inamorato dos Santos 2019). An inclusive view of education thus informs OE conceptualization: "Opening up education enhances the ability of education to increase social equitability by providing access to resources

at any time and nearly anywhere" (Ossiannilsson, Altinay, and Altinay 2016: 163-4).
Interestingly, like SFL-informed practices, OE aims to foster "access, equity and
adequacy to learners" (Ossiannilsson, Altinay, and Altinay 2016: 163-4).

The digital dimension is pivotal in OE since the movement entails a shift in
educational practices through open technology. Open Education is thus conceived as
the result of a wide range of shared practices mainly supported by digital tools as also
highlighted by the definition of Open Education provided by the European
Commission's Institute for Prospective Technological Studies (JRC-IPTS): "open
education is seen as a way of carrying out education, often using digital technologies.
Its aim is to widen access and participation to everyone by removing barriers and
making learning accessible, abundant, and customisable for all. It offers multiple ways
of teaching and learning, building and sharing knowledge" (Inamorato dos Santos,
Punie, and Castaño Muñoz 2016: 5).

Kahle has identified five core parameters of OE:

• Design for access
• Design for agency
• Design for ownership
• Design for participation
• Design for experience (2008: 30)

Access, specifically the process of making education freely available for
everyone, represents the first grounding parameter (Kahle 2008: 33). Open education
also fosters learners and instructors' agency by enabling them to control and manage
content knowledge teaching/learning materials and digital tools (Kahle 2008: 35).
Ownership is the result of open licensing which allows users to repurpose educational

resources catering to local needs (Kahle 2008: 38). Participation envisages the active engagement of all stakeholders, including technology designers, instructors, and learners, in the development or extension of open digital tools and resources thereby fostering flexible and collaborative active learning (Kahle 2008: 39-41). In this respect, experience-based design needs to take into account not only the function but also the appeal of open technology has on end-users (Kahle 2008: 42-3).

2.2.1 Open Educational Resources

The term Open Educational Resources (OERs) was first used at a UNESCO event on the Impact of Open Courseware for Higher Education in Developing Countries, which marked the beginning of the OER movement:

> 1. The recommended name is Open Educational Resources. […]
> 2. In defining Open Educational Resources, the elements to consider are:
> - The vision for the service: Open access to the resource, with provision for adaptation.
> - The method of provision: enabled by information/communication technologies.
> - The target group: a diverse community of users.
> - The purpose: to provide an educational, non-commercial resource
> 3. The recommended definition of Open Educational Resources is:
> The open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes. (UNESCO 2002: 24)

OERs are usually digital, openly licensed, shareable teaching/learning resources, which can be freely accessed and/or adapted and repurposed thanks to customized open copyright licensing (DeRosa and Robison 2017: 116). Open education encourages learners' active engagement with high-quality open learning materials devised and used within a sound theoretical pedagogical framework (Ossiannilsson, Altinay, and Altinay 2016: 160).

Various definitions of OERs, which share features such as free accessibility, repurposing, and reusability (Orr, Rimini, and Van Damme 2015: 17), are available besides the one coined by UNESCO in 2002 previously mentioned. In particular, OECD-CERI (OECD – Organization for Economic Co-operation and Development) provides a more recent definition which highlights the foregrounding digital dimension of OERs: "Open educational resources are digital learning resources offered on line (although sometimes in print) freely and openly to teachers, educators, students, and independent learners in order to be used, shared, combined, adapted, and expanded in teaching, learning and research" (Hylén, van Damme, Mulder, and D'Antoni 2012: 18).

2.2.1.1. Open licensing

Creative Commons open licensing makes the shared use of (digital) OERs possible. In particular, Creative Commons licenses allow educational materials creators to keep their copyright while their resources are being used, copied, adapted, and repurposed by others worldwide for overall non-commercial use (Green 2017: 32-33).

Thanks to Creative Commons licenses, material users can manipulate OERs to various degrees through the 5Rs (they can retain, reuse, revise, remix, and redistribute OERs)[5] while authors can keep credit of their work: "OER can be freely retained (keep a copy), reused (use as is), revised (adapt, adjust, modify), remixed (mashup different

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[5] http://opencontent.org/definition

content to create something new), and redistributed (share copies with others) without breaking copyright law" (Green 2017: 31). In OERs, the repurposing of materials is pivotal since it allows instructors to devise high quality teaching materials catering to their students' needs.

OERs can be any kind of paper-based or digital learning resources; the latter are especially suitable for being reused, shared, adapted, and repurposed in different learning environments (Orr, Rimini, and Van Damme 2015: 17). The shift from technology-driven to education-driven technologies has been especially fostered by the development of OERs, which have triggered the consistently shifting practices informing the dynamic quality of Open education in general and educational systems in particular (Orr, Rimini, and Van Damme 2015: 16).

2.2.2 Open Educational Practices and Open Pedagogy

Open Educational Practices (OEPs) are the didactic strategies, informed by OERs and open technologies, developed to foster effective teaching/learning processes and include:

> Production, management, use and reuse of open educational resources […]. Developing and applying open/public pedagogies in teaching practice […]. Open learning and gaining access to open learning opportunities […]. Practising open scholarship, to encompass open access publication, open science and open research […]. Open sharing of teaching ideas and know-how […]. Using open technologies […] in an educational context. (Beetham, Falconer, McGill, and Littlejohn 2012: 1-2)

Connected to OEPs, open pedagogy entails students' active engagement and higher degrees of agency in activity accomplishment; activities are usually strictly

connected to real-world issues (such as subject-specific topics) and devised using high-quality OERs which are made possible by the 5Rs (Walz 2017: 158).

2.2.3 OER user types

The Open Education movement and the use of OERs, which are just taking momentum, have a long way still ahead (Blessinger and Bliss 2016: 2). An OER Research Hub[6] study has identified three main types of OER users (and uses): "OER active, OER as facilitator, and OER consumer" (Weller, de los Arcos, Farrow, Pitt, and McAndrew 2016: 80). OER active users, such as university instructors who use and/or co-create and share open textbooks, know and engage with OERs, OER practices, and OER licensing (Weller, de los Arcos, Farrow, Pitt, and McAndrew 2016: 80-81). OER as facilitator, namely instructors who know about OERs (and relative licensing), which they use like any other resource, and choose OERs because the resources meet their pedagogic needs; if useful, these kind of OER users may end up modifying the resources (Weller, de los Arcos, Farrow, Pitt and McAndrew 2016: 82-84). OER consumers are aware of the features of OERs to a very low degree and use OERs like any other resource; OER consumers use OERs mainly because of their free availability and good quality, without contributing to their creation and/or dissemination (Weller, de los Arcos, Farrow, Pitt and McAndrew 2016: 85). The OER movement aims to foster OER facilitators and consumers to become active users (Weller, de los Arcos, Farrow, Pitt and McAndrew 2016: 87).

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[6] http://oerhub.net

2.2.4 Open textbooks

OERs and OEPs may be instrumental in fostering the enactment of instructors and learners' critical thinking and agentivity by challenging the banking transmissive models of instruction to a certain extent (Vanasupa, Wiley, Schlemer, Ospina, Schwartz, Wilhelm, Waitinas, and Hall 2016: 207). In particular, OER-specific features, which inform a dynamic view of knowledge, open up the opportunity for instructors and students' engagement with self- and content-knowledge management (Vanasupa, Wiley, Schlemer, Ospina, Schwartz, Wilhelm, Waitinas, and Hall 2016: 207) within a networked rhizomatic view of knowledge construction (Ebba Ossiannilsson, Zehra Altinay, and Fahriye Altinay 2016: 170). In this respect, thanks to OERs, instructors can shift from traditional textbook-based courses to open textbook-based courses and OER-supported curricula (Miller 2016: 239-245). The transition can occur especially if OER-friendly environments and services are available (Miller 2016: 237).

Self-authored and co-authored open textbooks can be created in various ways, such as through "textbook creation and adaptation projects, individual and collaborative efforts, and traditional timeline and compressed "sprint" models" (Jhangiani, Green, and Belshaw 2016: 179). Different degrees of engagement with OERs and thus open textbooks can be fostered, such as read-only materials and (highly) interactive engagement; the latter is the dimension that best caters to a dynamic nature of knowledge construction (Gibson, Ifenthaler, and Orlic 2016: 271).

Open textbooks have various affordances in terms of content, resources, and activities. In open textbooks, the dynamic organization of disciplinary knowledge can be disrupted and redesigned by instructors to achieve objectives such as: keeping up with the latest trends in the discipline (multimodal materials can be embedded into open textbooks); scaffolding students' learning processes (digital interactive activities fostering students' understanding and analysis of the content can be embedded into open textbooks); catering to students' needs and characteristics (different types of digital activities catering to students' competencies and learning styles can be embedded into open textbooks); and aligning with curriculum requirements and promoting learners' critical thinking (Jhangiani, Green, and Belshaw 2016: 192).

Open textbooks afford both content and pedagogical personalization processes (Jhangiani, Green, and Belshaw 2016: 194). Furthermore, open textbooks enable users to engage actively with knowledge creation: "'opening education' grew to mean encouraging a revival within our students and ourselves of the essence of scholarship: to experiment and discover rather than to assert and repeat, and to engage in a practice of openness as part of a community of teacher-learners – both inside and outside of the classroom" (Vanasupa, Wiley, Schlemer, Ospina, Schwartz, Wilhelm, Waitinas, and Hall 2016: 201). Students' agentivity and critical thinking can be especially fostered through students' authoring engagement (Vanasupa, Wiley, Schlemer, Ospina, Schwartz, Wilhelm, Waitinas, and Hall 2016: 207). However, at the same time, OERs and open textbooks can challenge educators' identity: "As educators, our identity includes the label 'expert'. We have spent years building our reputations. We found

that using OER actually causes a deep questioning about our positions in society"
(Vanasupa, Wiley, Schlemer, Ospina, Schwartz, Wilhelm, Waitinas, and Hall 2016:
214).

Overall, institutions voice their issues about the quality of OERs, which
represents one of the main obstacles to the adoption of open textbooks in Higher
Education. To guarantee high-quality OERs, open textbooks have increasingly gone
through a peer review process. To this purpose, OER-engaged institutions and
organizations have devised rubrics to scaffold scholars' evaluation of open textbooks
(Jhangiani, Green, and Belshaw 2016: 190). For example, a complex (peer) reviewing
system, which also includes local, national and international peer reviewers, guarantees
the high quality of the academic content in the Noba project, which provides OERs
focusing on psychology (Diener, E, Diener, C and Biswas-Diener, 2017: 213-214).

Various openly licensed, digital, open(-source) textbook projects, often
including ancillary resources, have been developed in the last two decades, such as the
Noba, OpenStax, and the BC campus projects. Overall, digital open textbooks provide
benefits to instructors and students starting from their low or nonexistent costs. Digital
open textbooks, which can be internationally accessed, foster individualization and
localization; instructors can choose the chapters they need to cover their syllabus
requirements and modify the content to suit local needs and characteristics (Diener,
Diener, and Biswas-Diener 2017: 212-213). Furthermore, digital open textbooks foster
accessibility since instructors can customize materials and tailor them to students with

special needs or with learning disabilities (Diener, Diener, and Biswas-Diener 2017: 213).

The Noba project, focusing only on psychology, has devised a flexible openly licensed module-based (modular) open textbook model also featuring supporting teaching materials, such as (adaptive) quizzes and presentation slides; instructors can select chapters from different modules to create their own customized digital textbook and modify the content itself (Diener, Diener, and Biswas-Diener 2017: 213-214). The project has also focused on the production of international contents to foster international adoption of the materials; at the same time, it has made the materials accessible to visually impaired students and students with other disabilities (Diener, Diener, and Biswas-Diener 2017: 214-215). Inclusion thus emerges as an objective of textbooks in particular and open education in general.

The OpenStax project, started at Rice University in Texas (USA) in the late 1990s, had three main objectives:

> (1) to convey the interconnected nature of knowledge across disciplines, courses, and curricula; (2) to move away from a solitary authoring, publishing, and learning process to one based on connecting people in open, global learning communities that share knowledge; and (3) to support personalized learning. (Baraniuk, Finkbeiner, Harris, Nicholson, and Williamson 2017: 219)

In the late 2000s, OpenStax revised some aspects of the project to foster the adoption of open textbooks also by those instructors who worked under pressure and had no time to create their own materials (Baraniuk, Finkbeiner, Harris, Nicholson, and Williamson 2017: 220). As a result, OpenStax addressed some critical issues in order to disseminate the use of open textbooks further. In particular, a team of content and

technical experts started to work collaboratively to guarantee high quality ready-made materials catering to national standard subject-specific goals; furthermore, increased adoption rates of open textbooks have been triggered by the implementation of a system aimed at improving the discoverability of these teaching materials (Baraniuk, Finkbeiner, Harris, Nicholson, and Williamson 2017: 221).

The BC (British Columbia) Open Textbook program started at the BC campus in British Columbia, Canada, in 2012 thanks to a British Columbia government grant; in addition to creating its own open textbooks, the BC open textbook project has built its wide collection adopting and adapting to BC post-secondary context needs open textbooks from other platforms (such as OpenStax, College Open Textbooks, and the Open Textbook Library) (Burgess 2017: 228-231).

In open pedagogy, students' empowerment can be fostered through self-directed content creation and manipulation thus shifting from open textbooks to opening up textbooks, which is a process students can contribute to as active stakeholders (DeRosa and Robison 2017: 122). In particular, shifting views of OERs from products to processes opens up end users' new knowledge conceptualizations: "When we think about OER as something we do rather than something we find/ adopt/acquire, we begin to tap their full potential for learning" (DeRosa and Robison 2017: 122). OERs' affordances are maximized within an open education pedagogical framework envisaging learning as not only student-centered but also student-driven where students' engagement with content plays a pivotal role (DeRosa and Robison 2017: 117).

2.2.5 OERs in Higher Education

Although further research is necessary, since the phenomenon is still rather new, the use of OERs in online, hybrid, and face-to-face learning environments in Higher Education seems to affect students' academic results positively in terms of content knowledge development, pass rates, completion rates, and dropout rates (Hilton and Laman 2012; Fischer, Hilton III, Robinson, Wiley 2015; Hilton 2016; Hilton III, Fischer, Wiley, and Williams 2016; Wiley, Williams, DeMarte, and Hilton 2016; Hendricks, Reinsberg, and Rieger 2017; Colvard, Watson, and Park 2018; Jhangiani, Dastur, Le Grand, and Penner 2018; Delgado, Delgado, and Hilton III 2019). Furthermore, as research shows, even though there may be no differences in terms of learning rates between the use of commercial textbooks and open textbooks in Higher Education, the use of open textbooks in comparison with the use of commercial textbooks is still instrumental in lowering withdrawal rates significantly (Clinton and Khan 2019). Faculty's perceptions on OER use seem to be mainly positive (Hilton III, Fischer, Wiley, and Williams 2016). Students' perceptions on OER use in Higher Education are also mostly positive in relation to quality, accessibility, and efficacy (Bliss, Hilton, Wiley, Thanos 2013a; Bliss, Robinson, Hilton, and Wiley 2013; Hilton, Gaudet, Clark, Robinson, and Wiley 2013; Illowsky, Hilton, Whiting, and Ackerman 2016; Delimont, Turtle, Bennett, Adhikari, and Lindshield 2016; Cooney 2017; Hendricks, Reinsberg, and Rieger 2017; Jhangiani and Jhangiani 2017; Jhangiani, Dastur, Le Grand, and Penner 2018).

2.2.5.1 ZTC Degree programs

A rather new development of OER adoption in Higher Education are ZTC Degree (Zero Textbook Cost) programs (previously called Z Degrees, Zed Cred, and Zero Degrees) where all ZTC courses/classes use free and openly licensed (and mostly peer-reviewed) OERs [7]: "The goals of the Z Degree are threefold: 1) to improve student success, 2) to increase instructor effectiveness, and 3) to save students money" (Hilton III, Fischer, Wiley, and Williams 2016: 21). In ZTC Degree courses, students do not have to purchase any commercial textbooks since open textbooks and other kinds of OERs are adopted as course reading materials (Hilton III, Fischer, Wiley, and Williams 2016: 4).

ZTC Degree initiatives are increasing. In Canada, Kwantlen Polytechnic University (KPU) has recently created new ZTC degree programs[8] while the number of ZTC courses is about 700[9] and still expanding. In the USA, ZTC Degrees have been created in various colleges such as: CUNY (City University of New York), University of Northwestern St. Paul[10] and Central Lakes College in Minnesota, some colleges[11] in California[12] (such as College of the Canyons, Orange Coast College, West Hills

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[7] https://open.bccampus.ca/zed-credz-degree-grants/

[8] https://www.cbc.ca/amp/1.5231164?__twitter_impression=true

[9] https://www.kpu.ca/open/ztc; https://www.kpu.ca/news/2018/08/29/kpu-launches-second-program-can-be-taken-zero-textbook-cost

[10] https://unwsp.edu/news/introducing-unws-first-z-degree-zero-textbook-cost-degree

[11] https://www.edsurge.com/news/2018-03-28-how-an-oer-rookie-dove-deep-into-a-zero-cost-textbook-degree-program

[12] https://www.slideshare.net/UnaDaly/cccoer-three-statewide-oerztc-degree-pathway-initiatives

College Lemoore[13] and San Bernardino Valley College[14]), Mesa Community[15] College[16] in Arizona, Austin[17] Community[18] College[19] in Texas, Houston Community College System (HCCS) in Texas[20], and Tidewater[21] Community College[22] in Virginia[23], which is the institution where the first ZTC Degree in the USA was implemented in 2013. Furthermore, at SUNY (State University of New York), a SUNY OER Services Team, led by a SUNY OER Services Campus Strategist, has been set up to develop OER degrees[24].

Overall, the adoption of OERs in Higher Education is on the rise also for single classes. For example, NOVA[25] (Northern[26] Virginia Community College) offers OER-based courses; at CUNY[27], a consistently increasing number of ZTC (Zero Textbook Cost) online courses (Z sections) are available; in California, Skyline College[28] offers ZTC classes and OER (low cost) classes. Various states in the USA are working towards an increase in OER adoption: "Texas joins California, Oregon, and

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[13] https://www.cccoer.org/casestudy/a-winning-combination-co-development-of-an-elementary-education-oer-degree-and-a-california-zero-textbook-cost-psychology-degree/

[14] https://www.valleycollege.edu/open-education-resources/additional-resources/zero-textbook-degrees.php

[15] https://pressbooks.library.ryerson.ca/zerotextbookcost/chapter/zero-textbook-cost-degree-workplan/

[16] https://ctl.mesacc.edu/teaching/z-degree/

[17] https://austincc.edu/news/2018/12/new-zero-cost-textbook-program-saves-acc-students-more-21-million

[18] https://campustechnology.com/articles/2019/04/29/austin-cc-expands-zero-textbook-cost-degrees.aspx

[19] https://www.austincc.edu/academic-and-career-programs/z-degree

[20] http://www.prweb.com/releases/houston_community_college_system_partners_with_panopen_to_expand_oer_usage_across_all_campuses/prweb16576868.htm#

[21] https://www.cccoer.org/webinar/zero-textbook-cost-degree-program/

[22] https://www.slideshare.net/UnaDaly/oew-2015-zero-textbook-cost-degree

[23] https://the-digital-reader.com/2015/05/13/virginia-launches-statewide-open-source-textbook-program/

[24] https://www.slideshare.net/UnaDaly/cccoer-three-statewide-oerztc-degree-pathway-initiatives

[25] https://www.slideshare.net/UnaDaly/oew-2015-zero-textbook-cost-degree

[26] https://www.cccoer.org/webinar/zero-textbook-cost-degree-program/

[27] https://sps.cuny.edu/academics/zero-textbook-cost-courses

[28] https://skylinecollege.edu/ztc/forstudents.php

Washington as one of the first states in the United States to pass legislation requiring OER course markings"[29].

Overall, the use of OERs and open textbooks in Higher Education Institutions can take various formats in relation to the way and the extent to which OERs are used, including ZTC Degrees, ZTC classes (Z Classes), ZTC sections (Z Sections), and low-cost OER classes.

2.2.5.2 Digital learning and OERs

Within an educational technology framework, various digital approaches and practices have emerged in the last few decades. In this context, a distinction has been drawn between emerging technologies, such as MOOC-specific automated grading, and emerging practices, such as the online use of OERs (Veletsianos 2016: 4-7). Emerging technologies and digital practices, which are not necessarily content-specific although they may be more suitable to certain disciplinary contents (Veletsianos 2016: 4), are mainly developed and implemented within a socio-cultural and constructivist framework. The use of OERs in language teaching in particular has been mostly driven by the increasing use of educational technologies and the transition to a sociocultural approach in language learning methodologies (Whyte 2016). The adoption of "socially shaped" (Veletsianos 2016: 6) digital technologies is highly context-dependent (Kimmons and Hall 2016: 54), which entails that emerging technologies and practices are in constant flux since consistently adapting to new contexts and users (Veletsianos

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[29] https://libguides.uta.edu/TXtoolkit/examples

2016: 8). The ever-changing, dynamic dimension of emerging technologies and practices entails a high degree of flexibility suitable for experimenting within new theoretical digital and epistemological frameworks (Veletsianos 2016: 11). Within a sociocultural framework, models of learning underpinning technology-enhanced educational processes also need to take into account the emotional dimension especially if (individual and networked) identities, personal and shared responsibilities, and socially networked knowledge construction (along with agents' digitally-shaped beliefs and actions) need to be catered to (Castañeda and Selwyn 2018: 4).

Through digitally-enabled personalization, which has been defined in various ways over time such as "'individualised learning', […] and 'technology assisted teaching'" (Bartolomé, Castañeda, and Adell 2018: 7), content and activities can be tailored to address students' individual needs. Technology-enhanced personalization is instrumental in customizing content learning pathways (Selwyn 2016: 189). In this light, digital OERs are specially suitable for catering to students' needs through a personalization process.

Open education has been envisaged as an information ecology (Thorne 2016) defined as "a system of people, practices, values, and technologies in a particular local environment. In information ecologies, the spotlight is not on technology, but on human activities that are served by technology" (Nardi and O'Day 1999: 49). Digitization is thus seen as instrumental in opening up education and experimenting with transformative learning practices (Ossiannilsson, Altinay, and Altinay 2016: 168).

These objectives are in line with the European Union policy, which calls for technology-enhanced open education in Higher Education to foster access and equity:

> This Communication sets out a European agenda for stimulating high-quality, innovative ways of learning and teaching through new technologies and digital content. 'Opening up education' proposes actions towards more open learning environments to deliver education of higher quality and efficacy and thus contributing to the Europe 2020 goals of boosting EU competitiveness and growth through better skilled workforce and more employment. It contributes to the EU headline targets for […] increasing tertiary or equivalent attainment and builds on the recent initiatives 'Rethinking Education', 'European Higher Education in the World' as well as the flagship initiative Digital Agenda. (European Commission 2013b: 2)

The integration of technology and open education is thus envisioned as especially useful to foster global, multicultural, and transformative equity-driven processes in Higher Education Institutions (Ossiannilsson, Altinay, and Altinay 2016: 169). In this perspective, digital OERs enable instructors to share content materials with distant national and international stakeholders who can thus engage with free online multisourced knowledge (European Commission 2013b: 3). The implementation of digital OERs in Higher Education is seen as instrumental in fostering equity in education making it available also to less privileged groups (EU 2013: 3) including non-mobile students engaged in Internationalization at Home. In this perspective, freely available educational technology is conceived as suitable for fostering newly designed teaching and learning processes and practices:

> Open technologies provide the opportunity for Europe to attract new talent, equip citizens with relevant skills, promote science and research and fuel innovation, productivity, employment and growth. Europe should act now providing the right policy framework and a stimulus to introduce innovative learning and teaching practices in schools, universities, vocational education and training (VET) and adult learning institutions. The EU policy framework (the Open Method of Coordination in Education and Training 2020) and EU programmes (particularly Erasmus+, Horizon 2020 and the Structural and Investment Funds). (European Commission 2013b 2013: 3)

Overall, the availability and visibility of well-designed subject-specific technology-enhanced OERs is advocated and seen as instrumental in fostering both the production of course-customized materials and the development of creative and innovative learning environments:

> Stimulating supply and demand for high-quality European OERs is essential for modernising education. Combined with traditional educational resources, OERs allow for blended forms of face-to-face and online learning. They also have the potential to reduce the costs of educational materials for students and their families as well as for public budgets when these cover the costs of educational materials. […] High-quality European OER must become more visible and accessible to all citizens (European Commission 2013b 2013: 8)

In this perspective, to encourage instructors to become active OER users, OER user-friendly infrastructures are necessary. Instructors need to be enabled to access and customize, with methodological support if necessary, high-quality digital OERs to devise their own OER content-specific teaching materials in flexible OER-friendly platforms.

2.3 Students' perceived affordances of digitally-enhanced learning in a subject-specific course taught through the medium of English in Higher Education

In the fall semester of the 2018-2019 academic year, free digital tools were used to implement technology-enhanced content-specific activities in a 30-hour graduate course on foreign language teaching methodology taught in English at the School of Foreign Languages and Cultures at the University of Urbino, Italy. The course is part of the CLIL project, which has been implemented at the University of Urbino for almost a decade (Sisti 2009, 2015, 2017).

The course was taught in a teaching/learning space equipped with educational technology, created as part of a University project, where students could use networked tablets to carry out digital activities. In this classroom, there was a smart board working also as a projection display. Working collaboratively on technology-enhanced activities with their tablets, students could send their artefacts to the whiteboard for the entire class to view and discuss. A flexible classroom seating layout enabled students to arrange chairs, each with wheels and provided with a tabletop, to face each other during collaborative activities creating a comfortable group-work seating arrangement; seating configuration was instrumental in fostering collaborative knowledge construction in class. An instructor workstation was also available. During the course, students were provided with a blend of teacher-fronted lectures, and teacher-driven and student-centered activities. Students carried out technology-enhanced activities in pairs, groups, and autonomously in and out of class. Digital activities enabled students to engage in disciplinary knowledge building in English through: the co-creation of digital image-rich mind maps, created with Popplet[30]; knowledge co-construction in wikis; knowledge building and sharing in image-rich digital noticeboards, such as Padlet[31]; online image-rich quizzes, created with Kahoot[32]; questionnaires, devised with Google forms[33]; and customized Ted-Ed[34] video-based comprehension activities.

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[30] http://popplet.com/
[31] https://padlet.com/
[32] https://kahoot.it/
[33] https://www.google.com/forms/about/
[34] https://ed.ted.com/

The classroom used for the course was designed in keeping with the technology-enabled spaces experimented within the last two decades through the SCALE-UP (Student-Centered Active Learning Environment with Upside-down Pedagogies) model at North Carolina State University (NCSU), the TILE (Transform, Interact, Learn, Engage) model at the University of Iowa, the Active Learning Classrooms (ALC) at the University of Minnesota, and the TEAL (Technology Enhanced Active Learning) classroom at the Massachusetts Institute of Technology (MIT). The various technology-enabled models aimed at increasing students' active learning, collaborative learning, inquiry based learning, and subject-specific knowledge development through digital hands-on tasks implemented in immersive media-rich learning environments.

Studies show positive results for the SCALE-UP (Beichner, Saul, Abbott, Morse, Deardorff, Allain, and Risley 2007), TILE (Van Horne, Murniati, Gaffney, Jesse 2012), ALC (Whiteside, Brooks, and Walker 2010), and TEAL projects (Dori, Belcher, Bessette, Danziger, McKinney, and Hult 2003; Dori and Belcher 2005; Dory, Hult, Breslow, and Belcher 2007). In particular, Belcher experimented TEAL in an undergraduate first-year introductory physics course where students were provided with short lectures, collaborative group work, and hands-on tasks (Dori and Belcher 2005: 252). The use of the various teaching practices was fostered by the newly designed classroom spaces where group-friendly seating arrangements and the availability of personal computers (equipped with customized visualization software) for each group of students enhanced collaborative work (Dori and Belcher 2005: 253). The technology-enabled learning spaces were aimed at fostering active learning

through co-construction of knowledge enhanced by means of visualization-based hands-on tasks (Dori and Belcher 2005: 245-246): "Visualization technology can support meaningful learning by enabling the presentation of spatial and dynamic images, which portray relationships between complex concepts" (Dori, Belcher, Bessette, Danziger, McKinney, and Hult 2003: 45). In the TEAL technology equipped classrooms, teaching practices were developed within a socio-constructivist pedagogical framework which conceives learners as socially-engaged active knowledge co-constructors: "Social constructivist ideas enable one to investigate and support the notion that knowledge is not the property of individuals; rather it happens in a group setting, where knowledge is distributed and shared" (Dori and Belcher 2005: 246-247). Learning spaces which no longer focus on individual students' cognitive abilities but rather on intra-groups' shared cognitive processes need to be devised to enhance shared knowledge constructions (Dori and Belcher 2005: 247). The TEAL model, which promoted active learning especially through visualization-based activities, was rather successful; it fostered in particular a significantly higher level of subject-specific knowledge development (including conceptual understanding) especially in relation to lower-achieving students, and strong decrease in students' failure rates, which was one of the thriving forces behind the project (Dori and Belcher 2005: 267-274).

A study was carried out in the graduate course on foreign language teaching methodology taught in English at the School of Foreign Languages and Cultures at the University of Urbino. The study aimed to identify students' perceptions on the main

affordances of the technology-enhanced activities they experienced in the disciplinary course taught in English; in this perspective, it is important to mention that it is the way digital tools are used in instructional settings which informs their educational affordances: "Technology is pedagogically neutral. But it has affordances" (Cope and Kalantzis 2017: 13). The findings were meant to provide some useful suggestions when planning the activities devised as part of the digitally-enhanced SFL-informed framework developed in chapter 3 of the present work.

2.3.1 Research questions

The present study aimed to investigate the following research question: What aspects of technology-enhanced learning did students find especially effective while learning content-specific knowledge taught through the medium of English?

2.3.2 Methodology

Students' perceptions on the affordances of technology-enhanced activities, used to foster knowledge development in a disciplinary course taught in English, were collected through an online semi-structured questionnaire administered in class as a metacognitive activity leading to a follow-up lockstep discussion towards the end of the course. The semi-structured questionnaire included closed-ended and open-ended questions; the former used a 5-point Likert scale with two bi-polar values (strongly disagree and strongly agree) at each end.

2.3.3 Participants

The cohort consisted of 17 first-year graduate students attending a 30-hour graduate course on foreign language teaching methodology taught in English. The course was part of the curriculum of the graduate course on Foreign Languages and Intercultural Studies implemented at the School of Foreign Languages and Cultures at the University of Urbino, Italy.

2.3.4 Data Analysis

The data analyzed in this section come from the semi-structured online questionnaire filled out by 17 students who had attended the course. Note that the data represent the students' subjective opinions rather than results of a controlled experiment. Furthermore, the sample is too small to yield conclusive results. However, the study may serve to provide initial trend indicators and possibly even lead to formulation of working hypotheses to be used in future controlled experiments. The specific results that follow should be regarded as such indicators unless stated otherwise.

Overall, students tended to find technology-enhanced activities rather useful (fig. 1). Likewise, most students found digitally-enhanced activities motivating or very motivating, while only 3 out of 17 were neutral and none said they were demotivated by this element of the course. It is interesting to note that motivation is ranked even higher than utility. This could be explained by the suggestion that the creative and

interactive aspects of digital activities were rather appealing to students, regardless of the perceived utility.
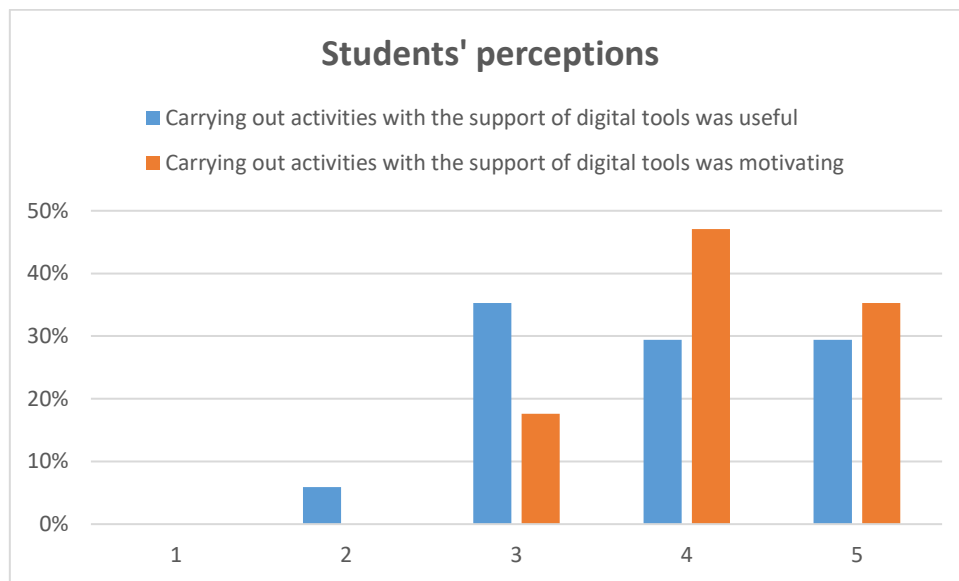
Figure 1: Students' perceptions on usefulness and motivation

A follow-up open question asked for additional details. It appears that the usefulness of the technologically enhanced activities indicated by the students' answers to the question is related to their motivating and fun dimension. In fact, students experienced digital activities as mostly engaging and fun games. Students also found digital tasks effective in applying newly introduced conceptual knowledge to different contexts, thus stimulating active learning. Students highlighted active and collaborative learning as key affordances of technology-enabled practices. Another feature valued by the students was learning to use digital technologies, which they identified as an important professional skill. In particular, students described technology-enhanced activities as useful because they found studying only books boring and because digital activities worked as awareness raising, specifically they helped learners reflect on how they construct disciplinary knowledge; metacognition thus seemed to emerge as an

added value of digital learning. Furthermore, students pinpointed that technology-enhanced activities enabled them to remember content more easily because of their interactive and engaging dimensions. On the other hand, a few students experienced some challenges and found dealing with technical problems unduly distracting and time consuming. A few students also found that having to use digital tools sometimes made them focus more on how to use the tools correctly rather than on how to accomplish content objectives; developing digital skills was thus perceived as time consuming on certain occasions.

Overall, students were quite happy with the amount of digital learning provided during the course. Most students thought that technology-enhanced activities were used with the right frequency (64.7% agree and 23.5% strongly agree, while 11.8% were neutral), which suggests that a rather good balance of teacher-fronted and digital hands-on tasks was achieved in the course. In particular, when asked to indicate what they used the digital tools for (fig. 2), students selected creating mind maps and in general working collaboratively as their top choices; to answer the question, learners were free to pick as many options as they wanted between those provided (the 'other' choice was also available). Somewhat lower rankings were assigned to finding information and reading study materials. Probably the most interesting result is that while collaborative work and individual activities, such as finding information and reading study materials, were ranked the highest, creating digital artifacts ranked the lowest, which may suggest that the process was valued more than the final product here. When asked to indicate to which purpose they mainly enjoyed using digital tools, students, who were free to

pick as many options as they wanted between those provided (the 'other' choice was also available), claimed that they enjoyed using digital tools to work collaboratively with their peers and taking quizzes followed by creating mind maps. The main result seems to be that the most frequently used collaborative digital activities were enjoyable, while individual activities such as finding information and reading study materials were frequent but not as much fun.
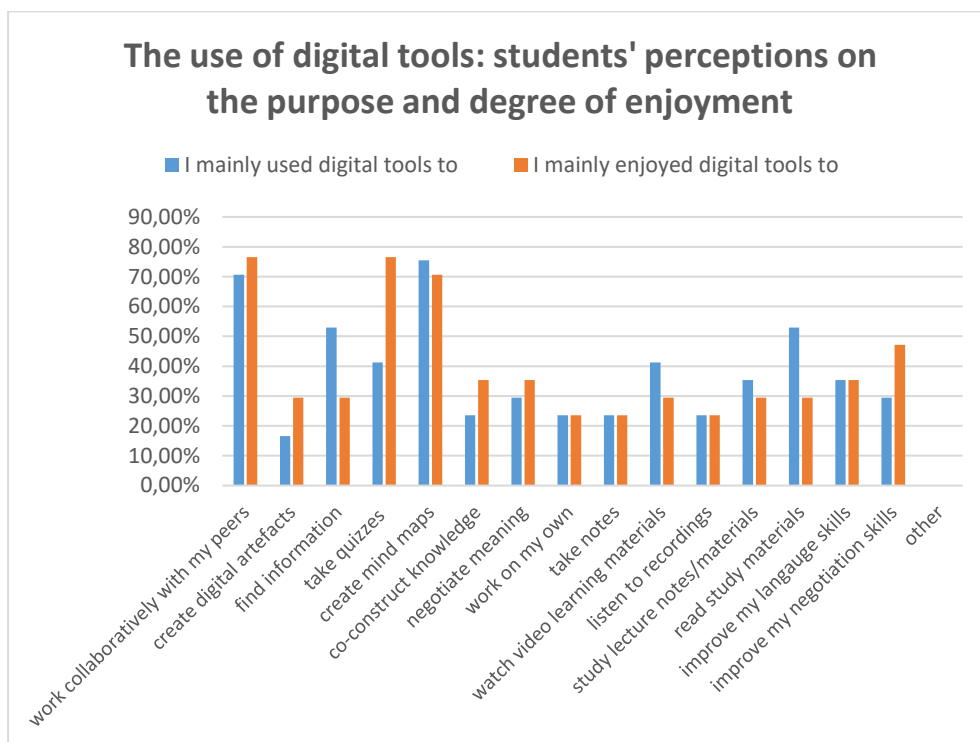
Figure 2: Students' perceptions on the purpose and enjoyment of digital tool use

When carrying out technology-enhanced activities (fig. 3), most students felt quite comfortable. As expected, occasional technological challenges, including poor WiFi connections, made some students less focused on the subject matter and made some feel that precious time was being wasted. Nevertheless, negative effects were rare and 41% of the course participants specifically said they experienced none.
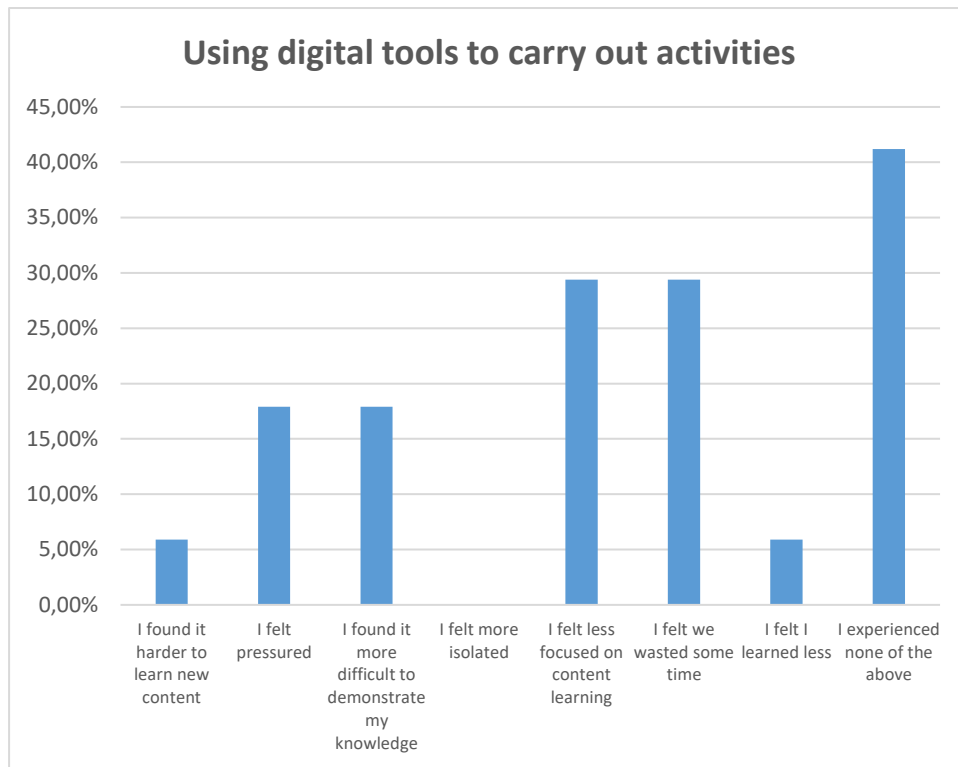
Figure 3: Students' perceptions on the challenges of digital learning

Most students were not interested in being more involved in selecting the digital tools used to carry out the activities; only four students (formally 23,5%) wish they had been involved in the selection process. It is easily explained: first of all, students did not know other tools; secondly, they thought it was the teachers' responsibility to choose the tools, especially those most suitable for students' learning; and third, they thought one of the course objectives was introducing students to a range of digital tools that they could then use in their professional fields. In a follow-up open question, which asked for additional details, it is noteworthy that students wished they had been given the opportunity more frequently to use digital tools on their own outside of class to construct knowledge autonomously and thus show what they had learned individually. In fact, the students did have access to the tools outside of the classroom. It emerges

that in the future they should be encouraged, possibly with the help of specific assignments, to do so.

Students ranked the activities they found most motivating; learners were free to pick as many options as they wanted between those provided (the 'other' choice was also available). In particular, students ranked first (fig. 4) creating digital mind maps, brainstorming ideas with an interactive noticeboard, taking online quizzes, and negotiating knowledge with their peers. Students ranked second answering questions in a collaborative space (such as wikis) and creating knowledge collaboratively. Shared knowledge construction was thus overall perceived as an added value of digital learning, which is in keeping with the results emerging thus far.
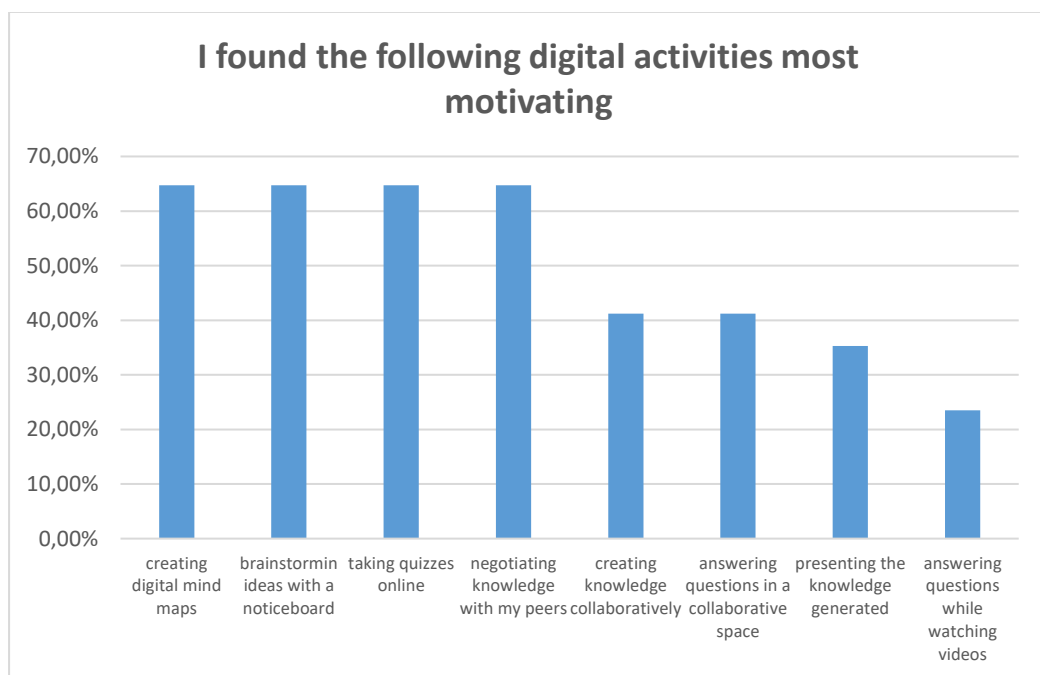
Figure 4: Students' perceptions on the motivation of technology-enhanced activities

Students appreciated especially the graphically-enhanced tools (such as mind map programs and interactive noticeboards) to co-create and negotiate content (fig. 5). Students also perceived interactive image-rich quizzes suited to foster conceptual

development. Overall, the pedagogical added valued of visualization-based tools seemed to surface consistently in the analysis.
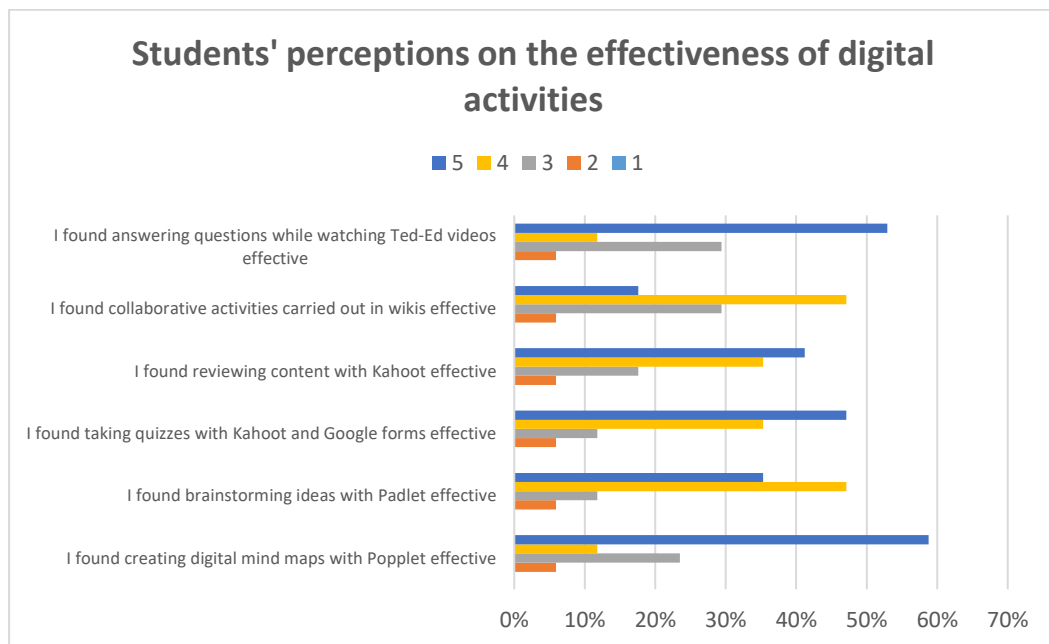
Figure 5: Students' perceptions on the effectiveness of digital activities

Students found digital learning suitable for promoting the development of active learning and at the same time empowering learners (fig. 6). Most students believed that technology-enhanced activities may foster better quality teaching and learning processes; likewise, most students held that digital tools enabled instructors to tailor activities to students' needs. About a third of the students claimed that technology-enhanced activities may promote critical thinking.

Students' perceptions on various dimensions of digital learning
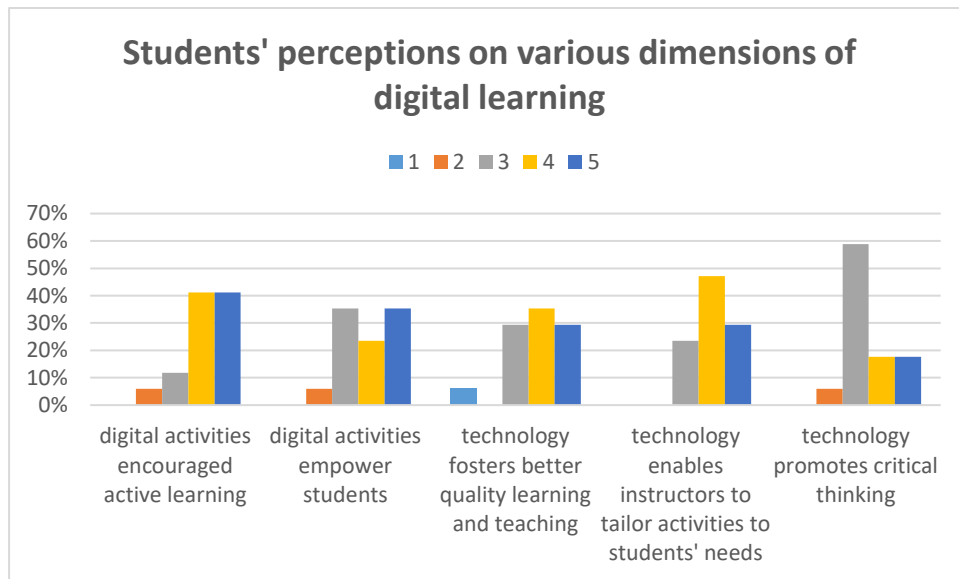
Figure 6: Students' perceptions on various dimensions of digital learning

A follow-up open-ended question asked for additional details. Students found digital activities empowering thanks to their collaborative and creative dimensions. Learners thus perceived digital learning as empowering students by engaging them while at the same time enhancing knowledge understanding and development. By creating user-generated artefacts, students felt they could express their ideas and show their knowledge; they felt like they were being 'listened to' and 'seen' as active knowledge makers. In particular, students felt that digital artefacts made their knowledge visible, which was probably instrumental in boosting their sense of self-efficacy. This result seems in contrast with what emerged previously (cf. figure 2), where students ranked creating digital artefacts rather low; this piece of information may suggest that the focus of the question on the empowerment dimension of digital learning may have led students to reevaluate digital artefacts as a suitable way to make student-generated knowledge visible for instructors. A few students mentioned

challenges, such as being provided with too much visual input and too many concepts; these students were likely to need more structured activities and linear learning.

Students found carrying out digital activities to be innovative above all (fig. 7). To a slightly lower degree even though to the same extent, learners found digital learning to be motivating, challenging, and creative. However, some challenges surfaced; for example, a few students found digital learning difficult while others found the experience rather negative.
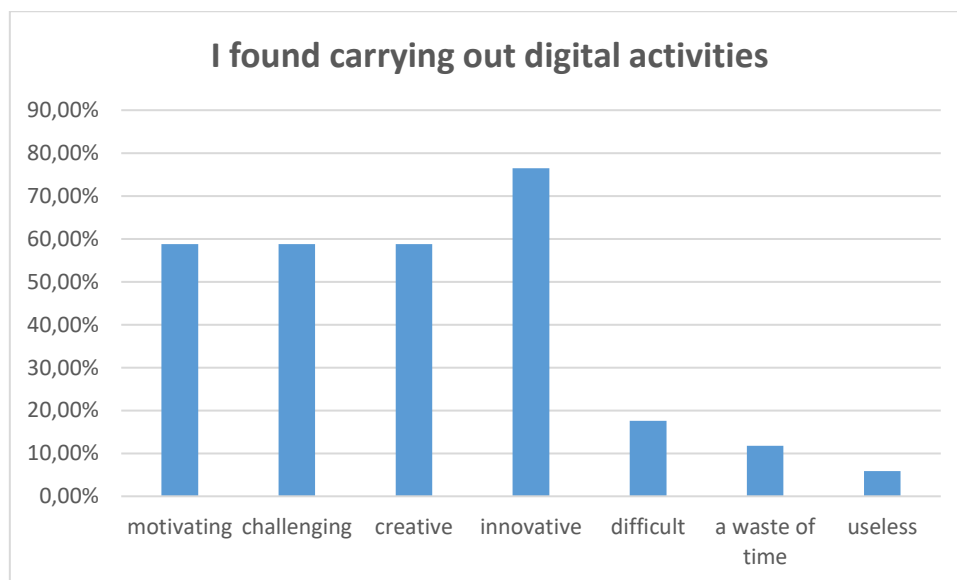
Figure 7: Students' perceptions on carrying out digital activities

When asked to describe a particular aspect they enjoyed about digital activities, students confirmed the data emerged thus far. In particular, students valued activities carried out in a creative and engaging way, digitally-enabled and visualization-based co-construction of knowledge (also leading to enhanced negotiation of meaning and the identification of logical connections in content knowledge), and taking online image-rich quizzes; being challenged also emerged as a positive value. On the other hand, when asked to describe a particular aspect of digital learning that they found

especially difficult, a few students felt that they were not allocated enough time to accomplish the tasks effectively in class and that collaborative activities assigned as out-of-class work were rather time consuming.

When asked to describe what they learned by using digital tools, students mentioned in particular the fact that students' engagement, collaborative, and individual work became visible to instructors. Students also found digital learning fun, easy, innovative, and effective. Using critical thinking to produce knowledge artefacts collaboratively was a practice that students seemed to appreciate along with instructors' feedback on the knowledge produced; in this respect, it is noteworthy that students wished for further feedback from instructors on their digitally-enhanced knowledge products. Furthermore, when asked to mention what they would change in the use of digital tools and why, students advocated for both the implementation of technology-enhanced activities which would not be possible in paper-based format and the use of the same digital tools to carry out various activities.

2.3.5 Conclusion

The results show students' positive attitudes towards the use of technology-enhanced subject-specific activities carried out through the medium of English although some challenges have emerged. In particular, students identified collaborative, active, and creative learning as the main affordances of digital learning; students also found visualization-based activities effective as well as motivating.

Interestingly, the idea that digital tools should be used to create activities which would not be feasible in a paper-based format also emerged.

While the sample used in the study is too small to yield conclusive results, the initial trend indicators emerged, which may be useful to plan future experimental studies, have been taken into account to a certain extent to plan the activities devised as part of the digitally-enhanced SFL-informed framework developed in chapter 3.

3. Digitally-enhanced SFL-informed embedded disciplinary literacy in ETPs

3.1 Digitally-enhanced SFL-informed embedded disciplinary literacy

The integration of adjunct ESP and/or pre-sessional ESP/EAP classes into ETPs, presented as the main kind of language support usually provided in these learning contexts (Schmidt-Unterberger 2018), may be carried further through SFL-informed content-specific embedded literacy**:** "'embedded literacy' can be achieved [through] 'mini-language support units' [embedded] into a content lesson" (Lin 2016: 153). Embedded literacy appears to be especially effective when pursuing the dual objective of CLIL in Higher Education because students are likely to perceive language awareness as motivating when provided in a meaningful context (Lightbown 2014: 48). Furthermore, embedded literacy focusing on subject-specific discourses is likely to foster transfer-appropriate processing (TAP): "The fundamental tenet of TAP is that we can better remember what we have learned if the cognitive processes that are active during learning are similar to those that are active during retrieval" (Lightbown 2008: 27). In this light, the added value of embedded literacy in CLIL contexts in general and ETPs in particular emerges further: "The notion of transfer-appropriate processing provides a convincing rationale for content-based programs such as CLIL […] because of their potential to highlight various forms and functions of the target language in the context of purposeful exchanges and activities rather than only in isolation" (Lyster 2017b: 23-24). As a result, language awareness embedded "into […] [content] lessons

[…] via systematic planning of tasks with built-in language support" (Lin 2016: 155) appears to be especially suitable for fostering content and language development in ETPs.

SFL-informed genre-based embedded literacy, which conceives "language development […] as expanding one's registerial repertoire" (Byrnes 2019: 518), is likely to cater to ETP environments effectively because subject-specific language practices are targeted in a critical perspective to empower additional language learners. Genre-based language awareness can thus focus on the meaning-making dimensions of disciplinary language in ETPs effectively. In this light, SFL-informed language support can be provided in ETPs through embedded literacy, specifically by the "[s]ystematic planning of embedded language support during content teaching" (Lin 2016: 230), integrated into content classes:

> one of the chief aims of […] CLIL is to help students access the target academic language and literacies, to master the necessary genres, registers and lexico-grammatical resources required to participate and communicate successfully in the learning and assessment activities/tasks in different academic content subjects in educational settings. (Lin 2016: 160-161)

As part of SFL-informed critical approaches, transitivity analysis in particular may enable students to analyze content and language concurrently by investigating genre-based patterns of meaning:

> Using ideational analysis[,] […] texts […] [can] be analysed systematically, so as to gain an overall sense of salient patterns of processes, participants, and circumstances. […] [T]he power of transitivity analysis [is] to reveal underlying patterns of meaning. […] From an analyst's or practitioner's point of view, particularly revealing in carrying out such an analysis are the 'choices' people make in representing reality. Transitivity analysis […] makes it possible to see abstract patterns of meaning that go beyond more transparent literal meaning. (Coffin, Donohue, and North 2009: 330-331)

Content experts are not likely to be aware of the language used to build subject-specific knowledge; as a result, they do not usually have the skills to teach disciplinary literacies in the additional language (Coffin 2017: 93). Furthermore, subject specialists do not usually feel it is their responsibility to implement language awareness targeted at fostering subject specific knowledge making (Airey 2012: 64-77). Implementing embedded literacy in ETPs thus entails sensitizing content experts to the added value of disciplinary literacy development in these learning contexts. In an SFL perspective, the development of tasks with built-in language focused activities requires the collaboration of content and language experts; the latter can then devise built-in language-focused activities that students can carry out collaboratively during content classes. The role subject specialists play in the implementation of embedded literacy in ETPs thus needs to be redefined. To make the integration of content and language development user-friendly for instructors and students, technology-enhanced content-specific embedded literacy can be integrated into CLIL courses in Higher Education: "Digitally-enhanced SFL-informed disciplinary activities seem to have positive educational effects on students' literacy and cognitive development" (Harman 2018: 9).

3.2 Virtual mobility in ETPs through ZTC courses

The use of OERs and the digital OER-driven teaching strategies characterizing Open Educational Practices can be orchestrated to promote joint international projects and inclusion in Higher Education (Stagg and Bossu 2016: 128). From this perspective,

OERs and Open Educational Practices can enrich students' learning experiences, providing them with authentic internationally-produced learning materials, customized to meet their local and global needs, and suitable for promoting networked learning experiences (Stagg and Bossu 2016: 128). In this light, virtual mobility in ETPs can be promoted through online ZTC classes; in these digital learning environments, language development can be fostered by means of SFL-informed content-specific embedded literacy, which may be operationalized through digitally-enhanced disciplinary tasks featuring built-in language-focused activities. In these online ZTC classes, ETP students should be able to access and interact with course-tailored digital open textbooks customized to feature SFL-informed embedded literacy activities implemented within a socio-constructivist pedagogical framework; to this purpose, a suitable learning platform, which enables instructors to customize open textbooks easily, is necessary.

From a superdiversity perspective, aimed at fostering a critical view of disciplinary discourses in English, OER- and OEP-driven virtual mobility in ETPs can be used to challenge the implicit adoption of English monolingual knowledge building systems. Virtual mobility in ETPs, where students from distant locations interact using English as the medium of instruction, implemented through ZTC classes can thus foster the development of multilingual learners as well as students' awareness of diverse epistemic knowledge constructs. In this light, students can analyze the way Anglo-English academic discourses shape knowledge; this practice can prevent the implicit adoption of an English-only epistemic perspective, which is in keeping with the view

of promoting multilingual literacies in a diverse global environment. The Anglo-English epistemic perspective emerges, for example, in the use of objective statements conveyed mainly through nominalization and impersonal constructs along with epistemic modality, the latter suitable for conveying the distinction between facts and authors' personal views (Bennett 2015: 15). As a consequence, knowledge structures which include a higher degree of emotional and subjective components are likely to be perceived as inferior (Grosfoguel 2013; Díaz 2018). In this light, Internationalization at Home, implemented through virtual mobility in ETPs, can provide students – including domestic and non-mobile students – with the opportunity to develop a critical awareness of the English-medium disciplinary knowledge discourses in which they engage. To this purpose, ZTC course syllabi need to feature both internationalized content learning outcomes and disciplinary language-specific literacy objectives.

3.3 Digitally-enhanced SFL-informed embedded disciplinary literacy through text analysis

In the present work, digitally-enhanced SFL-informed embedded disciplinary literacy is implemented through "CATA […] [, namely] computer-aided text analysis" (Neuendorf 2017: 39). In particular, computer-aided text analysis is carried out through text mining (also called text analytics and knowledge acquisition); in keeping with the Open Educational perspective adopted in this study, the digital text analysis tools adopted are OERs.

Moretti elaborates the concept of distant reading aimed at summarizing the main features of a large amount of aggregated text data through visualization processes (2007, 2011, 2013). Distant reading entails identifying the main textual patterns and representing them through various kinds of visualization, from networks[35] to charts, instrumental in making relationships emerge. Distant reading leads to a loss of the semantic content in terms of granularity when compared to close reading, but at the same time it contributes to the surfacing of meaningful patterns underpinning texts:

> we know how to read texts, now let's learn how not to read them. Distant reading: where distance […] is a condition of knowledge: it allows you to focus on units that are much smaller or much larger than the text: devices, themes, tropes—or genres and systems. And if, between the very small and the very large, the text itself disappears, well, it is one of those cases when one can justifiably say, Less is more. If we want to understand the system in its entirety, we must accept losing something. We always pay a price for theoretical knowledge: reality is infinitely rich; concepts are abstract, are poor. But it's precisely this 'poverty' that makes it possible to handle them, and therefore to know. This is why less is actually more. (Moretti 2013: 794)

Extracting patterns from subject-specific works and/or corpora of disciplinary works entails a shift in perspective: "That change in practices also changes the what and the how you interpret" (Rockwell and Sinclair 2016: 2391). Working on entire disciplinary works or corpora of disciplinary works leads to a different kind of interpretation:

> interpretation undergoes a qualitative change […] [and] you have to find ways to handle all the information—and that involves some form of automatic data processing. As Moretti points […], when you stand back and use a computer to read data you are no longer doing interpretation as interpretation is traditionally understood; you are explaining. […] Big data typically can't be used to prove causal links between phenomena […]. Instead, big data is used to show correlations. (Rockwell and Sinclair 2016: 2395-2569)

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[35] "Social network analysis (SNA) involves identifying people and other entities and then analyzing how they are linked in the data. It is popular both in the intelligence community and in the social sciences. SNA techniques can graph a network of people to show how they are connected and to what degree […] The resulting data about the links between people can be visualized or queried by computer. These techniques can be applied in the humanities when one wants to track the connections between characters in a work (Moretti 2013), or the connections between correspondents in a collection of letters or places mentioned in a play" (Rockwell and Sinclair 2016: 2660).

Using computational data to detect relationships instrumental in explaining underpinning correlations, and thereby enhancing insights, is likely to empower end users who establish a new dialogical, inferential, and experimental approach with texts.

Moretti's distant reading can be operationalized through text mining, which transforms unstructured natural language text data into structured and usable knowledge suitable for algorithm-based program analysis: "text mining application systems can assist users in analyzing patterns in text data to extract and discover useful actionable knowledge directly useful for task completion or decision making, thus providing more direct task support for users" (Zhai and Massung 2016: 6). Moretti's view of synthetizing the main patterns of texts to uncover hidden relationships can thus be implemented through text mining:

> Knowledge Acquisition (Text Analysis) […] enables a user to acquire useful knowledge encoded in the text data that is not easy for a user to obtain without synthesizing and analyzing a relatively large portion of the data. In this case, a TIS [text information system] can analyze a large amount of text data to discover interesting patterns buried in text […] and create new information or knowledge. (Zhai and Massung 2016: 8)

Tools developed from a text mining or NLP (Natural Language Processing) perspective are integrated in text mining:

> From a data mining perspective, we may view text mining as mining a special kind of data, i.e., text. Following the general goals of data mining, the goal of text mining would naturally be regarded as to discover and extract interesting patterns in text data, which can include latent topics, topical trends, or outliers. From an NLP perspective, text mining can be regarded as to partially understand natural language text, convert text into some form of knowledge representation and make limited inferences based on the extracted knowledge. Thus a key task is to perform information extraction, which often aims to identify and extract mentions of various entities (e.g., people, organization, and location) and their relations (e.g., who met with whom). In practice, of course, any text mining applications would likely involve both pattern discovery (i.e., data mining view) and information extraction (i.e., NLP view), with information extraction serving as enriching the semantic representation of text, which enables pattern finding algorithms to generate semantically more meaningful patterns than directly working on word or string-level representations of text. (Zhai and Massung 2016: 8-9)

In the present study, text mining is used to develop a technology-enhanced SFL-informed content-specific embedded literacy framework, suitable to ETPs, developed from an Open Educational perspective. Through text mining, disciplinary texts, which are "rich in semantic content" (Zhai and Massung 2016: 4), can be analyzed to devise visualization-based language awareness. To this purpose, various "specialized text mining tools" (Zhai and Massung 2016: 3), made available as OER programs which do not require programming skills, have been used in this work, such as FLAIR[36], Voyant[37], and Textalytic[38]. Furthermore, Text Feature Analyser[39] has been used to retrieve various data in texts, such as pronouns, modals, and articles. KWords[40], a visualization-enhanced OER, has also been used to retrieve keywords and their interrelationships. SketchEngine[41], software used to create and/or investigate corpora and carry out text analysis, has been used to retrieve visualization-enhanced collocations through Word Sketch. Quirkos[42], available as a demo with all its functionalities, is user-friendly software suitable for carrying out visualization-enhanced qualitative analysis.

Visualization, instrumental in making relationships surface, plays a key role in the technology-enhanced SFL-informed content-specific embedded literacy framework developed. Visualization is useful to make content more easily accessible

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[36] http://sifnos.sfs.uni-tuebingen.de/FLAIR
[37] https://voyant-tools.org/
[38] https://www.textalytic.com/
[39] http://martinweisser.org/ling_soft.html#TFA
[40] https://kwords.korpus.cz/
[41] https://www.sketchengine.eu/
[42] https://www.quirkos.com/

for learners thereby promoting inclusion. In particular, visualization can foster memorability and understanding (Borkin, Vo, Bylinskii, Isola, Sunkavalli, Oliva, and Pfister 2013; Borkin, Bylinskii, Kim, Bainbridge, Yeh, Borkin, Pfister, and Oliva 2016), which are pivotal aspects of content and language development. Visualization can thus help students understand and remember information more easily by decreasing their cognitive workload when engaged in information processing and recall (Borkin, Vo, Bylinskii, Isola, Sunkavalli, Oliva, and Pfister 2013: 2306). In particular, in terms of memorability:

> identifying which type of visual information is memorable or forgettable provides a basis for understanding a number of cognitive aspects of visualizations. This is because given limited cognitive resources and time to process novel information, capitalizing on memorable displays is an effective strategy. Research in cognitive psychology has shown that conceptual knowledge is an organizing principle for the storage and retrieval of information in memory. […] Recent large-scale visual memory work has shown that existing categorical knowledge supports memorability for item-specific details […]. In other words, many additional visual details of the image come for free when retrieving memorable items. Understanding the memorability of visualizations provides a baseline for leveraging these cognitive capabilities. (Borkin, Vo, Bylinskii, Isola, Sunkavalli, Oliva, and Pfister 2013: 2307)

In visualizations, various dimensions, such as color variety, visual complexity, and human recognizable objects[43] seem to foster memorability: "higher memorability scores were correlated with visualizations containing pictograms, more color, low data-to-ink ratios, and high visual densities[44]" (Borkin, Vo, Bylinskii, Isola, Sunkavalli, Oliva, and Pfister 2013: 2311). In particular, the more colors are used in visualizations, the more effective memorability seems to be: "visualizations with 7 or more colors

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[43] "we have two binary attributes to identify pictograms, photos, or logos: human recognizable objects and human depiction. We explicitly chose to have a separate category for human depictions due to prior research indicating that the presence of a human in a photo has a strong effect on memorability" (Borkin, Vo, Bylinskii, Isola, Sunkavalli, Oliva, and Pfister 2013: 2308).

[44] "The visual density rates the overall density of visual elements in the image without distinguishing between data and non-data elements" (Borkin, Vo, Bylinskii, Isola, Sunkavalli, Oliva, and Pfister 2013: 2308).

have a higher memorability score […] than visualizations with 2-6 colors […], and even more than visualizations with 1 color or black-and-white gradient" (Borkin, Vo, Bylinskii, Isola, Sunkavalli, Oliva, and Pfister 2013: 2311). Visualization is also likely to foster understanding and information recall. In this respect, research suggests that the faster the recognition of the content in visualizations, the easier the information recall: "Visualizations that are most memorable 'at-a-glance' are those that can be quickly retrieved from memory (i.e., require less eye movements to recognize the visualization)" (Borkin, Bylinskii, Kim, Bainbridge, Yeh, Borkin, Pfister, and Oliva 2016: 527). Titles play a key role in information understanding and recall: "People spend the most amount of time looking at the text in a visualization, and more specifically, the title. […] [T]he content of a title has a significant impact on what a person will take away from, and later recall, about a visualization" (Borkin, Bylinskii, Kim, Bainbridge, Yeh, Borkin, Pfister, and Oliva 2016: 527). In visualizations, redundancy in terms of both data and message can foster understanding and informational recall significantly (Borkin, Bylinskii, Kim, Bainbridge, Yeh, Borkin, Pfister, and Oliva 2016: 527).

3.3.1 FLAIR

FLAIR[45] (Form-Focused Linguistically Aware Information Retrieval) is an Information Retrieval (IR) system[46] developed especially to help instructors and

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[45] http://sifnos.sfs.uni-tuebingen.de/FLAIR
[46] "information retrieval systems assist users in finding from a large collection of text data the most relevant text data that are actually needed for solving a specific application problem, thus effectively turning big raw text data into much smaller relevant text data that can be more easily processed by humans" (Zhai and Massung 2016: 6).

students search the internet for articles in English; to search for articles, users can either select an overall level of language competence – namely, A1, A2, B1, B2, C1, and C2 of the Common European Framework (Council of Europe 2001) – or specific grammatical constructions among those provided by the software (Chinkina, Kannan, and Meurers 2016: 7). For each search query, FLAIR retrieves the top items through the Web Crawler (Chinkina and Meurers 2016: 189). FLAIR then annotates automatically the articles selected and rearranges them on the grounds of the previously user-selected grammatical structures (Chinkina, Kannan, and Meurers 2016: 7). The articles retrieved or uploaded (users can also upload their documents instead of retrieving them from the internet) are annotated and parsed using Stanford natural language parser[47], open source software made available by the Stanford CoreNLP library (Chinkina, Kannan, and Meurers 2016: 7): "The FLAIR light-weight algorithm for detecting linguistic forms builds upon the results of the Stanford parser" (Chinkina, Kannan, and Meurers 2016: 11). FLAIR uses in particular the Stanford Shift-Reduce Parser suited to manage texts on the internet: "The Parser-module employs Stanford CoreNLP5 […] to identify numerous linguistic forms using the syntactic category and dependency information obtained from it. […] Long sentences are quite frequent in web texts, so we employed the Stanford Shift-Reduce Parser, which is less sensitive to sentence length" (Chinkina and Meurers 2016: 189).

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[47] "A natural language parser is a program that works out the grammatical structure of sentences, for instance, which groups of words go together (as "phrases") and which words are the subject or object of a verb. Probabilistic parsers use knowledge of language gained from hand-parsed sentences to try to produce the most likely analysis of new sentences" https://nlp.stanford.edu/software/lex-parser.html

Through Stanford CoreNLP5, the texts retrieved are first part-of-speech (POS) tagged – a (POS)[48] tagger assigns each word/token a grammatical tag (such as verb, singular noun/plural noun, adjective, determiner, etc.); tagged texts are then parsed on the grounds of their grammatical structures (such as subject, verb, object, and as components of phrases); dependencies (dependency relations), specifically grammatical relations revealing dependency relations between words[49], are generated and phrase structure trees are thereby produced.

Through Stanford CoreNLP5, FLAIR can identify 87 grammatical constructions including syntactical, lexical and morphological aspects in the texts retrieved or uploaded (Chinkina and Meurers 2016: 190). The grammatical constructions can be identified at sentence level (questions, sentence types, clause types), part-of-speech level (verbs, negation, articles, quantifiers, adjectives, adverbs, pronouns, conjunctions, prepositions, and nouns), and academic vocabulary level. At both sentence level (questions, sentence types, clause types) and part-of-speech level (verbs, negation, articles, quantifiers, adjectives, adverbs, pronouns, conjunctions, prepositions, and nouns), each dimension can be further classified. For example, at sentence level, question types include Wh questions, Do questions, Be questions, have questions, yes/no questions, and tag questions; sentence types include simple, coordinate, subordinate and incomplete sentences; clause types include relative,

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[48] "A Part-Of-Speech Tagger (POS Tagger) is a piece of software that reads text in some language and assigns parts of speech to each word (and other token), such as noun, verb, adjective, etc., although generally computational applications use more fine-grained POS tags like 'noun-plural'" (Toutanova, Klein, Manning, and Singer 2003), https://nlp.stanford.edu/software/tagger.shtml.
[49] universaldependencies.org/docsv1/u/overview/syntax.html; http://universaldependencies.org/docsv1/u/dep/index.html

adverbial, real conditional, unreal conditional, there is/are, there was/were. Likewise, at part-of-speech level, verbs include tenses, aspect, time, voice as well as phrasal, modal, transitive, and imperative verb forms; furthermore each subdimension includes other sub-subdimensions, such as contracted auxiliaries, full auxiliary, auxiliaries, copula, -ing, to infinitive, emphatic do, irregular, regular. FLAIR can also identify the complexity level for the texts on the basis of the Common European Framework levels (Council of Europe 2001).

Through the Stanford Shift-Reduce Parse, both shallow and deep analysis are carried out in FLAIR on the grounds of the grammatical constructions targeted (shallow analysis is sufficient, for example, to identify articles, prepositions, and quantifiers while deeper syntactic analysis is required for constructions such as conditionals and gerunds):

> NLP makes use of different approaches for characterizing language data, from shallow matching to deep grammar formalisms […]. While string matching can work for some basic cases (e.g., identification of articles), the detection of other constructions requires analyses going well beyond the surface level, such as an analysis based on syntactic dependencies. (Chinkina and Meurers 2016: 190)

The distribution of the grammatical constructions selected by the users in FLAIR can be visualized through two kinds of interfaces. In FLAIR, users can analyze the main grammatical constructions of the parsed output through the interfaces provided. The main interface "consists of four elements – a settings panel, a search field, a list of results, and a reading interface, where the identified target constructions are highlighted" (Chinkina, Kannan, and Meurers 2016: 9). The coding of the grammatical constructions can also be applied to compare two documents; the second interactive

interface presents the distribution of the grammatical constructions in the two targeted texts along two axes: "Vertical axes represent parameters – linguistic forms, number of sentences, number of words and the readability score, and each polyline stands for a document having certain linguistic characteristics and thus, going through different points on the parameter axes" (Chinkina, Kannan, and Meurers 2016: 9).

Both instructors and students, the latter conceived as active agents of their learning process, can use FLAIR to identify the distribution of the grammatical patterns targeted in the texts selected.

3.3.2 Textalytic

Textalytic[50] is an OER NLP-based text analysis tool enabling users to analyze DIY (Do-It-Yourself) corpora using a web interface. Users can upload files to compile their own corpora, which Textalytic pre-processes and compiles; corpora can also be POS tagged. Through various text processing tools, Textalytic users can get the frequency of various language elements featured in the corpora investigated, such as personal pronouns, demonstrative pronouns, relative pronouns, conjunctions, subordinate clauses, relative clauses, interrogative sentences, prepositions, gerunds, nouns, adjectives, contractions, verbs, dates, and time. The frequencies of the targeted language constructs, visualized through bar charts, can be compared using a scatterplot. Furthermore, Textalytic retrieves the top occurring words, nouns, adjectives, verbs, and conjunctions; users can set the number of items to be retrieved. Textalytic also

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[50] https://www.textalytic.com/

performs topic modelling, retrieves named entities, and extract dates and time. Analytical tools performing classification and clustering, such as Textalytic, can enable text investigation leading to topic modelling: "Classification and clustering techniques […] [inform] Topic Modeling […] [which] identifies clusters of words that could be the major 'topics' (distinctive terms that co-occur) of a large collection" (Rockwell and Sinclair 2016: 2656-2659). Users can export Textalytic search results in various formats.

3.3.3 Voyant

Voyant[51], an OER computer-assisted text analysis environment, is "a tool worth thinking with-[…] [,] an aide to thinking" (Rockwell and Sinclair 2016: 375) suitable for fostering digital analytics-driven critical thinking: "'Thinking through' is an approach of understanding a phenomenon (thinking about it) through the practices of making, experimenting, and fiddling" (Rockwell and Sinclair 2016: 2584). Voyant has thus been conceived as "a hemeneutical tool [which] invites exploration in, and encourages interpretation, of any text it can handle" (Rockwell and Sinclair 2016: 517).

With Voyant, users can read texts (either texts available online or uploaded files) in an interactive and critical way: "Voyant goes beyond the page view to let you control the view for purposes of analytical reading" (Rockwell and Sinclair 2016: 381). In Voyant, texts are tokenized[52], which enables algorithm-based text analytical tools to extract information suited to carry out text-driven reflection (Rockwell and Sinclair

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[51] https://voyant-tools.org
[52] "Tokenization is the breaking apart of a text into smaller units that can be manipulated and counted" (Rockwell and Sinclair 2016: 899).

2016: 853). Through its analytical tools, Voyant enables users to carry out computer-aided text analysis fostering enhanced reading: "Voyant provides 'skins' that combine tool panels into an interpretive environment to encourage […] exploration. These skins express one of our fundamental beliefs about text analysis: that it is not about replacing interpretation, but about enhanced reading. Voyant is meant to be ready at hand if you want to think through texts" (Rockwell and Sinclair 2016: 1016-1020). Voyant-retrieved data can promote interpretive processes including hypothesis formation and testing since text analytical tools scaffold formalization as a form of critical thinking:

> Computers can […] help us try to formalize claims and to test them. […] We use the computer to model a text in both the sense of creating a representation and in the sense of manipulating that representation by creating interpretive tools that allow us to do both. […] formalizing processes can help in modeling our understanding of a text and exploring it in ways that can produce insights and interpretations that don't necessarily have to be formalized. […] Formalization, not quantification, is the foundation of computer-assisted interpretation. (Rockwell and Sinclair 2016: 1032-1039)

Text analysis tools can generate computational data suitable for formalization informed by text-driven dialogical interpretive practices:

> Digital analytics facilitate interpretive negotiation in new ways. Text analysis can enlarge a dialogue by providing formalizations for negotiation. […] The interpretive humanities are motivated […] by a desire to renew understandings through conversations with the text and with others about the text. Text analysis as an interpretive practice is about an ongoing conversation about the text, but with the artifice of computing. (Rockwell and Sinclair 2016: 3935-3941)

In particular, Voyant analytics tools, which make processes transparent, aim to foster reflection while concurrently enhancing new insights and as a result enabling users to be active and critical knowledge analysts:

> [Voyant tools] display […] [their workings] in a way that allows the user to understand their principles of operation. […] They force users to configure them in ways that provoke reflection […] They are generative; they lead to new things. […] [Voyant] text-mining visualizations are […] exploratory. They illustrate the whole text in new ways that encourage you form

hypotheses rather than answer them. Visualizations enable scholars to browse the big picture. (Rockwell and Sinclair 2016: 3477-3877)

Voyant text analysis tools provide data through information visualization, which can significantly contribute to the analysis and interpretation of disciplinary texts significantly while also making content cognitively easier to access (Rockwell and Sinclair 2016: 1175). In particular, Voyant visualizes the data retrieved from text analytical processing through an interactive interface which has five text analytic tools (so called 'skins') by default: a word cloud (also called Cirrus), where the most frequent words in the text are displayed – the more frequent the words, the bigger they appear in the word cloud; Reader, where the text analyzed is made available to read; Summary, where various information about the text analyzed are provided, such as the number of word tokens, lexical density, and keywords; Context, where searchable concordances of the words used in the text are provided; Trends, where the distribution, in the text, of the most frequently used words is represented in a graph featuring the relative frequency of the targeted words (with the same tool, users can also get a trend for each word they select in the Reader and get their raw frequencies besides their relative frequencies)[53]. In relation to Trends, users have to bear in mind that sometimes the data they produce might have to be checked with other kinds of data, such as those produced through topic modelling:

> Distribution graphs suggest that word frequency is a reliable indication of a theme's significance, which is not necessarily true. […] [However,] distribution graphs can still illustrate something about how a theme might move through a text. First it is necessary to find a word (or a group of words) that is (or are) indicative of a theme. The trend line of the pattern can be used to help form hypotheses that can be checked by other means. A pattern that occurs more at the beginning and then slopes down may show an introductory theme; a pattern sloping

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[53] http://docs.voyant-tools.org/tools/

up to the end might signify a gradual build-up that culminates in something noteworthy. One theme may fall when another rises; or perhaps themes rise and fall together, suggesting an interesting correlation. (Rockwell and Sinclair 2016: 980-1000)

There are several other tools that are similar in purpose and scope. Bubblelines, which show the distribution of specific words throughout a whole document by means of colored bubbles, whose size represents the frequency of the targeted words, positioned along lines representing the text automatically divided into equal parts during processing: "a bubble chart […] displays the frequencies of selected words across [various sections]" (Rockwell and Sinclair 2016: 1154). Bubbles, instead, indicate the relative frequency of each word in the text through bubbles – the bigger the bubbles, the higher the relative frequency of the word in the text[54]. TermsRadio "provides a scrolling line graph that can depict the change of the frequency of word across a corpus spread over time"[55]. TextArc is suitable for enabling students to get and overview of a text leading to hypothesis formation:

> TextArc is a tool designed to help people discover patterns and concepts in any text by leveraging a powerful, underused resource: human visual processing. It compliments approaches such as Statistical Natural Language Processing and Computational Linguistics by providing an overview, letting intuition help extract meaning from an unread text. […] TextArc represents the entire text as two concentric spirals on the screen: each line is drawn in a tiny (one pixel tall) font around the outside, starting at the top; then each word is drawn in a more readable size. […] Frequently used words stand out from the background more intensely.[56]

Overall, digital text analysis enables students' deeper engagement with texts, leading to deeper understanding:

> Digital text analysis encourages a new form of dialogue. Digitally enabled hermeneutical practices involve formalizing claims, or parts of claims, so they can be shared and verified. […] [T]ext analysis is not an answer or a theory. […] [T]ext analysis […] [is] a method (or performance) of questioning, a thinking through […]. We experience[…] new readings through re-examination. (Rockwell and Sinclair 2016: 3921-3924)

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[54] http://docs.voyant-tools.org/tools/
[55] http://docs.voyant-tools.org/tools/
[56] http://www.visualcomplexity.com/vc/project.cfm?id=5

3.3.4 KWords

In the present study, KWords[57], OER web-based software devised to retrieve keywords from DIY (Do-It-Yourself) corpora in English (and Czech), has been used: "key words […] are those whose frequency is unusually high in comparison with some norms" (O'Keeffe, McCarthy, and Carter 2007: 12). A keyword search usually results in retrieving subject-specific terminology; when investigating disciplinary corpora, keywords are highly likely to belong to "the salient domain-specific lexico-grammatical features of the texts or corpora analyzed" (Carloni 2016: 35).

KWords retrieves keywords comparing the relative frequency of tokens in users' DIY corpora with the relative frequency of tokens in a reference corpus, such as the BNC (British National Corpus) and COCA (Corpus of Contemporary American English) or a corpus uploaded by users. KWords thus fosters corpus-driven research that uses the data generated to engage users in developing hypotheses; students' critical thinking is thus taken to a more advanced level. KWords also identifies how keywords are interrelated and makes their in-text semantic interconnections available to users through visualization[58]. KWords provides data through various information visualization tools including "the data dispersion graph (showing the status of the individual keywords in the text), [which is] a graph of so-called keyword links, i.e.

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[57] https://kwords.korpus.cz/
[58] https://wiki.korpus.cz/doku.php/en:manualy:kwords#thematic_concentration

relations between keywords in the text and also a concordance of keywords for an analysis of their immediate context"[59].

3.4 Digitally-enhanced SFL-informed embedded disciplinary literacy through text analysis: a framework

In the last decade, various SFL-informed matrixes have been devised to help instructors scaffold students' SFL-informed, genre-based, critical analyses of academic literacies. The matrixes, created to cater to specific groups of students and disciplines, aim to support instructors in helping students analyze disciplinary texts in keeping with the ideational, interpersonal, and textual metafunctions. The matrixes also feature other three dimensions at the text, paragraph, and sentence levels; the 3x3 matrixes thus help instructors to scaffold students to investigate disciplinary literacy by examining how the three metafunctions work at text, paragraph, and sentence level (Humphrey and Robinson 2012; Humphrey and Robinson 2013; Pessoa, Mitchell, Miller 2018; Mitchell and Pessoa 2017; Caplan 2019). A 4x4 matrix, featuring more granularity at ideational and sentence levels, has also been devised to train teachers in SFL-informed approaches (Humphrey and Robinson 2012; Humphrey 2013). Overall, the matrixes "allow[…] for an understanding of a text by considering how meanings of SFL's three metafunctions of language (ideational, interpersonal, and textual) are realized through linguistic resources at the levels of the whole text, paragraph, and sentence/clause" (Pessoa, Mitchell, and Miller 2018: 83).

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[59] https://wiki.korpus.cz/doku.php/en:manualy:kwords#thematic_concentration

As part of the Scaffolding Literacy in Adult and Tertiary Environments (SLATE) project, the Sydney School of SFL elaborated the first SFL-informed 3x3 matrix as an academic literacy teaching resource targeted at supporting English academic literacy development for speakers of English as an additional language engaged in EMI in Hong Kong:

> [the] project that aims to scaffold the academic literacy skills of students from a non-English-speaking background (NESB) studying at an English medium university, via the use of online learning environments […] [has been implemented] at the City University of Hong Kong. […] [In this context, the University of Sydney] team […] expanded the coaches' […] metalinguistic resources, using teaching materials such as the 3×3 matrix […]. The aim of the training was to extend the language coaches' gaze beyond word-level structural units to considerations of context and unfolding of meanings across texts. (Mahboob, Dreyfus, Humphrey, and Martin 2010: 25-26)

The SFL-informed 3x3 matrix thus represents a framework useful for instructors to plan and implement English academic literacy in ETPs:

> The 3×3 is a framework for describing key linguistic resources needed to construct texts across academic disciplines. […] The 3×3 [framework] […] was […] devised as a principled overview of resources identified by educational linguists within SFL in their analysis of academic writing. The framework is called 3×3 because it forms a 9 square matrix from intersecting features of language from each of the three metafunctions of language (ideational, interpersonal and textual) and features from three strata of language (social activity, discourse semantics and grammar & expression). […] The […] 3×3 […] present[s] a theoretically principled and coherent framework for literacy teachers in supporting students to develop a powerful repertoire of linguistic resources needed to access literacy and learning at tertiary level. (Humphrey, Martin, Dreyfus, and Mahboob 2010: 186-192)

Various subject-specific matrixes have been devised to cater to the needs of university students (Humphrey and Robinson 2012; Humphrey and Robinson 2013; Mitchell and Pessoa 2017; Pessoa, Mitchell, and Miller 2018). A course-tailored 3x3 matrix has been recently created at a US university to foster international students'

development of academic literacy in sheltered face-to-face disciplinary classes[60], which are part of customized learning pathways: "a driving principle of pathways programs is that students learn to succeed at the college best by taking actual college-level classes with appropriate linguistic and cultural support" (Caplan 2019: 2).

For the present study, a customized 3x3 matrix has been devised to cater to future additional language speakers of English engaged in virtual mobility through online ZTC courses in ETPs. A 3x3 text analysis-based matrix – conceived as a user-friendly resource that content and language specialists can adopt to develop technology-enhanced SFL-informed embedded literacy activities in ZTC online classes in ETPs – has thus been devised. In particular, in this work, the questions inserted in the 3x3 matrix, suitable for investigating the six dimensions in a "trinocular and tri-stratal perspective" (Humphrey, Martin, Dreyfus, and Mahboob 2010: 192), have been answered through computer-assisted text analysis software available as OERs. The text-mining procedures elaborated to implement 3x3 matrix-based disciplinary literacy for future virtual mobility in ETPs represent a new practice for content and language specialists as well as learners engaged in CLIL in general and ETPs in particular. In the present study, the matrix has been customized to analyze a chapter of a history open textbook, namely "Canadian History: Post-Confederation" by John Douglas Belsha, provided as an OER by BC Open Textbook Project implemented at BC Campus in British Columbia, Canada. OERs, such as open textbooks, are suited to cater to

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[60] "These [content] classes are currently all sheltered; that is, they are taken only by Academic Transitions (ESL) students, although the syllabus, learning outcomes, and assessments are equivalent to regular sections of the course" (Caplan 2019: 2).

students' local needs while implemented in transnational learning environments: "Openness fosters a more democratic and competitive higher education system, with the potential to improve access to education, develop and localize open educational services to suit local contexts" (Butcher and Hoosen 2014: 9). The matrix developed is provided below:

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How do the introduction, the chapters, and the conclusion of a textbook organize subject-specific knowledge (such as key topics)? How do the introduction, the subchapters, and the conclusion of a textbook chapter organize subject-specific knowledge (such as key topics)? How are keywords used to build disciplinary knowledge in a textbook chapter (in the introduction, the subchapters, and the conclusion)? How are keywords interconnected? How does the writer provide information? Does the writer try to align the reader with his/her view? If so, how?	How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? And in particular within the various sections of the introduction and conclusion? How are key topics and topic patterns organized in the various middle sections of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text? What are the most frequently occurring logical relations (such as cause, time, comparison, concession, consequence, addition, etc.) in the text? And in particular in the introduction, subchapters, and conclusion of a book chapter? What do these data suggest in terms of how the topic is logically expanded in the subject-specific text? How are logical relations (such as cause, time, comparison, concession, consequence, addition) instrumental in fostering the development and expansion of ideas in the text? And in particular in the introduction, subchapters, and conclusion of a book chapter?	Which language elements are used more frequently: nouns or verbs? What is the ratio? What does the ratio suggest in terms of disciplinary knowledge construction? To what extent are abstract and concrete nouns used? Which kind of nouns (namely abstract or concrete) is used most frequently? Do abstract and concrete nouns refer to people, things, or ideas? How is implicitness connected to nominalization? What do these data suggest in terms of subject-specific discourse? Noun modification: - How are nouns mostly modified? Are they mainly pre- or post-modified? Are prepositional phrases or relative causes more frequently used to modify nouns? What do these data suggest in terms of subject-specific discourse? - Do pre- and post-modifying elements mainly define, specify, or classify nouns? What do these data suggest in terms of subject-specific knowledge discourse? - Lexical density: Why are nouns modified through pre- and post-modification? Where are nouns more modified in the various sections? Which article (a/the) is mostly used? Why? Where exactly in the text? Transitivity analysis. What types of verbs are mostly used? What types of participants are mostly used? What kinds of prepositional phrases (circumstances) and adverbs (encoding time, place, manner, frequency, duration) are mostly used? What does these data suggest? How do these data convey the writer's worldview? To what extent do the types of verbs used convey the processes specific of the genre (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)? What kind of verb times are mostly used? To what extent are the tenses relevant to the genre? What kind of aspect is mostly used? To what extent are the aspects relevant to the genre? What kind of tenses are mostly used? To what extent are the tenses relevant to the genre? What kind of voice is mostly used? To what extent is the voice relevant to the genre? In noun groups, what are the most common collocates of subject-specific vocabulary items? What conjunctions are mostly used? What do the data suggest?

Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal	What is the main objective of the text (e.g. to inform, report, persuade, etc.)? To what extent is information presented as a factual or tentative? To what extend is information provided in an authoritative and impersonal way? Does the writer try to make the reader agree with his/her stance/claims/worldview? If so, how?	Is the evaluative stance used to the same extent in the various sections? How does the writer position the reader in relation to the information presented? To what extent is the reader presented as aligned with the writer's stance? Is the interaction with the reader mainly based on providing information, giving orders / instructions / commands, and / or asking questions? What do these data suggest in terms of subject-specific discourse? To what extent is evaluation conveyed through grading elements?	How and to what extent do writers hedge their positions with modal verbs and / or other words / expressions conveying the same meaning? What personal pronouns do writers use? When do they use them? How do the pronouns used position the writer and the reader? To what extent are pronouns used? What pronouns are mainly used? Why? What do these data suggest in terms of subject-specific discourse? To what extent are articles, pronouns, and abstract concepts used to trace people, things, and ideas? To what extent does passive voice affect the focus of the message?

Function/ Level	7. Whole text (entire textbook and/or a chapter of a textbook)	8. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	9. Sentence / clause level
C. textual	How are key topics previewed in the introductory sections (such as in the introduction of a chapter and the introductory section of a subchapter)? How are key topics reviewed in the final sections (such as in the conclusion of a chapter and in the final section of a subchapter)?	How and where does information flow from more dense abstract terms to less dense concrete terms?	How is the Theme used to control content organization? Is information mainly provided through an old-new structure? How often are marked Themes used? Why? How does the use of marked themes affect a shift in the way the message is conveyed? Why? What category of marked Themes (such as time, place, manner, etc.) are mostly used? To what purpose? To what extent is nominalization (and abstract nouns) used to package information? How and to what extent does grammatical metaphor (through nominalization) foster abstract language use? To what extent is passive voice used? How does it affect the way information is conveyed? How is it related to the Theme? How often are articles and pronouns used to trace people, things, and ideas?

Table 2: 3x3 matrix devised for text mining practices (The matrix has been adapted from: Humphrey, Martin, Dreyfus, and Mahboob 2010; Humphrey and Robinson 2012; Humphrey and Robinson 2013; Mitchell and Pessoa 2017; Pessoa, Mitchell, and Miller 2018; Caplan 2019)

The content of the open textbook has been used to carry out the computer-assisted text analysis featured in the 3x3 matrix devised; the activities created, which are provided later in the chapter, aim to show how instructors can apply text mining to SFL-informed embedded literacy approaches in online ZTC classes implemented as virtual mobility in ETPs using course-customized text mining-driven matrixes. Within

a socio-constructivist framework, which envisages learning as a socially-constructed collaborative process, the digitally-enhanced SFL-informed embedded literacy materials have been created in a flexible open learning environments, such as PanOpen[61], recently developed to foster the use of Open Education in Higher Education. PanOpen, defined as a "Next Generation OER Courseware"[62], enables instructors to customize open textbook catering to their learners' needs through the 5Rs by retaining, reusing, revising, remixing, and redistributing materials. Likewise, in the learning platform, students can engage with the customized materials interactively; for example, they can highlight texts and add notes for peers and/or instructors, which is instrumental in fostering peer-to-peer and teacher-student interaction. PanOpen represents an OER-friendly environment which aims to promote the shift to open textbook-based courses.

3.4.1 Activity design

The elements concurring to the creation of activities affect each other to various degrees. In this light, the online learning environment envisioned for text mining-driven activities implemented as part of virtual mobility in ETPs has been devised in keeping with the theoretical framework of e-learning ecologies where "a learning environment is in some senses like an ecosystem, consisting of the complex interaction of human, textual, discursive, and spatial dynamics" (Cope and Kalantzis 2017: 1). The design of the online text mining driven activities elaborated in the present work has

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[61] https://www.panopen.com/
[62] https://www.panopen.com/

been developed on the basis of the analytical theoretical framework devised by Cope and Kalantzis (2017: 13-40).

Before delving into the digital educational framework adopted, a distinction needs to be made between new and traditional e-learning environments, with the former being for example MOOCs and open education and the latter being for instance blended learning which transforms traditional class practices (Cope and Kalantzis 2017: 3). In this respect, learning management systems foster a traditional linear view of learning along with individualized cognition (Cope and Kalantzis 2017: 3-13); likewise, e-textbooks belong to traditional e-learning environments and maintain the linear sequence of paper-based manuals while presenting knowledge in an abridged format through their authors' authoritative voice (Cope and Kalantzis 2017: 3-13). The distinction between didactic and reflexive paradigms of learning is important to understand the analytical theoretical framework devised by Cope and Kalantzis (2017: 6). For a long time, didactic pedagogy has conceived learning mainly as storing information in the long-term memory (with a focus on individuals' cognition) by means of guided instruction (where instructors take control of the learning processes through lecturing and textbooks); in addition, from this pedagogical perspective, individual knowledge acquisition is tested by means of summative standardized exams requiring students to show their subject-specific knowledge by retrieving content from memory (Cope and Kalantzis 2017: 9). The didactic paradigm of learning is in contrast with the reflexive dialogic learner-centered view of learning foregrounding the analytical theoretical framework devised by Cope and Kalantzis (13-40). In reflexive pedagogy,

where in keeping with social constructivism knowledge and understanding are conceived as socially co-constructed by interactants engaged in dialogical interactions (Vygotsky 1978; Tabassum 2017), students' agency increases noticeably and in particular: there is a shift from monological to dialogical learning processes; learners access knowledge through various sources; students' knowledge is made visible and assessed through learner-generated artefacts; socially- and collaboratively-constructed knowledge is given priority; epistemic and dynamic processes underpin educational practices which still value facts and definitions but within a wider contextualized and critical context (Cope and Kalantzis 2017: 10-11). Within a reflective pedagogical framework, e-ecologies of learning may be enhanced through an orchestrated use of digital tools and spaces. The shift towards reflective pedagogies can be promoted through a digitally-enhanced implementation of the "seven affordances for transformative e-learning ecologies" (Cope and Kalantzis 2017: 2) – specifically "ubiquitous learning, active knowledge production, multimodal knowledge representations, recursive feedback, collaborative intelligence, metacognitive reflection, and differentiated learning" (Cope and Kalantzis 2017: 13) – included in the analytical theoretical framework devised by Cope and Kalantzis (2017: 13-40).

Thanks to ubiquitous learning, the limits of here and now no longer exist thus opening up opportunities for new shared content-driven discourse practices and at the same time enabling many-to-many interactions, such as those in social media, which lead to students' active engagement as meaning makers (Cope and Kalantzis 2017: 15-20). Active and collaborative knowledge generation, made visible through learner-

generated artefacts, is instrumental in increasing students' agency (Cope and Kalantzis 2017: 21-22). Likewise, learners' critical evaluation of collaborative knowledge construction contributes to the increase of students' agency (Cope and Kalantzis 2017: 24). The emergence of digital "tools for knowledge representation and communication" (Cope and Kalantzis 2017: 25) has triggered the production of multimodal meaning and "new multimodal genres where text, image, sound, and data are inseparable: the social media feed, the website, the app, the infographic, the data visualization" (Cope and Kalantzis 2017: 25). A shift from summative standardized linear assessment, which tests content stored in long-term memory while focusing on individualized cognition, towards formative dialogical multisourced (provided by peers, instructors, digital tools, etc.) recursive feedback is specific of reflexive pedagogy (Cope and Kalantzis 2017: 26-28). A shift towards extensive formative assessment, such as the feedback students are accustomed to while using social media, needs thus to be promoted in online environments (Cope and Kalantzis 2017: 26-28). In this respect, educational tools enabling digital peer-evaluation can foster effective recursive formative assessment suitable for enhancing thorough understanding of disciplinary content and reflective thinking (Tabassum 78-79). In the new reflexive paradigm shift, the focus switches from individual cognition to distributed cognition (Hutchins 1995, 2001), from individual intelligence to social collaborative intelligence – such as the social mind elaborated by Gee (Gee 1992, 2015), from memorized knowledge to social and crowdsourced knowledge (Cope and Kalantzis 2017: 33). In this respect, educational tools act as interconnecting systems operationalizing

processes usually carried out by individuals' minds (Tabassum 2017: 72). The development of metacognition may be specially suitable for promoting students' autonomous management of online content-specific knowledge development (Cope and Kalantzis 2017: 35). Enabling students to use various digital tools and strategies to carry out activities may be instrumental in implementing differentiated learning (Cope and Kalantzis 2017: 38) thereby promoting "a pedagogy of productive diversity" (Kalantzis and Cope 2016: 323). The online text mining-driven activities envisioned for virtual mobility in ETPs have been elaborated in keeping with this analytical framework.

Students need to be introduced gradually to the distant reading digital activities implemented through text mining within a SFL-informed framework in ETPs. At the beginning, always working in pairs or groups, students need to carry out activities provided with data already retrieved by instructors. Later on, students can be asked to retrieve data autonomously to experience text analysis investigation and formalization first hand while also providing their peers with the data useful to reexamine their results: "as McCarty points out, thinking through modeling and formalization is itself a useful discipline that pushes you to understand your evidence differently. […] Formalizing enables interrogation. Others can engage with and interrogate your insights" (Rockwell and Sinclair 2016: 1045). In this light, the results that students gather from text mining may represent a starting point for further investigation:

> Digital text analysis encourages a new form of dialogue. Digitally enabled hermeneutical practices involve formalizing claims, or parts of claims, so they can be shared and verified. […] [T]ext analysis is not an answer or a theory. […] [T]ext analysis […] [is] a method (or

performance) of questioning, a thinking through […]. We experience[…] new readings through re-examination. (Rockwell and Sinclair 2016: 3921-3924)

In the learning environment envisioned for virtual mobility in ETPs where students interact in English through desktop videoconferencing, text mining-driven activities introduce students to a new way of understanding content and language while engaging critically with OERs. Through digital text analytics, students can deconstruct a text and as a result understand it more thoroughly: "By disassembling a text, then reassembling it […], we get a new perspective on it, perhaps even a new text. The reconstruction might be thought of as a rearrangement or transformation according to a non-linear, discontinuous principle of organization" (McCarthy 1993: 49). Through text mining-driven activities, digital textbooks provided as OERs lose their linear structure and at the same time authors' authoritative voice can be critically investigated through quantitative and qualitative analysis. In this light, digital tools enable students, who work collaboratively, to operationalize processes previously accomplished by individuals' minds: "Technology can play a defining role in the collaborative learning process, as it influences cognitive operations previously performed by the learner, such as retrieving, organizing, and storing information" (Tabassum 2017: 72). Text mining-driven activities trigger students' higher order thinking skills while they engage critically with content in a foreign language, which is – as literature holds – pivotal in CLIL learning environments (Mehisto, Marsh, and Frigols 2008; Coyle, Hood, and Marsh 2010). In particular, in keeping with Bloom's revised taxonomy, text mining-driven activities encourage students to apply, analyze, evaluate, and create content knowledge:

Apply – Carrying out or using a procedure in a given situation. […]
Analyze – Breaking material into its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose. […]
Evaluate – Making judgments based on criteria and standards. […]
Create – Putting elements together to form a novel, coherent whole or make an original product.
(Krathwohl 2002: 215)

In this light, an objective of the text mining-driven activities devised is to help students become autonomous in developing disciplinary literacy in English by means of computer-assisted text analysis practices implemented on the grounds of subject-specific 3x3 matrixes tailored to subject-specific courses by content and language experts. In this respect, text mining-driven activities foster students' metacognition specifically in terms of genre-based knowledge management and subject-specific language awareness:

A broader definition [of metacognition] includes thinking that exemplifies disciplinary practice–to think like a historian, writer, or physicist. This requires explicit thinking about the methods of the discipline–for instance, how claims are supported by evidence in history or how persuasion works in writing or to explain mathematical thinking. It also involves theoretical work where learners not only immerse themselves in content, the facts of a topic, but also are able to relate these facts to overall explanatory frameworks, applying facts to frameworks and testing frameworks against facts. (Cope and Kalantzis 2017: 35)

Through text mining-driven activities, students become active knowledge makers and provide multimodal collaboratively-constructed subject-specific knowledge through digital learner-generated artefacts, which are then assessed; facts and definitions are still part of disciplinary knowledge development but embedded into digitally-enhanced critical constructs. From a reflexive pedagogical perspective, carrying out text mining-driven activities, learners are envisioned as knowledge designers:

In reflexive pedagogy, learners are positioned as designers of their own knowledge. Students are scaffolded by their teachers and digital learning environments to encounters with available

knowledge resources […]. They remake that world according to the disciplinary scaffolds that are the studies of science or art or language. They are positioned as disciplinary practitioners– as scientists, as art critics or artists, as critical readers or writers. Now knowledge producers more than knowledge consumers, every artifact of their knowledge (re)making is uniquely voiced–a notion that we have called design (Kalantzis et al., 2016). Learning is no longer a matter of replicating received knowledge from memory. The evidence of learner activity is to be found in designed knowledge artifacts–for instance, students' projects, solutions with workings explained, online discussions, models, or the navigation paths they have taken through games, simulations, or intelligent tutors. As active designers, the world of knowledge is redesigned by learners, revoiced according to the tenor of each learner's interest, identity, and experience. (Cope and Kalantzis 2017: 39)

In addition, text mining-driven activities are suitable for fostering differentiated learning by enabling students first to carry out investigation using various visualization-based digital tools and then represent knowledge as they prefer (for example through visualizations and/or text).

Examples of digital activities devised on the basis of the 3x3 matrix elaborated are provided in the following section. During activity design, the main affordances of the digitally-enhanced activities mostly appreciated by the students involved in the study[63] carried out in a technology-enhanced disciplinary course taught in English at the University of Urbino were also adopted while creating text mining-driven teaching materials. In this respect, activities fostering active learning, collaborative learning, and visually-enhanced knowledge building as well as activities where "[t]echnology allows for creation of new tasks, previously inconceivable" (Puentedura in Dudeney, Hockly, and Pegrum 2013: 47) have been designed. The activities created, which students are expected to carry out in English in pairs or small groups through desktop

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[63] See chapter 2.

videoconferencing, also foster collaborative inquiry-based learning and critical thinking.

The activities have been created in panOpen. In the same platform, students can access the links to activity-customized Stormboard[64] collaborative spaces, where they can share their findings and comment on everybody's work. Stormboard is a free visualization-based collaborative tool specially suitable for sharing and classifying information, negotiating and organizing ideas, commenting on each other's opinions (using a kind of feedback similar to that provided in social media), and building visually-enhanced knowledge. By integrating these practices into the digital text mining-driven activities devised, recursive feedback on collaboratively generated knowledge is fostered. For all the activities devised, students are thus asked to share their findings on a Stormboard space (some examples of Stormboard spaces are provided) where every student can access everybody else's findings, discuss, and evaluate them. Upon completion of each activity, a Stormboard report, where the results students have gathered from text mining as well as peers and instructors' feedback is provided, is uploaded in the learning platform for everybody to use as a collaboratively-constructed resource, which can then be used to start further analysis. As a result, in keeping with the analytical theoretical framework adopted (Cope and Kalantzis 2017: 13-40), extensive formative assessment on knowledge creation, similar to that used on social media, is given priority over summative assessment:

4. The focus on what is assessable now shifts from individual cognition to the artifacts of knowledge representation and their social provenance. It's not what you can remember but

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[64] https://www.stormboard.com/

the knowledge artifact you can create, recognizing its sources in collective memory via links and citations and tracing the collaborative construction process via the feedback offered by peers and teachers and the revisions made in response.

5. The focus on what is assessable moves from the repetition of facts and the correct application of theorems to what we call complex epistemic performance or the kinds of analytical thinking that characterize disciplinary practices—being a scientist or a writer or applying mathematics to a problem. (Cope and Kalantzis 2017: 33)

The activities devised and provided in the following section focus on chapter five "Immigration and the immigrant experience" of the open textbook "Canadian History: Post-Confederation" (Belsha 2016). The chapter consists of an introduction, eleven subchapters, and the conclusion; the introduction, the conclusion, and the subchapter "Race, ethnicity, and immigration" have been especially focused on. For each activity devised, the items of the 3x3 matrix targeted are provided as an outline.

3.4.2 Activities

The activities devised are organized as follows: the first group of activities focuses on chapter five "Immigration and the immigrant experience" of the open textbook "Canadian History: Post-Confederation" by Belsha, including the introduction, the subchapters, and the conclusion; the second group of activities promotes the comparison of the introduction and the conclusion of chapter five to show in particular how genre-based analysis can be promoted from an SFL perspective; the third group of activities zeroes in on one of the subchapters of chapter five, specifically "Race, ethnicity, and immigration".

3.4.2.1 Group A

In this section, the activities focus on chapter five "Immigration and the immigrant experience" of the open textbook "Canadian History: Post-Confederation" by Belsha.

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How do the introduction, the subchapters, and the conclusion of a textbook chapter organize subject-specific knowledge (such as key topics)?	How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are key topics and topic patterns organized in the various middle sections of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	

The data used in the activity below have been retrieved with Voyant.

Look at the graphs below. How are the main topics organized in chapter 5? How are the topics connected in the various stages of the chapter (introduction, subchapters, and conclusion)? Between the topics identified, which appear more frequently used in the introduction, in the subchapters, and in the conclusion? What do these data suggest in terms of topic management and subject-specific discourse throughout the chapter?

Discuss the data with your partner and then share your findings on Stormboard.

Image 1

Image 2

Image 3

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How do the introduction, the subchapters, and the conclusion of a textbook chapter organize subject-specific knowledge (such as key topics)?	How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are key topics and topic patterns organized in the various middle sections of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	

The data used in the activity below have been retrieved with Voyant.

Look at the bubblelines below. How are the main concepts organized throughout chapter 5? What are the main differences between the introduction, the subchapters, and the conclusion? In particular, where exactly (namely, at the beginning, in the center, at the end, etc.) are the terms 'immigration' and 'immigrants' used in the introduction, the subchapters, and the conclusion? What emerges in sections 5.8 and 5.11? What do these data suggest in terms of topic organization?

Discuss the data with your partner and then share your findings on Stormboard.

| Label	Value
51_Introduction_Lex	18
52_National_Policy_Lex	18
53_By_the_Numbers_Lex	30
54_Sifton_Years_Lex	33
55_Promised_Land_Lex	3
56_Ukrainan_Westeners_Lex	12
57_Culture_&_Adaptation_L...	18
58_Race_Etnicity_ImmLex	124
59_Immigrants&WarLex	14
510_Female_ImmigrantsLex	41
511_PostWar_ImmigrationLe...	77
512_Chinese_in_Canada_Lex	46
513_Conclusion_Lex	18

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How do the introduction, the subchapters, and the conclusion of a textbook chapter organize subject-specific knowledge (such as key topics)?	How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are key topics and topic patterns organized in the various middle sections of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	To what extent are abstract and concrete nouns used? Which kind of nouns (namely abstract or concrete) is used most frequently? Do abstract and concrete nouns refer to people, things, or ideas? How is implicitness connected to nominalization? What do these data suggest in terms of subject-specific discourse? In noun groups, what are the most common collocates of subject-specific vocabulary items?

The data used in the activity below have been retrieved with Voyant. A panel of Voyant is also embedded in the learning platform so that students can carry out the course-customized corpus investigation directly within the online learning environment. In fact, Voyant panels, created as ubiquitous analytics[65], can be exported and embedded in online learning environments:

> The panels can be individually embedded; they can be used to explore the text and can expand back to the original Voyant environment, which is how ubiquitous analytics should work. […] [Voyant is] an ecology in which the results of text analysis can be woven directly into the textual interpretations by users. Voyant allows text representation and analysis to intertwine, not around the primary source, but in the resulting research. (Rockwell and Sinclair 2016: 1496-1500)

Look at the graph below and search the interactive interface for further investigation. How are abstract nouns, such as 'immigration' (examine also other abstract terms through the interactive interface), used throughout chapter 5? How are concrete nouns, such as 'immigrants' and 'Chinese' (examine also other concrete terms through the interactive interface) used throughout the chapter? What do these data suggest in terms of topic organization and subject-specific discourse?

Discuss the data with your partner and then share your findings on Stormboard.

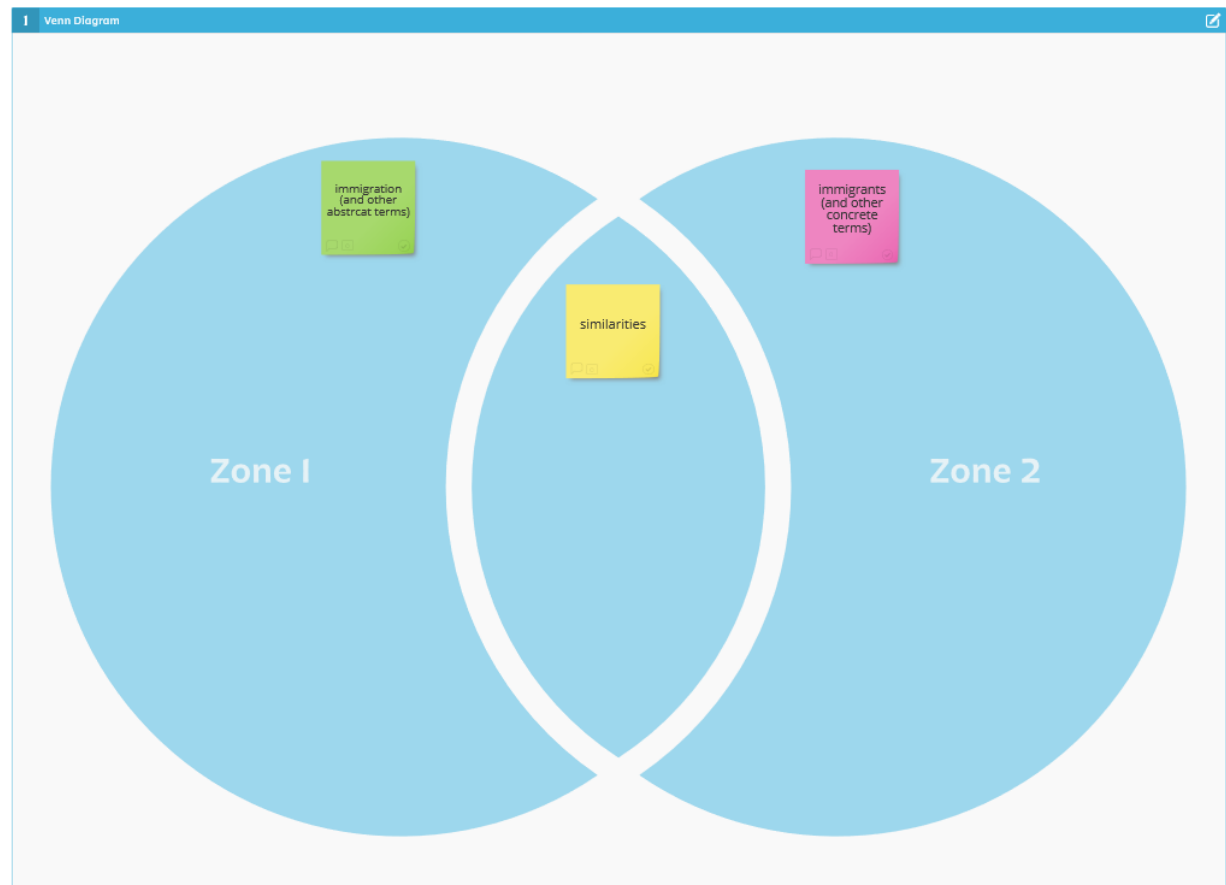[65] "to be truly ubiquitous […] interpretive tools have to integrate themselves into the research cycle, so as to be useful to researchers as they study text and as they publish their interpretations" (Rockwell and Sinclair 2016: 1492).

● immigrants ● canada ● canadian ● chinese ● immigration

Relative Frequencies

Documents

Contexts   Bubblelines   Correlations   ?
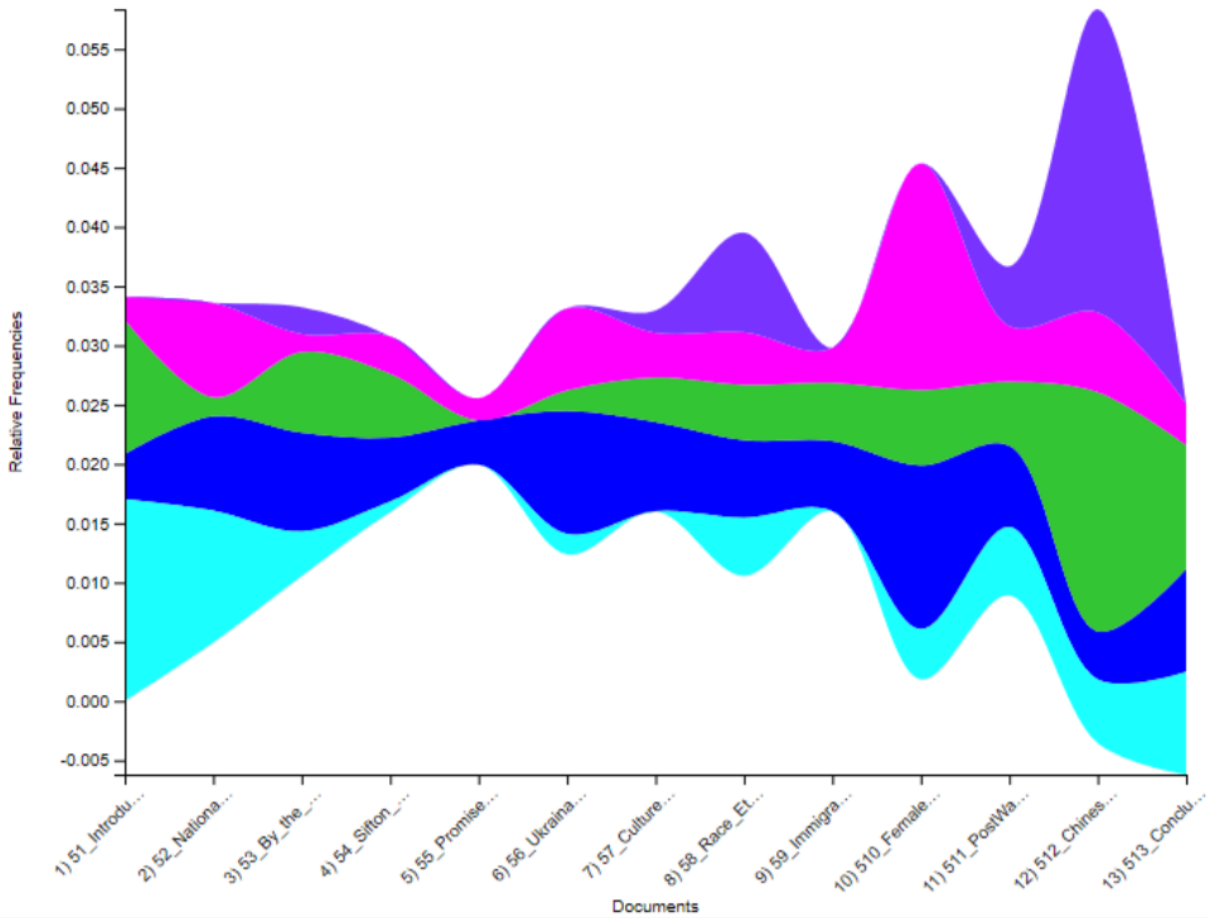
Document	Left	Term	Right
⊞ 1) Mod2…	120 PART VI Chapter 5.	immigration	and the Immigrant Experience 2
⊞ 1) Mod2…	Introduction 3 The history of	immigration	is, simultaneously, the history of
⊞ 1) Mod2…	to understanding the history of	immigration	to Canada is demographic. The
⊞ 1) Mod2…	political and economic context of	immigration	: that is, the policies and
⊞ 1) Mod2…	waves. The social context of	immigration	is of immense importance as
⊞ 1) Mod2…	Canada. A historical study of	immigration	and immigration policy thus informs
⊞ 1) Mod2…	historical study of immigration and	immigration	policy thus informs us of
⊞ 1) Mod2…	historic features of post-Confederation	immigration	. Account for the timing of
⊞ 1) Mod2…	times. Identify the goals of	immigration	policy and the forces that
⊞ 1) Mod2…	nativism in the history of	immigration	. 5 Chapter 41 5.2 Immigration

∨ ?   75 context ◉━━ expand ◉━━

Function/ Level	1. **Whole text (entire textbook and/or a chapter of a textbook)**	2. **Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)**	3. **Sentence / clause level**
A. Ideational	How do the introduction, the subchapters, and the conclusion of a textbook chapter organize subject-specific knowledge (such as key topics)?	How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are key topics and topic patterns organized in the various middle sections of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	

The data used in the following activity have been retrieved through topic modelling[66] realized with Textalytic.

Look at how topics are interrelated in chapter 5 and specifically in (A) the subchapters, (B) the introduction, and (C) the conclusion. What do these data suggest in relation to the way the various topics are presented and aggregated in the different parts of the chapter? What do the data suggest in relation to the perspective adopted by the author?

Discuss the data with your partner and then share your findings on Stormboard.

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[66] "Topic Modeling […] identifies clusters of words that could be the major 'topics' (distinctive terms that co-occur) of a large collection" (Rockwell and Sinclair 2016: 2656-2659).

Image A

Ch5_Immigration

Topic 0	immigrant	immigration	Canada	people	Europe

Topic 1	year	time	community	Canada	population

Topic 2	Canadians	Canada	immigrant	population	century

Topic 3	immigrant	Sifton	Canada	West	group

Topic 4	government	immigrant	Canada	immigration	community

Image B: Introduction

5.1 Introduction

Topic 0	history	time	emigration	quot	immigration

Topic 1	reason	lack	church	right	class

Topic 2	term	Canada	state	language	marketeer

Topic 3	immigration	quot	people	context	policy

Topic 4	Canada	immigrant	kind	pedigree	message

154

Image C: Conclusion

Function/ Level	7. **Whole text (entire textbook and/or a chapter of a textbook)**	8. **Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)**	9. **Sentence / clause level**
C. textual	How are key topics previewed in the introductory sections (such as in the introduction of a chapter and the introductory section of a subchapter)?		

The data used in the activity below have been retrieved with Voyant. The TextualArc video is embedded in the learning platform. The same kind of activity can be used to analyze how key topics are reviewed in the final sections, namely the conclusions, of a chapter or subchapter of a (text)book.

Look at the TextualArc video and the images provided below. How are the main topics organized and previewed in the introduction of chapter 5? What perspective emerges from the way topics are organized? Why?
Discuss the data with your partner and then share your findings on Stormboard.

TextualArc *51_Introduction_Lex*
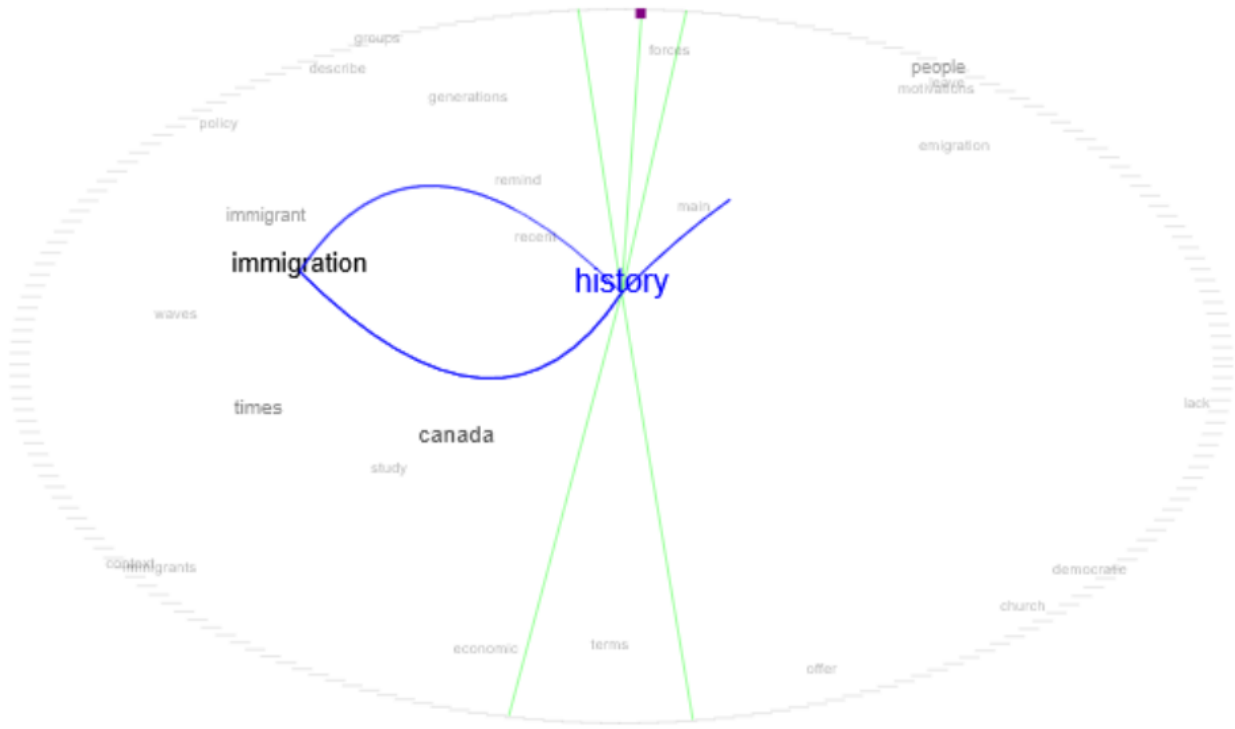
of emigration. It is very much about the motivations

filter   speed: Inspired by W. Bradford Paley's TextArc

Voyant Tools , Stéfan Sinclair & Geoffrey Rockwell (© 2019) Privacy v. 2.4 (M29)
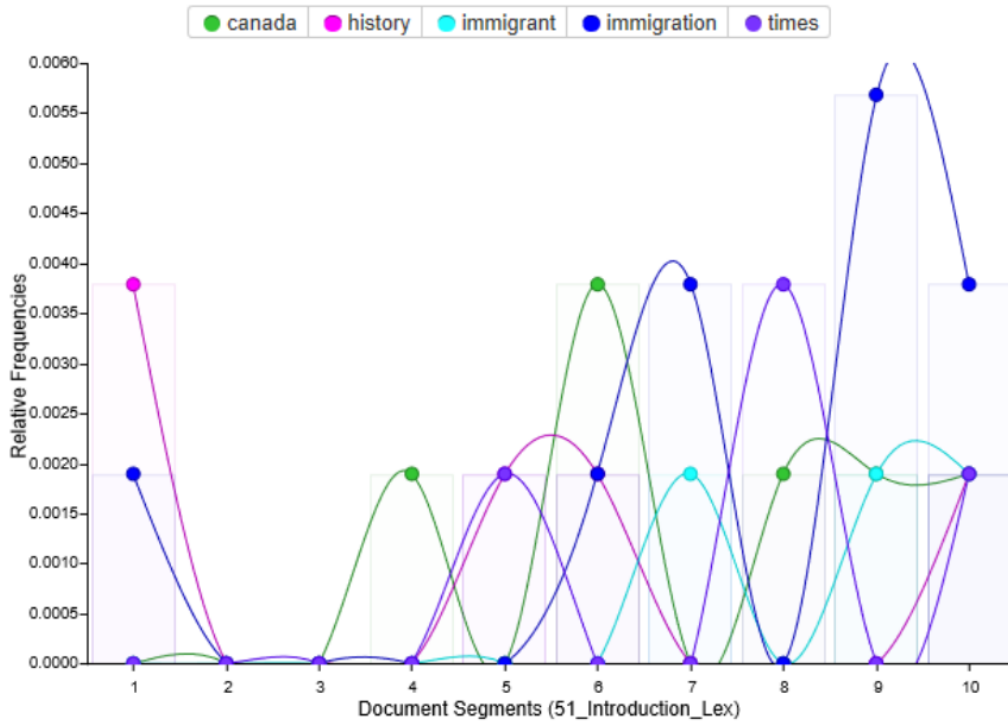
immigration canada history times immigrant

51_Introduction_Lex

TermsRadio

● immigration ● canada ● history

immigration

people

history leave motivations democratic lack canada history immigration times context immigrants canada immigrant desg group policy

immigration

Segment 1   Segment 2   Segment 3   Segment 4   Segment 5

Terms ⦿ Speed ⦿ Visible ⦿

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Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational			To what extent are abstract and concrete nouns used? Which kind of nouns (namely abstract or concrete) is used most frequently? Do abstract and concrete nouns refer to people, things, or ideas? How is implicitness connected to nominalization? What do these data suggest in terms of subject-specific discourse? Noun modification: - How are nouns mostly modified? Are they mainly pre- or post-modified? Are prepositional phrases or relative causes more frequently used to modify nouns? What do these data suggest in terms of subject-specific discourse? - Do pre- and post-modifying elements mainly define, specify, or classify nouns? What do these data suggest in terms of subject-specific knowledge discourse? - Lexical density: Why are nouns modified through pre- and post-modification? Where are nouns more modified in the various sections? In noun groups, what are the most common collocates of subject-specific vocabulary items?

. . .

Function/ Level	7. Whole text (entire textbook and/or a chapter of a textbook)	8. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	9. Sentence / clause level
C. textual			To what extent is nominalization (and abstract nouns) used to package information? How and to what extent does grammatical metaphor (through nominalization) foster abstract language use?

An image of the Stormboard created for the activity that follows is provided below:

immigration and immigrants

1	Venn Diagram

immigration (and other abstrcat terms)

immigrants (and other concrete terms)

similarities

Zone I

Zone 2

The following activity has been created with Voyant. The panel of Voyant is embedded in the learning platform so that students can carry out the course-customized corpus investigation directly within the online learning environment.

A) Investigate the word 'immigration' in the concordances of chapter 5 provided below. What are the most commonly used collocates before and after the term? Is 'immigration' mainly pre- or post-modified?

How is 'immigration' mainly pre-modified (namely, with nouns, adjectives, etc.)? Rewrite a few pre-modified noun phrases of immigration using (a) less dense language (that is, less pre- and/or post-modified nouns) and (b) everyday language. Which expressions are more implicit: those pre-modified or those which are not pre-modified? Why?

How is 'immigration' mainly post-modified (namely, with prepositions, relative clauses, etc.)? What is the most common preposition used to post-modify 'immigration'? Rewrite a few post-modified noun groups of immigration using (a) less dense language (that is, less pre- and/or post-modified nouns) and (b) everyday language; rewrite a pre- and post-modified noun phrase of immigration using (a) less dense language and (b) everyday language. Which expressions are more implicit? Why?

What do all the data suggest in relation to the subject-specific discourse and the way the author presents the topics? Does a positive or a negative evaluation of the phenomena presented emerge? Why?

Discuss the data with your partner and then share your findings on Stormboard.

B)   Investigate the word 'immigrants' in the concordances of chapter 5 provided below. What are the most commonly used collocates before and after the term? Is the term mainly pre- or post-modified?

How is the term mainly pre-modified? Rewrite a few pre-modified noun phrases of 'immigrants' using less dense language (that is, less pre- and/or post-modified nouns). Which expressions are more implicit: those pre-modified or those which are not pre-modified? Why?

What is the most common preposition used to post-modify 'immigrants'? Rewrite a few post-modified noun groups of immigrants using less dense language (that is, less pre- and/or post-modified nouns); rewrite a pre- and post-modified noun phrase of immigrants using less dense language. Which expressions are more implicit? Why?

What do the data suggest in relation to the subject-specific discourse and the author's stance? Does a positive or a negative evaluation of the phenomena presented emerge? Why?

Discuss the data with your partner and then share your findings on Stormboard.

C) Are there differences in the way the concepts 'immigration' and 'immigrants' are presented in the chapter? If so, what are the main differences and/or similarities detected? What do they suggest in relation to the use of abstract and concrete nouns in the text in terms of content management and the way the author conveys his view of the phenomena presented?

Discuss the data with your partner and then share your findings on Stormboard.

	Document	Left	Term	Right
⊞	1) 51_In…	resource-extraction towns. Who the	im…	were in terms of ethnicity
⊞	1) 51_In…	as well. Canada's relationship with	im…	has been uneven, to say
⊞	2) 52_N…	Railway would move Canadians and	im…	around the old provinces, but
⊞	2) 52_N…	be the means by which	im…	would be deposited deep into
⊞	2) 52_N…	immigration strategy. Having assigned to	im…	and Canadian migrants the task
⊞	2) 52_N…	and that would benefit other	im…	in terms of jobs, but
⊞	2) 52_N…	based on the labour of	im…	was most apparent and the

Contexts

120 context — expand — Scale ∨

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The same objectives of the activity above can be reached, even though to a much lesser extent, with the following activity created with a word tree produced with Voyant. If students are not familiar with corpus search, instructors can decide to make students familiarize with the concepts of collocates using Voyant-produced word trees. The activity below can thus be provided to students before they are asked to investigate concordances hands-on.

Investigate the word tree of 'immigration' and 'immigrants' below. What are the most commonly used collocates before and after the two terms? What do they suggest in relation to how the author presents the concepts? Does a positive or a negative evaluation of the phenomenon investigated emerge?
Discuss the data with your partner and then share your findings on Stormboard.

Function/Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational			Noun modification: - How are nouns mostly modified? Are they mainly pre- or post-modified? Are prepositional phrases or relative causes more frequently used to modify nouns? What do these data suggest in terms of subject-specific discourse? - Do pre- and post-modifying elements mainly define, specify, or classify nouns? What do these data suggest in terms of subject-specific knowledge discourse? - Lexical density: Why are nouns modified through pre- and post-modification? Where are nouns more modified in the various sections? In noun groups, what are the most common collocates of subject-specific vocabulary items?

The data used in the activity below have been retrieved with Voyant.

Look at the trends and search the collocates of the phrase 'immigration to Canada' in chapter 5. How is the phrase mainly pre- and post-modified? Where exactly in the chapter is the phrase mainly pre- and/or post-modified? What do the data retrieved suggest in terms of subject-specific discourse? What kind of evaluation of the phenomenon investigated emerges from trends and collocations? Why? Discuss the data with your partner and then share your findings on Stormboard.

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are key topics and topic patterns organized in the various middle sections of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text?	Do abstract and concrete nouns refer to people, things, or ideas? How is implicitness connected to nominalization? What do these data suggest in terms of subject-specific discourse? Which article (a/the) is mostly used? Why? Where exactly in the text? In noun groups, what are the most common collocates of subject-specific vocabulary items?

The data used in the activity below have been retrieved with Voyant. The interactive interface of Voyant is embedded in the learning platform.

Select the phrases in the list below (you are also free to search further phrases) within the interactive interface provided. Analyzing the concordances and trends generated, examine where exactly in the chapter and how they are used in chapter 5. What do the data retrieved suggest in relation to the way the topic of immigration is presented in the text? What words and trends helped you formulate the hypotheses?

- the history of immigration
- distribution of immigration
- English speaking immigrants
- large numbers of
- the Chinese community
- the promised land
- the prospect of

Discuss the data with your partner and then share your findings on Stormboard.

	Term	Count	Length	Trend
☐	on the eve of the great war	2	7	
☐	could be found in montreal and	2	6	
☐	for more on this topic	2	5	
☐	guangdong province in south china	2	5	
☐	in the years that followed	2	5	
☐	the british women's emigration association	2	5	
☐	a quarter of the	2	4	

Phrases

557 | Length | Scale | Overlap

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are key topics and topic patterns organized in the various middle sections of a textbook chapter?	To what extent are abstract and concrete nouns used? Which kind of nouns (namely abstract or concrete) is used most frequently? Do abstract and concrete nouns refer to people, things, or ideas? How is implicitness connected to nominalization? What do these data suggest in terms of subject-specific discourse? Noun modification: - How are nouns mostly modified? Are they mainly pre- or post-modified? Are prepositional phrases or relative causes more frequently used to modify nouns? What do these data suggest in terms of subject-specific discourse? - Do pre- and post-modifying elements mainly define, specify, or classify nouns? What do these data suggest in terms of subject-specific knowledge discourse? - Lexical density: Why are nouns modified through pre- and post-modification? Where are nouns more modified in the various sections? In noun groups, what are the most common collocates of subject-specific vocabulary items?

The data used in the activity below have been retrieved with Voyant. The interactive interface of Voyant is embedded in the learning platform.

Browse the most commonly used collocations of chapter 5 in the interactive interface provided. What do they suggest in relation to how the main topics are presented in the chapter? What is the relationship between abstract and concrete words? Do abstract and concrete nouns refer to people, things, or ideas? What do the data suggest in terms of subject-specific discourse?

Discuss the data with your partner and then share your findings on Stormboard.

	Term	Collocate	Count (context)
☐	british	columbia	17
☐	chinese	immigration	14
☐	british	immigrants	14
☐	canada	chinese	11
☐	chinese	canada	11
☐	immigration	immigration	10
☐	chinese	chinese	10
☐	immigrant	groups	10
☐	immigrants	canadians	8
☐	canadian	immigrants	8
☐	chinese	community	8
☐	canadians	immigrants	8
☐	immigrants	canadian	7
☐	immigrants	canada	7

2,569 context Scale ⌄

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational			Transitivity analysis. What types of verbs are mostly used? What types of participants are mostly used? What kinds of prepositional phrases (circumstances) and adverbs (encoding time, place, manner, frequency, duration) are mostly used? What does these data suggest? How do these data convey the writer's worldview? To what extent do the types of verbs used convey the processes specific of the genre (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)?

The data used in the following activity have been retrieved with FLAIL (existential verbs) and Textalytic (the top occurring verbs). The activity is devised to introduce students to transitivity analysis in an easy way. An image of the Stormboard created for the activity is provided below; the information used in the Stormboard are retrieved from Coffin, Donohue, and North (2009: 293-304). :

Look at the data provided below. What types of verbs are the top occurring in chapter 5?

- To what extent do these types of verbs convey the processes specific of the subject-specific discourse of history (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)? What do these data suggest in relation to the subject-specific discourse specific of a history textbook and the way the content of the chapter is presented?

- What is the main role assigned to participants? Do they overall emerge as active or passive? What do these data suggest in relation to the way content is presented and the subject-specific discourse of history?

Discuss the data with your partner and then share your findings on Stormboard.

Construction	Count	Weight
🟢 Clauses > There is/are	4	(1)
🔵 Clauses > There was/were	24	(1)

Ch5_Immigration
Verbs

Word	Count
were	225
was	215
is	62
be	61
had	53
would	42
have	30
been	28
born	24
became	23

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational			What kind of tenses are mostly used? To what extent are the tenses relevant to the genre?

The data used in the activity below have been retrieved with FLAIR.

What are the most frequently occurring tenses in chapter 5? What do these data suggest in relation to the subject-specific discourse specific of a history textbook and the way the content of the chapter is presented?

Discuss the data with your partner and then share your findings on Stormboard.

Verbs > Tenses > Future perfect progressive tense	0
Verbs > Tenses > Future perfect tense	0
Verbs > Tenses > Future progressive tense	2
Verbs > Tenses > Future simple tense	1
Verbs > Tenses > Past perfect progressive tense	26
Verbs > Tenses > Past perfect tense	23
Verbs > Tenses > Past progressive tense	851
Verbs > Tenses > Past simple tense	2
Verbs > Tenses > Present perfect progressive tense	32
	1
Verbs > Tenses > Present perfect tense	154
Verbs > Tenses > Present progressive tense	2
Verbs > Tenses > Present simple tense	901

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		What are the most frequently occurring logical relations (such as cause, time, comparison, concession, consequence, addition, etc.) in the text? What do these data suggest in terms of how the topic is logically expanded in the subject-specific text? How are logical relations (such as cause, time, comparison, concession, consequence, addition) instrumental in fostering the development and expansion of ideas in the text?	What conjunctions are mostly used? What do the data suggest?

The data used in the activity below have been retrieved with Textalytic and FLAIR. The same kind of activity can be used to analyze the same elements specifically in the introduction, subchapters, and conclusion of a book chapter

Look at the top occurring conjunctions in chapter 5. What do they suggest in relation to the most commonly used types of clauses (simple, complex, independent, dependent) used? What are the most frequently occurring logical relations (such as cause, time, comparison, concession, consequence, addition) in chapter 5? What do these data suggest in terms of how the topic is logically expanded (such as cause/effect) in the subject-specific history text?

Discuss the data with your partner and then share your findings on Stormboard.

Ch5_Immigration
Conjunctions

Word	Count
and	620
as	167
for	126
or	56
but	45
however	27
so	24
while	23
when	20
because	17

emigration. It is very much about the motivations of people who choose to leave behind what they and generations of their forebears knew and built. The rather inelegant dichotomy of "pushes" and "pulls" fails to take into consideration other countervailing forces but it does serve to remind us that people here were once people there. A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations for Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well:At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and

Construction	Count	Weight
Clauses > Adverbial claus...	161	(1)
Clauses > Real conditiona...	6	(1)
Clauses > Relative clause	152	(1)
Clauses > There is/are	4	(1)
Clauses > There was/were	24	(1)
Clauses > Unreal conditio...	2	(1)

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational			To what extent are abstract and concrete nouns used? Which kind of nouns (namely abstract or concrete) is used most frequently? Do abstract and concrete nouns refer to people, things, or ideas? How is implicitness connected to nominalization? What do these data suggest in terms of subject-specific discourse? Noun modification: - How are nouns mostly modified? Are they mainly pre- or post-modified? Are prepositional phrases or relative causes more frequently used to modify nouns? What do these data suggest in terms of subject-specific discourse? - Do pre- and post-modifying elements mainly define, specify, or classify nouns? What do these data suggest in terms of subject-specific knowledge discourse? - Lexical density: Why are nouns modified through pre- and post-modification? Where are nouns more modified in the various sections? Which article (a/the) is mostly used? Why? Where exactly in the text?

The data used in the activity below have been retrieved with FLAIR and Text Feature Analyser. Here only a part of the text retrieved from FLAIR is provided as an example; to enable students to carry out a thorough examination, the whole file (with the articles highlighted) is embedded in the learning platform. The interactive interface of Voyant is embedded in the platform.

Look at the images below and carry out further investigation using Voyant. How are the articles 'a/an' and 'the' used? Which one is used the most? Why? To what extent is the use of 'the' linked to the nominalization process as well as pre- and post-noun modification? To what extent is the use of 'the' connected to grammatical metaphor? To what extent is the use of 'the' connected to increased degrees of implicitness in the contexts investigated? Why? What do the data suggest in terms of subject-specific discourse?

Discuss the data with your partner and then share your findings on Stormboard.

120PART VIChapter 5. Immigration and the Immigrant Experience 2Chapter 405.1 Introduction 3The history of immigration is, simultaneously, the history of emigration. It is very much about the motivations of people who choose to leave behind what they and generations of their forebears knew and built. The rather inelegant dichotomy of "pushes" and "pulls" fails to take into consideration other countervailing forces but it does serve to remind us that people here were once people there. A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations for Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well:At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and unable to find work. Other push factors included … compulsory

Construction	Count	Weight
Articles > Article "a"	294	(1)
Articles > Article "an"	51	(1)
Articles > Article "the"	1165	(1)

Chapter 5. Immigration and the Immigrant Experience
The history of immigration is, simultaneously, the history of emigration.
It is very much about the motivations of people who choose to leave behind what they and generations of their forebears knew and built.
A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations for Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well: At the b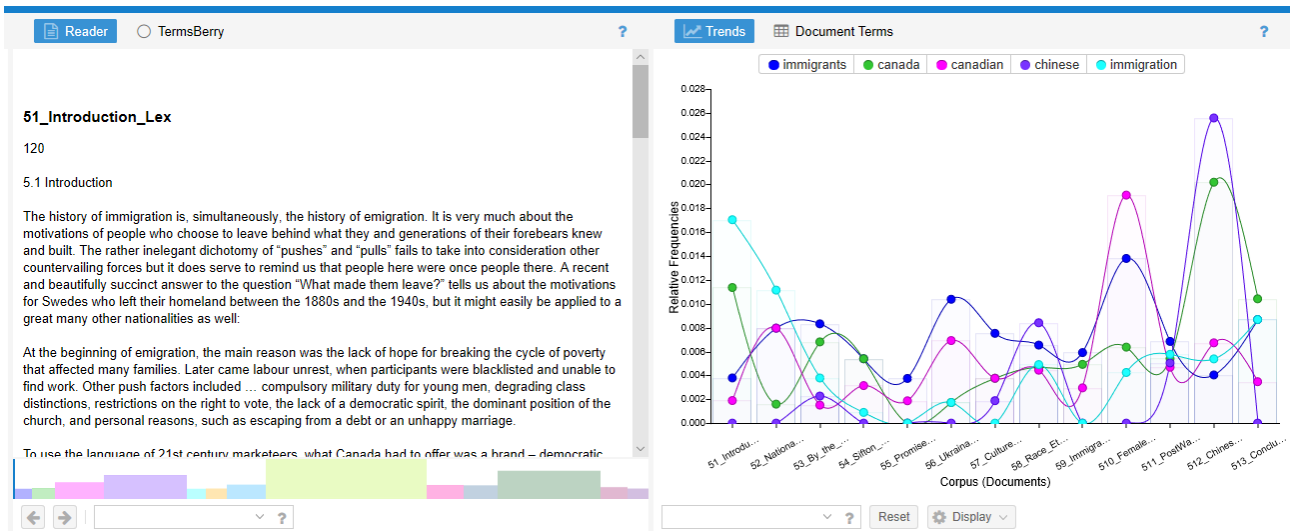eginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families.
Other push factors included … compulsory military duty for young men, degrading class distinctions, restrictions on the right to vote, the lack of a democratic spirit, the dominant position of the church, and personal reasons, such as escaping from a debt or an unhappy marriage.
To use the language of 21st century marketeers, what Canada had to offer was a brand – democratic (socially and politically), free (in terms of movement and land availability), secular (insofar as it lacked a state church), tolerant of pacifist views (for a while), underpopulated, and capable of experiencing sustained economic growth — that was preferable to the comfortable familiarities of home.
The first step to understanding the history of immigration to Canada is demographic.
The magnitude of the flow of humans into the Dominion after 1867 has to be appreciated, as does their distribution across the cities and farms and resource-extraction towns.
Who the immigrants were in terms of ethnicity and places of origin matters.
The second facet is the political and economic context of immigration: that is, the policies and opportunities that framed the immigrant waves.
Canada's relationship with immigrants has been uneven, to say the least.
Recent events in Canada, including mixed messages from governments about the kind of reception Syrian refugees might expect, serves to remind us that these attitudes have a long pedigree in Canada.
A historical study of immigration and immigration policy thus informs us of the ways in which past generations understood questions about recruitment, assimilation, inclusion, citizenship, and rights.
Learning Objectives Describe the main historic features of post-Confederation immigration.
Account for the timing of immigrant waves.
Explain the preferential or inhospitable treatment shown to select groups at different times.
Identify the goals of immigration policy and the forces that led to changes.
Assess the strategies employed by immigrant groups and communities to achieve success in Canada.
Describe the role played by racism and nativism in the history of immigration.
Chapter 41 5.2 Immigration and the National Policy What came to be known as Prime Minister John Macdonald's National Policy was, as shown in Section 3.3, a three-cornered set of initiatives.
All of these, in the words of historian Reg Whitaker, were designed: …to attach the interests of the wealthy and influential elements of Canadian society to continent-wide development.
The encouragement of immigration thus became identified with the private interest of the large companies making profits out of national development.
First, there was the railway.
Linking the Atlantic to the Pacific meant more than running steam engines across the country.

Reader ○ TermsBerry　?　　📈 Trends　🏷 Document Terms　?

● immigrants　● canada　● canadian　● chinese　● immigration

51_Introduction_Lex

120

5.1 Introduction

The history of immigration is, simultaneously, the history of emigration. It is very much about the motivations of people who choose to leave behind what they and generations of their forebears knew and built. The rather inelegant dichotomy of "pushes" and "pulls" fails to take into consideration other countervailing forces but it does serve to remind us that people here were once people there. A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations for Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well:

At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and unable to find work. Other push factors included … compulsory military duty for young men, degrading class distinctions, restrictions on the right to vote, the lack of a democratic spirit, the dominant position of the church, and personal reasons, such as escaping from a debt or an unhappy marriage.

To use the language of 21st century marketeers, what Canada had to offer was a brand – democratic

← →　[   ] ▾ ?

Relative Frequencies — Corpus (Documents)

[   ] ▾ ?　Reset　⚙ Display ▾

?　📊 Contexts　👁 Bubblelines　🏷 Correlations　?

x (2224); 53_By_the_Numbers_Lex (1322);

ainan_Westeners_Lex (578); 52_National_Policy_Lex

i51); 513_Conclusion_Lex (0.524);

nLe… (0.397); 54_Sifton_Years_Lex (0.401);

Document	Left	Term ↑	Right
1) 51_In…	resource-extraction towns. Who the	immigrants	were in terms of ethnicity
1) 51_In…	as well. Canada's relationship with	immigrants	has been uneven, to say
2) 52_N…	Railway would move Canadians and	immigrants	around the old provinces, but
2) 52_N…	be the means by which	immigrants	would be deposited deep into
2) 52_N…	immigration strategy. Having assigned to	immigrants	and Canadian migrants the task
2) 52_N…	and that would benefit other	immigrants	in terms of jobs, but
2) 52_N…	based on the labour of	immigrants	was most apparent and the
3) 53_B…	3 5.3	immigrants	by the Numbers We have
3) 53_B…	settler society changed significantly. British	immigrants	were the most numerous, but
3) 53_B…	generally and the numbers of	immigrants	arriving yearly between 1867-1920

[   ] ▾ ?　120　context ⊙——　expand ——⊙　Scale ▾

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Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal		To what extent is evaluation conveyed through grading elements?	

The data used in the activity below have been retrieved with FLAIR. Here only a part of the text is provided as an example; to enable students to carry out a thorough examination, the whole file (with the targeted elements highlighted) is embedded in the learning platform. The interactive interface of Voyant is embedded in the platform.

Look at the image below and carry out further investigation using Voyant. How are adverbs usually used in chapter 5? To what extent is evaluation conveyed through grading elements (such as comparatives and superlatives)? If so, to what extent? What do the data suggest in terms of subject-specific discourse and the way the author presents the topics?

Discuss the data with your partner and then share your findings on Stormboard

120PART VIChapter 5. Immigration and the Immigrant Experience 2Chapter 405.1 Introduction 3The history of immigration is, simultaneously, the history of emigration. It is very much about the motivations of people who choose to leave behind what they and generations of their forebears knew and built. The rather inelegant dichotomy of "pushes" and "pulls" fails to take into consideration other countervailing forces but it does serve to remind us that people here were once people there. A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations for Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well:At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and unable to find work. Other push factors included... compulsory

Construction	Count	Weight
Adverbs > Comparative for...	2	(1)
Adverbs > Comparative for...	35	(1)
Adverbs > Positive form o...	726	(1)
Adverbs > Superlative for...	2	(1)
Adverbs > Superlative for...	14	(1)

immigrants | canada | canadian | chinese | immigration

51_Introduction_Lex

120

5.1 Introduction

The history of immigration is, simultaneously, the history of emigration. It is very much about the motivations of people who choose to leave behind what they and generations of their forebears knew and built. The rather inelegant dichotomy of "pushes" and "pulls" fails to take into consideration other countervailing forces but it does serve to remind us that people here were once people there. A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations for Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well:

At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and unable to find work. Other push factors included ... compulsory military duty for young men, degrading class distinctions, restrictions on the right to vote, the lack of a democratic spirit, the dominant position of the church, and personal reasons, such as escaping from a debt or an unhappy marriage.

To use the language of 21st century marketeers, what Canada had to offer was a brand – democratic

0.028
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Relative Frequencies

51_Introdu... 52_Nationa... 53_By_the_... 54_Sifton_... 55_Promise... 56_Ukraina... 57_Culture... 58_Race_Et... 59_Immigra... 510_Female... 511_PostWa... 512_Chines... 513_Conclu...

Corpus (Documents)

Reset | Display

? | Contexts | Bubblelines | Correlations | ?

x (2224); 53_By_the_Numbers_Lex (1322);

...inan_Westeners_Lex (578); 52_National_Policy_Lex

:51); 513_Conclusion_Lex (0.524);

nLe... (0.397); 54_Sifton_Years_Lex (0.401);

Document	Left	Term ↑	Right
1) 51_In...	resource-extraction towns. Who the	immigrants	were in terms of ethnicity
1) 51_In...	as well. Canada's relationship with	immigrants	has been uneven, to say
2) 52_N...	Railway would move Canadians and	immigrants	around the old provinces, but
2) 52_N...	be the means by which	immigrants	would be deposited deep into
2) 52_N...	immigration strategy. Having assigned to	immigrants	and Canadian migrants the task
2) 52_N...	and that would benefit other	immigrants	in terms of jobs, but
2) 52_N...	based on the labour of	immigrants	was most apparent and the
3) 53_B...	3 5.3	immigrants	by the Numbers We have
3) 53_B...	settler society changed significantly. British	immigrants	were the most numerous, but
3) 53_B...	generally and the numbers of	immigrants	arriving yearly between 1867-1920

120 context | expand | Scale

179

Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal		To what extent is evaluation conveyed through grading elements?	

To carry out the activity below, students have to use Voyant. The interactive interface of Voyant is embedded in the learning platform.

Investigate the amplifiers and the downtoners (some examples are provided below) in chapter 5 using Voyant. To what extent is evaluation conveyed through grading elements (such as amplifiers and downtoners)? What do the data suggest in terms of subject-specific discourse and the way the author presents and evaluates the topics?
Discuss the data with your partner and then share your findings on Stormboard

Amplifiers	Downtoners	
in fact[67]	probably[68]	
actually	almost	
too	possibly	
more	like	
indeed	a little	
certainly	kind of	
real	perhaps	
really	maybe	
	pretty	
	sort of	

[67] The list here provided is based on that given in S. Conrad and D. Biber (2009). *Real Grammar: A Corpus-Based Approach to English.* White Plains, NY: Pearson/Longman, 76.
[68] The list here provided is based on that given in S. Conrad and D. Biber (2009). *Real Grammar: A Corpus-Based Approach to English.* White Plains, NY: Pearson/Longman, 76.

Reader | ○ TermsBerry | ? | Trends | Document Terms | ?

● immigrants ● canada ● canadian ● chinese ● immigration

51_Introduction_Lex

120

5.1 Introduction

The history of immigration is, simultaneously, the history of emigration. It is very much about the motivations of people who choose to leave behind what they and generations of their forebears knew and built. The rather inelegant dichotomy of "pushes" and "pulls" fails to take into consideration other countervailing forces but it does serve to remind us that people here were once people there. A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations for Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well:

At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and unable to find work. Other push factors included … compulsory military duty for young men, degrading class distinctions, restrictions on the right to vote, the lack of a democratic spirit, the dominant position of the church, and personal reasons, such as escaping from a debt or an unhappy marriage.

To use the language of 21st century marketeers, what Canada had to offer was a brand – democratic

Relative Frequencies

Corpus (Documents)

51_Introdu... 52_Nationa... 53_By_the... 54_Sifton... 55_Promise... 56_Ukraina... 57_Culture... 58_Race_Et... 59_Immigra... 510_Female... 511_PostWa... 512_Chines... 513_Conclu...

Reset | ⚙ Display ∨

? | Contexts | 👁 Bubblelines | Correlations | ?

x (2224); 53_By_the_Numbers_Lex (1322);

inan_Westeners_Lex (578); 52_National_Policy_Lex

i51); 513_Conclusion_Lex (0.524);

nLe... (0.397); 54_Sifton_Years_Lex (0.401);

	Document	Left	Term ↑	Right
⊞	1) 51_In...	resource-extraction towns. Who the	immigrants	were in terms of ethnicity
⊞	1) 51_In...	as well. Canada's relationship with	immigrants	has been uneven, to say
⊞	2) 52_N...	Railway would move Canadians and	immigrants	around the old provinces, but
⊞	2) 52_N...	be the means by which	immigrants	would be deposited deep into
⊞	2) 52_N...	immigration strategy. Having assigned to	immigrants	and Canadian migrants the task
⊞	2) 52_N...	and that would benefit other	immigrants	in terms of jobs, but
⊞	2) 52_N...	based on the labour of	immigrants	was most apparent and the
⊞	3) 53_B...	3 5.3	immigrants	by the Numbers We have
⊞	3) 53_B...	settler society changed significantly. British	immigrants	were the most numerous, but
⊞	3) 53_B...	generally and the numbers of	immigrants	arriving yearly between 1867-1920

120 context ● expand ● Scale ∨

Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal	What is the main objective of the text (e.g. to inform, report, persuade, etc.)?	Is the interaction with the reader mainly based on providing information, giving orders / instructions / commands, and / or asking questions? What do these data suggest in terms of subject-specific discourse?	

The data used in the activity below have been retrieved with FLAIR. Here only a part of the text is provided as an example; to enable students to carry out a thorough examination, the whole file (with the targeted elements highlighted) is embedded in the learning platform.

Look at the images below. How often are questions and imperatives used in chapter 5? Is the interaction with the reader mainly based on providing information, giving orders / instructions / commands, and/or asking questions? What do the data suggest in relation to the subject-specific discourse used in a history book chapter and the way the writer engages with the reader?

Discuss the data with your partner and then share your findings on Stormboard

but it does serve to remind us that people here were once people there. A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations for Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well:At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and

Construction	Count	Weight
Questions > "Be" question...	1	(1)
Questions > "Do" question...	1	(1)
Questions > "Have" questi...	0	(1)
Questions > "Wh" question...	2	(1)
Questions > All questions	3	(1)
Questions > Tag questions	0	(1)
Questions > Yes/no questi...	0	(1)

north. Another, from 1896, were the new approaches taken by the Laurier administration under the leadership of Clifford Sifton (see Sections 4.4 and 5.4).This is not to say that the immigration that was recorded from 1867-1896 did not matter. Hundreds of thousands were added to the

Construction	Count	Weight
Verbs > Imperative > Impe...	23	(1)

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How does the writer provide information? Does the writer try to align the reader with his/her view? If so, how?		

…

Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal	To what extent is information presented as a factual or tentative? To what extend is information provided in an authoritative and impersonal way? Does the writer try to make the reader agree with his/her stance/claims/worldview? If so, how?		How and to what extent do writers hedge their positions with modal verbs and / or other words / expressions conveying the same meaning?

The interactive interface of Voyant is embedded in the learning platform. The same kind of activity can be used to analyze whether the evaluative stance is used to the same extent in the various sections (such as the introduction, the chapters/subchapters, and the conclusion) of the textbook/textbook chapters investigated.

Read the following definition of stance:

"Stance. They express a textual 'voice' or community recognized personality which, following others, I shall call stance. This can be seen as an attitudinal dimension and includes features which refer to the ways writers present themselves and convey their judgements, opinions, and commitments. It is the ways that writers intrude to stamp their personal authority onto their arguments or step back and disguise their involvement." (Hyland 2005: 176)

Now, investigate the use of the epistemic stance adverbials (some examples are provided below) in chapter 5 using Voyant. To what extent are they used? What do the data suggest in terms of subject-specific discourse and the way the author presents the topics and conveys evaluation?

Discuss the data with your partner and then share your findings on Stormboard.

- *Certainty/doubt adverbials include*: no doubt, certainly, undoubtedly, probably, perhaps, maybe, arguably, decidedly, definitely, incontestably, incontrovertibly, most likely, very likely, quite likely, of course, I guess, I think, I bet, I suppose, who knows. (Biber, Conrad, and Leech 2002: 383)

- *Actuality and reality adverbials include*: in fact, really, actually, in actual fact, for a fact, truly. (Biber, Conrad, and Leech 2002: 383).

- *Source of knowledge adverbials include*: evidently, apparently, reportedly, reputedly, according to X, as X reports/notes. (Biber, Conrad, and Leech 2002: 383)

- *Limitation stance adverbials include*: in most cases, in most instances, mainly, typically, generally, in general, on the whole. (Biber, Conrad, and Leech 2002: 383)

- *Viewpoint or perspective adverbials include*: in our view, from our perspective, to my knowledge, to the best of our knowledge. (Biber, Conrad, and Leech 2002: 384)

- *Imprecision adverbials include*: like, sort of, kind of, so to speak, if you can call it that. (Biber, Conrad, and Leech 2002: 384)

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How does the writer provide information? Does the writer try to align the reader with his/her view? If so, how?		

<center>…</center>

Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal	To what extent is information presented as a factual or tentative? To what extend is information provided in an authoritative and impersonal way? Does the writer try to make the reader agree with his/her claim/worldview? If so, how?	How does the writer position the reader in relation to the information presented? To what extent is the reader presented as aligned with the writer's stance?	How and to what extent do writers hedge their positions with modal verbs and / or other words / expressions conveying the same meaning? What personal pronouns do writers use? When do they use them? How do the pronouns used position the writer and the reader? To what extent are pronouns used? What pronouns are mainly used? Why? What do these data suggest in terms of subject-specific discourse?

The interactive interface of Voyant is embedded in the learning platform. The same kind of activity can be used to analyze whether the evaluative stance is used to the same extent in the various sections (such as the introduction, the chapters/subchapters, and the conclusion) of the textbook/textbook chapters investigated.

Investigate the use of stance (some guidelines and examples are provided below) in chapter 5 using Voyant. To what extent is stance used? What do the data suggest in terms of subject-specific discourse and the way the author presents the topics and conveys evaluation?

Discuss the data with your partner and then share your findings on Stormboard.

Interactional resources	Involve the reader in the argument	[Examples]
Hedges	Withhold writer's full commitment to proposition	Might/perhaps/possible/about
Boosters	Emphasise force or writer's certainty in proposition	In fact definitely/it is clear that
Attitude markers	Express writer's attitude proposition	Unfortunately/I to agree/surprisingly
Engagement markers	Explicitly refer to or build relationship with reader	Consider/note that/you can see that
Self-mentions	Explicit reference to author(s)	I/we/my/our

<center>Section of "a model of metadiscourse in academic texts" (Hyland 2004: 139)</center>

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How does the writer provide information? Does the writer try to align the reader with his/her view? If so, how?		

...

Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal	To what extent is information presented as a factual or tentative? To what extend is information provided in an authoritative and impersonal way? Does the writer try to make the reader agree with his/her stance/claims/worldview? If so, how?		

The interactive interface of Voyant is embedded in the learning platform. The same kind of activity can be used to analyze whether the evaluative stance is used to the same extent in the various sections (such as the introduction, the chapters/subchapters, and the conclusion) of the textbook/textbook chapters investigated.

Investigate the reporting verbs (some examples are provided below) used in chapter 5 using Voyant. To what extent are they used? What do the data suggest in terms of subject-specific discourse and the way the author presents the topics, conveys evaluation, and introduces other scholars' views? Discuss the data with your partner and then share your findings on Stormboard.

Reporting verbs[69]	Frequency
Certainty level: very certain	
conclude	
demonstrate	
describe	
explain	
find	
note	

[69] The list here provided is based on that given in S. Conrad and D. Biber (2009). *Real Grammar: A Corpus-Based Approach to English.* White Plains, NY: Pearson/Longman, 112.

present	
prove	
report	
show	
state	
Certainty level: less certain	
argue	
claim	
contend	
hypothesize	
imply	
indicate	
maintain	
postulate	
propose	
suggest	

Reader | TermsBerry | ? | Trends | Document Terms | ?

Legend: immigrants · canada · canadian · chinese · immigration

51_Introduction_Lex

120

5.1 Introduction

The history of immigration is, simultaneously, the history of emigration. It is very much about the motivations of people who choose to leave behind what they and generations of their forebears knew and built. The rather inelegant dichotomy of "pushes" and "pulls" fails to take into consideration other countervailing forces but it does serve to remind us that people here were once people there. A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations for Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well:

At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and unable to find work. Other push factors included ... compulsory military duty for young men, degrading class distinctions, restrictions on the right to vote, the lack of a democratic spirit, the dominant position of the church, and personal reasons, such as escaping from a debt or an unhappy marriage.

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x (2224); 53_By_the_Numbers_Lex (1322);

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...nLe... (0.397); 54_Sifton_Years_Lex (0.401);

Contexts | Bubblelines | Correlations

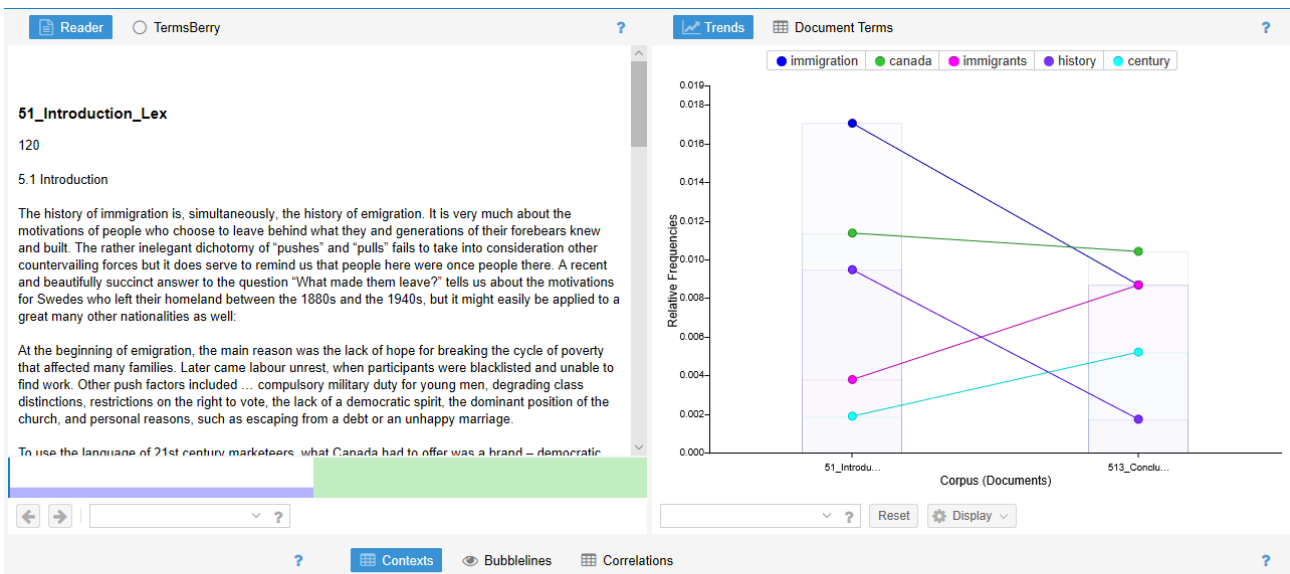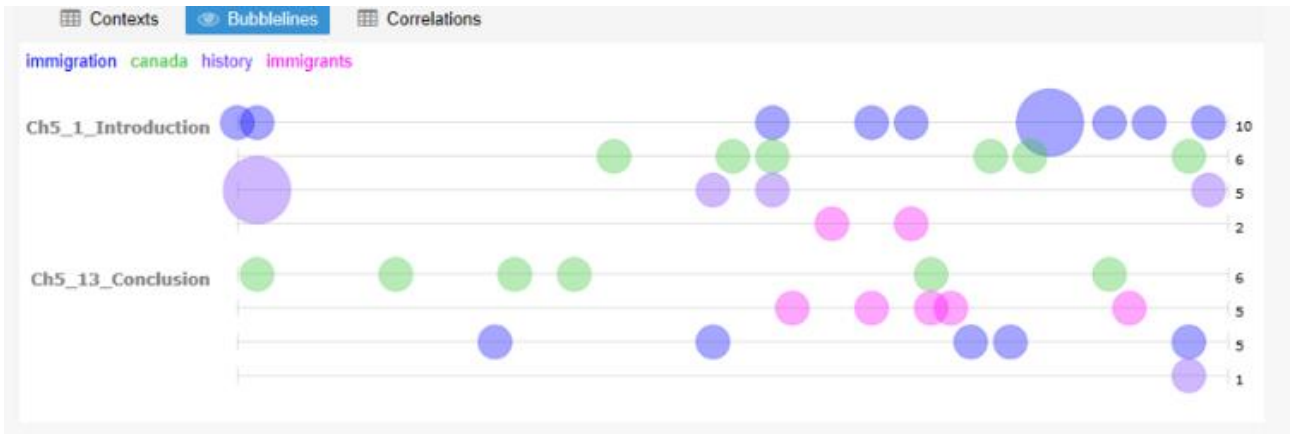| Document	Left	Term ↑	Right
1) 51_In...	resource-extraction towns. Who the	immigrants	were in terms of ethnicity
1) 51_In...	as well. Canada's relationship with	immigrants	has been uneven, to say
2) 52_N...	Railway would move Canadians and	immigrants	around the old provinces, but
2) 52_N...	be the means by which	immigrants	would be deposited deep into
2) 52_N...	immigration strategy. Having assigned to	immigrants	and Canadian migrants the task
2) 52_N...	and that would benefit other	immigrants	in terms of jobs, but
2) 52_N...	based on the labour of	immigrants	was most apparent and the
3) 53_B...	3 5.3	immigrants	by the Numbers We have
3) 53_B...	settler society changed significantly. British	immigrants	were the most numerous, but
3) 53_B...	generally and the numbers of	immigrants	arriving yearly between 1867-1920

120 context   expand   Scale

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How does the writer provide information? Does the writer try to align the reader with his/her view? If so, how?		

<div align="center">…</div>

Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal	Does the writer try to make the reader agree with his/her stance/claims/worldview? If so, how?	How does the writer position the reader in relation to the information presented? To what extent is the reader presented as aligned with the writer's stance? Is the interaction with the reader mainly based on providing information, giving orders / instructions / commands, and / or asking questions? What do these data suggest in terms of subject-specific discourse?	What personal pronouns do writers use? When do they use them? How do the pronouns used position the writer and the reader? To what extent are pronouns used? What pronouns are mainly used? Why? What do these data suggest in terms of subject-specific discourse?

The interactive interface of Voyant is embedded in the learning platform.

Read the following definition of engagement:

"Engagement. Writers relate to their readers with respect to the positions advanced in the text, which I call engagement (Hyland, 2001). This is an alignment dimension where writers acknowledge and connect to others, recognizing the presence of their readers, pulling them along with their argument, focusing their attention, acknowledging their uncertainties, including them as discourse participants, and guiding them to interpretations." (Hyland 2005: 176)

Now, investigate the use of engagement (useful definitions, explanations, and examples are provided below) in chapter 5 using Voyant, FLAIR, and Text Feature Analyser. To what extent is engagement used? What do the data retrieved suggest in terms of subject-specific discourse and the way the author presents the topics and engages with the reader? Discuss the data with your partner and then share your findings on Stormboard.

Search the following elements to investigate engagement:

1. Reader pronouns.
2. Personal asides.
3. Appeals to shared knowledge.
4. Directives.
5. Questions. (Hyland 2005: 182)

Useful information:

"There are two main purposes to writers' uses of engagement strategies:

1. Acknowledgement of the need to adequately meet readers' expectations of inclusion and disciplinary solidarity. Here we find readers addressed as participants in an argument with reader pronouns and interjections.

2. To rhetorically position the audience. Here the writer pulls readers into the discourse at critical points, predicting possible objections and guiding them to particular interpretations with questions, directives and references to shared knowledge." (Hyland 2005: 182)

Reader pronouns are […] the most explicit way that readers are brought into a discourse. *You* and *your* are […] the clearest way a writer can acknowledge the reader's presence […]. […] [T]here is enormous emphasis on binding writer and reader together through inclusive *we* […]. It sends a clear signal of membership by textually constructing both the writer and the reader as participants with similar understanding and goals. (Hyland 2005: 182) In addition to claiming solidarity, […] [reader pronouns] also set up a dialogue by weaving the potential point of view of readers into the discourse, thereby anticipating their objections, voicing their concerns, and expressing their views. Thus, *we* helps guide readers through an argument and towards a preferred interpretation, often shading into explicit positioning of the reader. (Hyland 2005: 183)

Personal asides allow writers to address readers directly by briefly interrupting the argument to offer a comment on what has been said. While asides express something of the writer's personality and willingness to explicitly intervene to offer a view, they can also be seen as a key reader-oriented strategy. By turning to the reader in mid-flow, the writer acknowledges and responds to an active audience, often to initiate a brief dialogue that is largely interpersonal. (Hyland 2005: 183)

Appeals to shared knowledge seek to position readers within apparently naturalized boundaries of disciplinary understandings. The notion of 'sharedness' is often invoked by writers to smuggle contested ideas into their argument, but here I am simply referring to the presence of explicit markers where readers are asked to recognize something as familiar or accepted[, such as] […] *Of course, we know that* […] [and] *This tendency obviously reflects*. (Hyland 2005: 184)

Directives instruct the reader to perform an action or to see things in a way determined by the writer. They are signalled mainly by the presence of an imperative (like *consider*, *note*, and *imagine*); by a modal of obligation addressed to the reader (such as *must*, *should*, and *ought*); and by a predicative adjective expressing the writer's judgement of necessity/importance (*It is important to understand ...*). (Hyland 2005: 184)

Questions are the strategy of dialogic involvement par excellence, inviting engagement and bringing the interlocutor into an arena where they can be led to the writer's viewpoint. (Hyland 2005: 185)

Reader ○ TermsBerry ?　　　☑ **Trends**　⊞ Document Terms ?

● immigrants　● canada　● canadian　● chinese　● immigration

51_Introduction_Lex

120

5.1 Introduction

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At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and unable to find work. Other push factors included … compulsory military duty for young men, degrading class distinctions, restrictions on the right to vote, the lack of a democratic spirit, the dominant position of the church, and personal reasons, such as escaping from a debt or an unhappy marriage.

To use the language of 21st century marketeers, what Canada had to offer was a brand – democratic

Relative Frequencies / Corpus (Documents)

← →　[　　　　　　▾] ?　　　[　　　　　　▾] ? Reset　⚙ Display ▾

? ⊞ **Contexts**　👁 Bubblelines　⊞ Correlations ?

…).

x (2224); 53_By_the_Numbers_Lex (1322);

inan_Westeners_Lex (578); 52_National_Policy_Lex

i51); 513_Conclusion_Lex (0.524);

nLe… (0.397); 54_Sifton_Years_Lex (0.401);

	Document	Left	Term ↑	Right
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⊞	2) 52_N…	immigration strategy. Having assigned to	immigrants	and Canadian migrants the task
⊞	2) 52_N…	and that would benefit other	immigrants	in terms of jobs, but
⊞	2) 52_N…	based on the labour of	immigrants	was most apparent and the
⊞	3) 53_B…	3 5.3	immigrants	by the Numbers We have
⊞	3) 53_B…	settler society changed significantly. British	immigrants	were the most numerous, but
⊞	3) 53_B…	generally and the numbers of	immigrants	arriving yearly between 1867-1920

[　　　　　▾] ? 120 context ◉———— expand ◉———— Scale ▾

3.4.2.2 Group B

In this section, the activities focus on the introduction and the conclusion of chapter five "Immigration and the immigrant experience" of the open textbook "Canadian History: Post-Confederation" by Belsha.

Upon completion of all the activities focusing on the introduction and the conclusion of chapter 5, students organize the main findings on the Stormboard provided below.

Introduction and conclusion

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are key topics aggregated in the text?	To what extent are abstract and concrete nouns used? Which kind of nouns (namely abstract or concrete) is used most frequently? Do abstract and concrete nouns refer to people, things, or ideas? What do these data suggest in terms of subject-specific discourse?

The data used in the activity below have been retrieved with Voyant. The interactive interface of Voyant is embedded in the learning platform.

Look at the images which compare the topic organization in the introduction and the conclusion of chapter 5 and carry out further research with Voyant. How are the main topics grouped in the introduction and the conclusion? How and to what extent are abstract and concrete terms used? What are the main differences and similarities between the two sections? What do they suggest in terms of topic organization and subject-specific discourse in the two genre-specific sections?

Discuss the data with your partner and then share your findings on Stormboard.

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How are keywords used to build disciplinary knowledge in a textbook chapter (in the introduction, the middle subchapters, and the conclusion)? How are keywords interconnected?	How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	

The data used in the activity below have been retrieved with Voyant.

Look at the image below. What lexical sets appear in the introduction and the conclusion of chapter 5? To what extent are terms interconnected? What are the main differences emerging? What do they suggest in terms of topic organization?

Discuss the data with your partner and then share your findings on Stormboard.

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How do the introduction, the middle subchapters, and the conclusion of a textbook chapter organize subject-specific knowledge (such as key topics)?	How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? And in particular within the various sections of the introduction and conclusion? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	To what extent are abstract and concrete nouns used? Which kind of nouns (namely abstract or concrete) is used most frequently? Do abstract and concrete nouns refer to people, things, or ideas? What do these data suggest in terms of subject-specific discourse?

The data used in the activity below have been retrieved with Voyant (Trends) and Quirkos (the results of the qualitative text analysis have been provided through visualization).

How is the information organized in the four paragraphs of the introduction and in the four paragraphs the conclusion? How are the main topics organized in the four paragraphs of both the introduction and the conclusion? What are the main differences and similarities? In particular, what differences can be detected (a) within the fours paragraphs of the introduction and the four paragraphs of the conclusion and (b) between the introduction and the conclusion in general? What do the data suggest in terms of paragraph content organization and the perspective emerging in the two genre-specific sections?

Discuss the data with your partner and then share your findings on Stormboard.
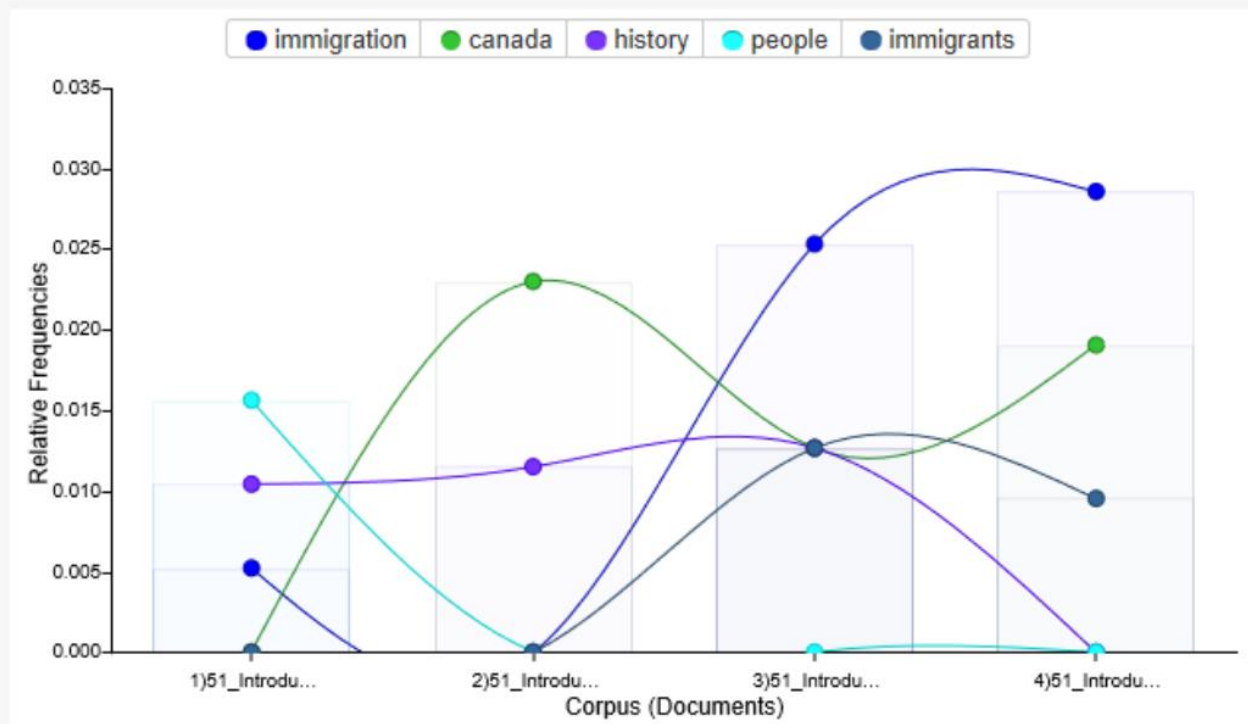
Introduction

Conclusion
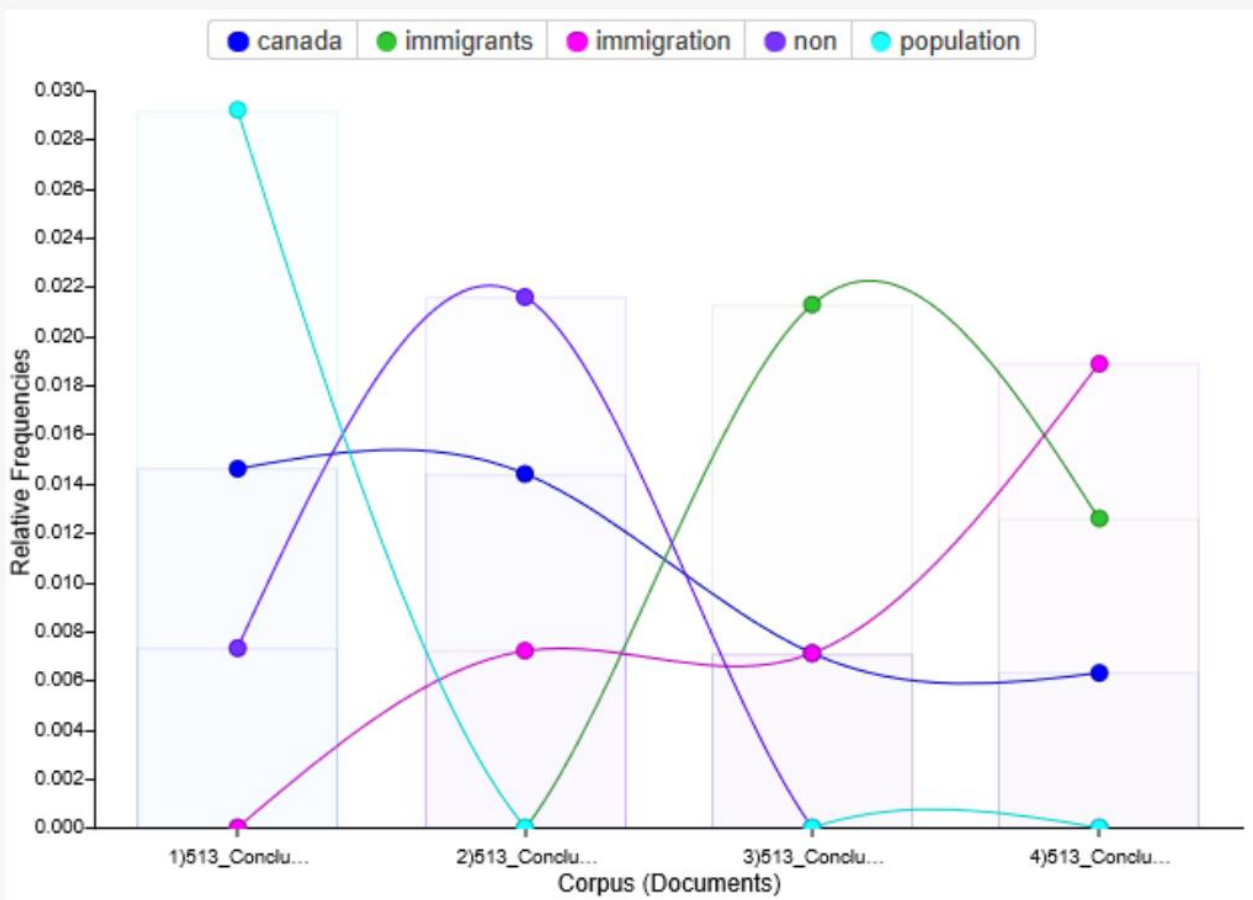
Introduction

PARAGRAPH 1: People · motivations · leave · lack · emigration

PARAGRAPH 2: offer · views · use · underpopulated · tolerant

PARAGRAPH 3: waves · understanding · towns

PARAGRAPH 4: xenophobic · welcoming · uneven · understood

Conclusion

PARAGRAPH 1: population · urban · share · half · work

PARAGRAPH 2: aborigenal · waves · non · widespread · way

PARAGRAPH 3: time · settlers · canadian · immigrants · women

PARAGRAPH 4: rejected · community · worth · unpredicted · underlining

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	Noun modification: - How are nouns mostly modified? Are they mainly pre- or post-modified? Are prepositional phrases or relative causes more frequently used to modify nouns? What do these data suggest in terms of subject-specific discourse? - Do pre- and post-modifying elements mainly define, specify, or classify nouns? What do these data suggest in terms of subject-specific knowledge discourse? - Lexical density: Why are nouns modified through pre- and post-modification? Where are nouns more modified in the various sections? Which article (a/the) is mostly used? Why? Where exactly in the text? In noun groups, what are the most common collocates of subject-specific vocabulary items?

The data used in the activity below have been retrieved with Voyant. The interactive interface of Voyant is embedded in the learning platform.

Investigate the interactive interfaces to answer the following questions: What are the main differences between the introduction and the conclusion in terms of phrases? Which article (a/the) is mostly used? What do the data retrieved suggest in terms of topic organization and evaluation in the two different genre-specific sections?

Discuss the data with your partner and then share your findings on Stormboard.

Introduction

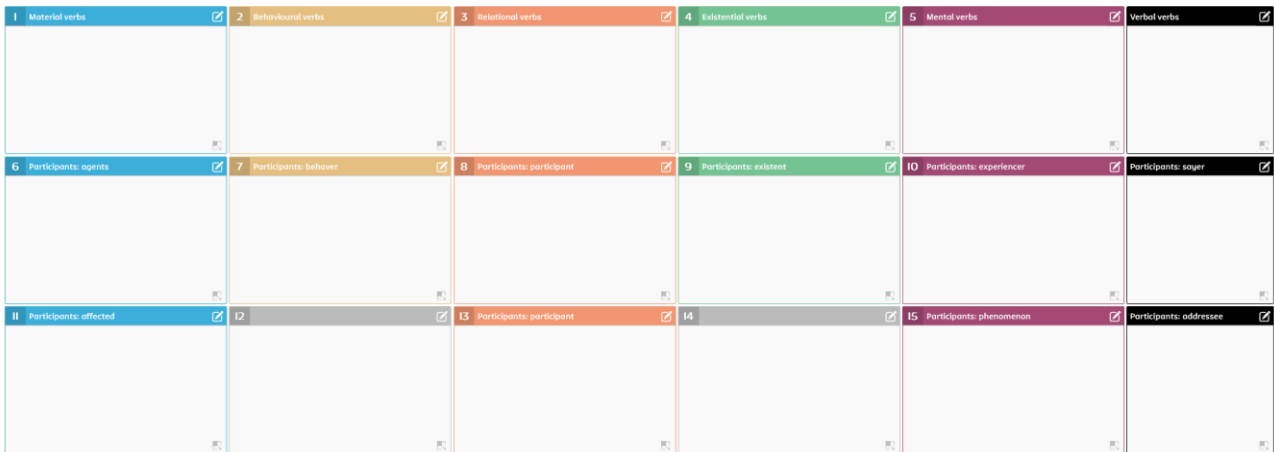| Term	Count	Length	Trend
at the same time	3	4	
the history of immigration	3	4	
to remind us that	2	4	
about the motivations	2	3	
context of immigration	2	3	
in terms of	2	3	
the lack of	2	3	
times it was	2	3	
20th century	2	2	
a mostly	2	2	
and the	5	2	
and while	2	2	
as well	2	2	
but it	2	2	
canada had	2	2	
canada in	2	2	
canada the	2	2	

Document Terms   Phrases

35 | Length   Scale   Overlap

Conclusion

Term	Count	Length	Trend
the history of immigration	3	4	
to remind us that	2	4	
about the motivations	2	3	
context of immigration	2	3	
in terms of	2	3	
the lack of	2	3	
times it was	2	3	
and the	3	2	
as well	2	2	
but it	2	2	
canada had	2	2	
describe the	2	2	
immigrant waves	2	2	
immigration policy	2	2	
in canada	3	2	
is the	2	2	
of the	3	2	

Document Terms | Phrases

19 | Length | Scale | Overlap

The contents of this matrix refer to the activities A, B, and C provided below:

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	To what extent are abstract and concrete nouns used? Which kind of nouns (namely abstract or concrete) is used most frequently? Do abstract and concrete nouns refer to people, things, or ideas? How is implicitness connected to nominalization? What do these data suggest in terms of subject-specific discourse? Transitivity analysis. What types of verbs are mostly used? What types of participants are mostly used? What kinds of prepositional phrases (circumstances) and adverbs (encoding time, place, manner, frequency, duration) are mostly used? What does these data suggest? How do these data convey the writer's worldview? To what extent do the types of verbs used convey the processes specific of the genre (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)?

Students will use the Stormboard provided below to share the findings of the three activities that follow.

transitivity analysis

The data used in the activity below have been retrieved with Quirkos. For the purpose of the present work, only some examples of the different types of the data provided are made available here.

(A) Are the main participants abstract or concrete in the introduction (data provided) and in the conclusion (you can retrieve the data on the conclusion using Voyant or highlighting the targeted elements in the platform; you can also use the demo version of Quirkos to carry out the research)? Do the participants refer to people, things or ideas? What are the main differences and similarities between the introduction and the conclusion? What do they suggest in relation to the way the author conveys the topics in the two genre-specific sections?

Discuss the data with your partner and then share your findings on Stormboard.

Introduction	Subject participants Conclusion
Subject participants	
The history of immigration	
they and generations of their forebears	
The rather inelegant dichotomy of "pushes" and "pulls"	
people	
A recent and beautifully succinct answer to the question "What made them leave?"	
the main reason	
labour unrest	
participants	
Other push factors	

Introduction	Conclusion
Object participants	**Object participants**
the history of emigration	
about the motivations of people	
what	
other countervailing forces	
us	
people	
us	
their homeland	
a great many other nationalities	
the lack of hope for breaking the cycle of poverty	

The data used in the activity below have been retrieved with Quirkos. For the purpose of the present work, only some examples of the different types of the data provided are made available here.

(B) What are the main types of verbs used in the introduction (the data are provided) and in the conclusion (you can retrieve the data on the conclusion using Voyant or highlighting the targeted elements in the platform; you can also use the demo version of Quirkos to carry out the research)? What are the main differences and similarities? What do they suggest in relation to the way the author conveys the content in the two genre-specific sections?

Discuss the data with your partner and then share your findings on Stormboard.

Introduction	Conclusion
Verbs	**Verbs**
is	
is	
were	
was	
had	
was	
was	
had	
is	
were	
to leave behind	
built	
fails	
does serve	
left	
might easily be applied to	
affected	
came	

were blacklisted	
to find	
choose	
knew	
to remind	
has to be appreciated	
to remind	
might expect	
understood	

Students will use the Stormboard provided below to share the findings of the activity that follows.

circumstances

The data used in the activity below have been retrieved with Qurkos.

(C) What are the main circumstances used in the introduction (data provided) and in the conclusion (you can retrieve the data on the conclusion using Voyant or highlighting the targeted elements in the platform; you can also use the demo version of Quirkos to carry out the research)? What are the main differences and similarities? What do they suggest in relation to how the author conveys the content and the main features of the subject-specific discourse in the two genre-specific sections?

Discuss the data with your partner and then share your findings on Stormboard.

Introduction	Introduction
Circumstances	**Circumstances**
as well	
in terms of ethnicity and places of origin	
as well	
to say the least	
the ways in which	
simultaneously	
once	
between the 1880s and the 1940s	
Later	
after 1867	
At times	
at other times	
at others	
still	
here	
there	

" across the cities and farms and resource-extraction towns	
" in Canada	
" in Canada	

Function/ Level	1. **Whole text (entire textbook and/or a chapter of a textbook)**	2. **Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)**	3. **Sentence / clause level**
A. Ideational		How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	Transitivity analysis. What types of verbs are mostly used? What types of participants are mostly used? What does these data suggest? How do these data convey the writer's worldview? To what extent do the types of verbs used convey the processes specific of the genre (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)?

Students will use the Stormboard provided below to share the findings of the activity that follows.

transitivity analysis

The data used in the activity below have been retrieved with Textalytic. The interactive interface of Voyant is embedded in the learning platform.

Look at the data provided below and carry out further research with Voyant. What types of verbs are the top occurring in the introduction and in the conclusion? What are the main differences, if any? What do these data suggest in terms of (a) how the author conveys the content and (b) the main features of the subject-specific discourse in the two genre-specific sections?

- To what extent do these types of verbs convey the processes specific of the subject-specific discourse of history (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)? What do these

data suggest in relation to the way the content of the chapter is presented and the subject-specific discourse used in a history textbook?

- What is the main role assigned to participants? To what extent do participants seem to be conceived as active or passive? What do these data suggest in relation to the way content is presented and the subject-specific discourse of history?

Discuss the data with your partner and then share your findings on Stormboard.

Introduction		Conclusion	
5.1 Introduction Verbs		**5.13 Conclusion** Verbs	
Word	**Count**	**Word**	**Count**
was	5	is	12
is	5	were	4
were	4	been	4
has	2	be	3
be	2	have	3
offer	2	has	2
does	2	did	2
had	2	rejected	2
remind	2	born	2
might	2	played	2

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter?	What kind of verb times are mostly used? To what extent are the tenses relevant to the genre?

The data used in the activity below have been retrieved with FLAIR. This type of activity can also be applied to the various paragraphs of a chapter to analyze how verb time changes through the various phases.

What are the main verb times used in the introduction and the conclusion? To what extent do the verb times convey the processes specific of the subject-specific discourse of history (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)? What do these data suggest in relation to the way the content of the chapter is presented and the subject-specific discourse used in a history textbook?

Discuss the data with your partner and then share your findings on Stormboard.

Introduction

5.1 Introduction

The history of immigration is, simultaneously, the history of emigration. It is very much about the motivations of people who choose to leave behind what they and generations of their forebears knew and built. The rather inelegant dichotomy of "pushes" and "pulls" fails to take into consideration other countervailing forces but it does serve to remind us that people here were once people there. A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations for Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well. At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and unable to find work. Other push factors included … compulsory military duty for young men, degrading class distinctions, restrictions on the right to vote, the lack of a democratic spirit, the dominant position of the church, and personal reasons, such as escaping from a debt or an unhappy marriage. To use the language of 21st century marketeers, what Canada had to offer was a brand – democratic (socially and politically), free (in terms of movement and land availability), secular (insofar as it lacked a state church), tolerant of pacifist views (for a while), underpopulated, and capable of experiencing sustained economic growth — that was preferable to the comfortable familiarities of home. As any study of Canadian history will show, however, there were times when Canada had little to offer other than grief and maybe some money. The first step to understanding the history of immigration to Canada is demographic. The magnitude of the flow of humans into the Dominion after 1867 has to be appreciated, as does their distribution across the cities and farms and resource-extraction towns. Who the immigrants were in terms of ethnicity and places of origin matters. The second facet is the political and economic context of immigration: that is, the policies and opportunities that framed the immigrant waves. The social context of immigration is of immense importance as well. Canada's relationship with immigrants has been uneven, to say the least. At times it was nothing short of exploitive; at other times it was xenophobic and hostile; and at others still, generous and welcoming. Recent events in Canada, including mixed messages from governments about the kind of reception Syrian refugees might expect, serves to remind us that these attitudes have a long pedigree in Canada. A historical study of immigration and immigration policy thus informs us of the ways in which past generations understood questions about recruitment, assimilation, inclusion, citizenship, and rights.

Verbs > Time > Future time 0

Verbs > Time > Past time 16

Verbs > Time > Present time 16

Conclusion

5.13 Conclusion

Across the century that began with the Great War in August 1914, the complexion of Canada changed significantly. And while the transition from a mostly rural to a mostly urban society continued on course, much of that work had been accomplished by 1921. The population patterns that emerged thereafter mostly reinforced existing urban settlement, adding ethnic complexities in close contact within one another. In 2006, nearly half of Toronto's population described themselves as belonging to a "visible minority"; about the same proportion now make the same claim in Vancouver's population. It is not true, however, of the rest of Canada. The share of Atlantic Canada's population that is comprised of non-northern European stock is tiny. In Newfoundland and Labrador, for example, the foreign-born constitute fewer than 2% and half that share are people of colour. The effects of these patterns have been significant. Earlier in this chapter it was pointed out that the immigration waves of the 20th century did not reframe Canada in the same way as the Edwardian waves. This is true. But they did recalibrate the country from a dualistic to a pluralistic society. Setting aside for the moment the relationship between Aboriginal and non-Aboriginal Canada, the non-Native demographic has been transformed. While that non-Aboriginal pluralism may not be experienced to the same extent in rural Manitoba or small-town Ontario, and while it might not be highly visible in Prince Rupert or Medicine Hat, its influence is widespread. That is partly because of the enormous ability of our metropolises to control the national conversation; it is in these major cities that the proverbial rubber hits the road. Canadian attitudes toward immigration have blown hot and cold, often at the same time. Settlers in the West were necessary to laying claim to that territory; at the same time, these settlers proved to be overwhelmingly foreigners, not locally-raised farm men and women from the original provinces. Immigrants of many different cultures were thus essential tools in the building of the nation and yet, at the same time, their foreignness was regarded as problematic. The newest newcomers promoted economic growth and, simultaneously, competed with native-born Canadians for jobs in an industrializing society. Immigrants thus played a critical role in steadying and expanding the Canadian economy while, usually without knowing it, competing against and undermining the power of labour. Even as they offered to lay down their lives for Canada in wartime, the immigrants were treated as not-quite-belonging. Accounts of immigrants' experiences tend to focus on host community responses. It is for this reason that immigration policies and narratives of prejudice prevail. This is, however, an approach that many historians of immigration have rejected. Their preference is to place greater emphasis on the role played by the immigrant instead. Ethnic community groups, the orchestration of emigration, the development of employment strategies in response to an often prejudicial environment, the extent to which they embraced, rejected, or found unpredicted advantages in programs of assimilation — all of these aspects point to agency. The very language of rights in Canada has been strongly influenced by immigrants and their descendants, and the anti-racist movements of the late 20th century owe much to acts of resistance and survival that were launched by visible minorities from the 1890s on. This is worth underlining because the history of immigration is a complex interplay of the personal, the political, the global, and the local.

Verbs > Time > Future time 0

Verbs > Time > Past time 18

Verbs > Time > Present time 24

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter?	What kind of aspect is mostly used? To what extent are the aspects relevant to the genre?

The data used in the activity below have been retrieved with FLAIR. This type of activity can also be applied to the various paragraphs of a chapter to analyze how verb aspects change through the various phases.

What are the main verb aspects used in the introduction and the conclusion? To what extent do these verb aspects convey the processes specific of the subject-specific discourse of history (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)? What do these data suggest in relation to the way the content of the chapter is presented in the two genre-specific sections and the subject-specific discourse used in a history textbook?

Discuss the data with your partner and then share your findings on Stormboard.

Introduction

5.1 Introduction

The history of immigration is, simultaneously, the history of emigration. It is very much about the motivations of people who choose to leave behind what they and generations of their forebears knew and built. The rather inelegant dichotomy of "pushes" and "pulls" fails to take into consideration other countervailing forces but it does serve to remind us that people here were once people there. A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations of Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well. At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and unable to find work. Other push factors included … compulsory military duty for young men, degrading class distinctions, restrictions on the right to vote, the lack of a democratic spirit, the dominant position of the church, and personal reasons, such as escaping from a debt or an unhappy marriage. To use the language of 21st century marketeers, what Canada had to offer was a brand – democratic (socially and politically), free (in terms of movement and land availability), secular (insofar as it lacked a state church), tolerant of pacifist views (for a while), underpopulated, and capable of experiencing sustained economic growth — that was preferable to the comfortable familiarities of home. As any study of Canadian history will show, however, there were times when Canada had little to offer other than grief and maybe some money. The first step to understanding the history of immigration to Canada is demographic. The magnitude of the flow of humans into the Dominion after 1867 has to be appreciated, as does their distribution across the cities and farms and resource-extraction towns. Who the immigrants were in terms of ethnicity and places of origin matters. The second facet is the political and economic context of immigration: that is, the policies and opportunities that framed the immigrant waves. The social context of immigration is of immense importance as well. Canada's relationship with immigrants has been uneven, to say the least. At times it was nothing short of exploitive; at other times it was xenophobic and hostile; and at others still, generous and welcoming. Recent events in Canada, including mixed messages from governments about the kind of reception Syrian refugees might expect, serves to remind us that these attitudes have a long pedigree in Canada. A historical study of immigration and immigration policy thus informs us of the ways in which past generations understood questions about recruitment, assimilation, inclusion, citizenship, and rights.

Verbs > Aspects > Perfect aspect 1

Verbs > Aspects > Perfect Progressive aspect 0

Verbs > Aspects > Progressive aspect 0

Verbs > Aspects > Simple aspect 31

Conclusion

5.13 Conclusion

Across the century that began with the Great War in August 1914, the complexion of Canada changed significantly. And while the transition from a mostly rural to a mostly urban society continued on course, much of that work had been accomplished by 1921. The population patterns that emerged thereafter mostly reinforced existing urban settlement, adding ethnic complexities in close contact within one another. In 2006, nearly half of Toronto's population described themselves as belonging to a "visible minority"; about the same proportion now make the same claim in Vancouver's population. It is not true, however, of the rest of Canada. The share of Atlantic Canada's population that is comprised of non-northern European stock is tiny. In Newfoundland and Labrador, for example, the foreign-born constitute fewer than 2% and half that share are people of colour. The effects of these patterns have been significant. Earlier in this chapter it was pointed out that the immigration waves of the 20th century did not reframe Canada in the same way as the Edwardian waves. This is true. But they did recalibrate the country from a dualistic to a pluralistic society. Setting aside for the moment the relationship between Aboriginal and non-Aboriginal Canada, the non-Native demographic has been transformed. While that non-Aboriginal pluralism may not be experienced to the same extent in rural Manitoba or small-town Ontario, and while it might not be highly visible in Prince Rupert or Medicine Hat, its influence is widespread. That is partly because of the enormous ability of our metropolises to control the national conversation; it is in these major cities that the proverbial rubber hits the road. Canadian attitudes toward immigration have blown hot and cold, often at the same time. Settlers in the West were necessary to laying claim to that territory; at the same time, these settlers proved to be overwhelmingly foreigners, not locally-raised farm men and women from the original provinces. Immigrants of many different cultures were essential tools in the building of the nation and yet, at the same time, their foreignness was regarded as problematic. The newest newcomers promoted economic growth and, simultaneously, competed with native-born Canadians for jobs in an industrializing society. Immigrants thus played a critical role in steadying and expanding the Canadian economy while, usually without knowing it, competing against and undermining the power of labour. Even as they offered to lay down their lives for Canada in wartime, the immigrants were treated as not-quite-belonging. Accounts of immigrants' experiences tend to focus on host community responses. It is for this reason that immigration policies and narratives of prejudice prevail. This is, however, an approach that many historians of immigration have rejected. Their preference is to place greater emphasis on the role played by the immigrant instead. Ethnic community groups, the orchestration of emigration, the development of employment strategies in response to an often prejudicial environment, the extent to which they embraced, rejected, or found unpredicted advantages in programs of assimilation — all of these aspects point to agency. The very language of rights in Canada has been strongly influenced by immigrants and their descendants, and the anti-racist movements of the late 20th century owe much to acts of resistance and survival that were launched by visible minorities from the 1890s on. This is worth underlining because the history of immigration is a complex interplay of the personal, the political, the global, and the local.

Verbs > Aspects > Perfect aspect 5

Verbs > Aspects > Perfect Progressive aspect 0

Verbs > Aspects > Progressive aspect 0

Verbs > Aspects > Simple aspect 37

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter?	What kind of tenses are mostly used? To what extent are the tenses relevant to the genre?

The data used in the activity below have been retrieved with FLAIR. This type of activity can also be applied to the various paragraphs of a chapter to analyze how verb tenses change through the various phases.

What are the main verb tenses used in the introduction and the conclusion? To what extent do these verb tenses convey the processes specific of the subject-specific discourse of history (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)? What do these data suggest in relation to the way the content of the chapter is presented in the two genre-specific sections and the subject-specific discourse used in a history textbook?

Discuss the data with your partner and then share your findings on Stormboard.

Introduction

5.1 Introduction

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Verbs > Tenses > Past simple 16
Verbs > Tenses > Present perfect 1
Verbs > Tenses > Present simple 15

Conclusion

5.13 Conclusion

Across the century that began with the Great War in August 1914, the complexion of Canada changed significantly. And while the transition from a mostly rural to a mostly urban society continued on course, much of that work had been accomplished by 1921. The population patterns that emerged thereafter mostly reinforced existing urban settlement, adding ethnic complexities in close contact within one another. In 2006, nearly half of Toronto's population described themselves as belonging to a "visible minority"; about the same proportion now make the same claim in Vancouver's population. It is not true, however, of the rest of Canada. The share of Atlantic Canada's population that is comprised of non-northern European stock is tiny. In Newfoundland and Labrador, for example, the foreign-born constitute fewer than 2% and half that share are people of colour. The effects of these patterns have been significant. Earlier in this chapter it was pointed out that the immigration waves of the 20th century did not reframe Canada in the same way as the Edwardian waves. This is true. But they did recalibrate the country from a dualistic to a pluralistic society. Setting aside for the moment the relationship between Aboriginal and non-Native demographic has been transformed. While that non-Aboriginal pluralism may not be experienced to the same extent in rural Manitoba or small-town Ontario, and while it might not be highly visible in Prince Rupert or Medicine Hat, its influence is widespread. That is partly because of the enormous ability of our metropolises to control the national conversation; it is in these major cities that the proverbial rubber hits the road.Canadian attitudes toward immigration have blown hot and cold, often at the same time. Settlers in the West were necessary to laying claim to that territory; at the same time, these settlers proved to be overwhelmingly foreigners, not locally-raised farm men and women from the original provinces. Immigrants of many different cultures were thus essential tools in the building of the nation and yet, at the same time, their foreignness was regarded as problematic. The newest newcomers promoted economic growth and, simultaneously, competed with native-born Canadians for jobs in an industrializing society. Immigrants thus played a critical role in steadying and expanding the Canadian economy while, usually without knowing it, competing against and undermining the power of labour. Even as they offered to lay down their lives for Canada in wartime, the immigrants were treated as not-quite-belonging. Accounts of immigrants' experiences tend to focus on host community responses. It is for this reason that immigration policies and narratives of prejudice prevail. This is, however, an approach that many historians of immigration have rejected. Their preference is to place greater emphasis on the role played by the immigrant instead. Ethnic community groups, the orchestration of emigration, the development of employment strategies in response to an often prejudicial environment, the extent to which they embraced, rejected, or found unpredicted advantages in programs of assimilation — all of these aspects point to agency. The very language of rights in Canada has been strongly influenced by immigrants and their descendants, and the anti-racist movements of the late 20th century owe much to acts of resistance and survival that were launched by visible minorities from the 1890s on. This is worth underlining because the history of immigration is a complex interplay of the personal, the political, the global, and the local.

Verbs > Tenses > Past simple 18
Verbs > Tenses > Present perfect 5
Verbs > Tenses > Present simple 19

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter?	To what extent are abstract and concrete nouns used? Which kind of nouns (namely abstract or concrete) is used most frequently? Do abstract and concrete nouns refer to people, things, or ideas? How is implicitness connected to nominalization? What do these data suggest in terms of subject-specific discourse? Noun modification: - How are nouns mostly modified? Are they mainly pre- or post-modified? Are prepositional phrases or relative causes more frequently used to modify nouns? What do these data suggest in terms of subject-specific discourse? - Do pre- and post-modifying elements mainly define, specify, or classify nouns? What do these data suggest in terms of subject-specific knowledge discourse? - Lexical density: Why are nouns modified through pre- and post-modification? Where are nouns more modified in the various sections? In noun groups, what are the most common collocates of subject-specific vocabulary items?

. . .

Function/ Level	9. Whole text (entire textbook and/or a chapter of a textbook)	10. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	11. Sentence / clause level
C. textual		How and where does information flow from more dense abstract terms to less dense concrete terms?	To what extent is nominalization (and abstract nouns) used to package information? How and to what extent does grammatical metaphor (through nominalization) foster abstract language use?

The data used in the activity below have been retrieved with Voyant. Only parts of the lists are provided here while the entire lists are available for students to explore in the learning platform.

Look at the noun phrases. What are the main features of the noun phrases in the introduction and the conclusion? Are noun phrases mainly pre- or post-modified? What are the most commonly used words before nouns? What is the most commonly used preposition in noun phrases? And what is its

function? Are noun phrases denser (that is, more pre- and post-modified) in the introduction or in the conclusion? Do nouns refer mainly to abstract or concrete meanings? Do nouns refer mainly to people, things, or ideas? How is implicitness connected to the processes investigated? To what extent are noun phrases connected to grammatical metaphor? What do the data suggest in terms of subject-specific discourse in these genre-specific sections?

Discuss the data with your partner and then share your findings on Stormboard.

Introduction	Conclusion
The history of immigration	the complexion of Canada
the history of emigration	the transition from a mostly rural to a mostly urban society
the motivations of people	The population patterns
generations of their forebears	existing urban settlement
The rather inelegant dichotomy of "pushes" and "pulls"	ethnic complexities in close contact within one another
countervailing forces	nearly half of Toronto's population
A recent and beautifully succinct answer to the question "What made them leave?"	a "visible minority"
the motivations for Swedes	the same proportion
their homeland between the 1880s and the 1940s	the same claim in Vancouver's

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		What are the most frequently occurring logical relations (such as cause, time, comparison, concession, consequence, addition, etc.) in the introduction and conclusion of a book chapter? What do these data suggest in terms of how the topic is logically expanded in the subject-specific text? How are logical relations (such as cause, time, comparison, concession, consequence, addition) instrumental in fostering the development and expansion of ideas in the introduction and conclusion of a book chapter?	What conjunctions are mostly used? What do the data suggest?

The data used in the activity below have been retrieved with FLAIR and Textalytic.

Look at the images below. What kinds of conjunctions are used in the introduction and in the conclusion? What do the data suggest in relation to the most commonly used types of clauses (simple, complex, independent, dependent)? What are the most frequently occurring logical relations (such as cause, time, comparison, concession, consequence, addition) in the introduction and the conclusion? What do these data suggest in terms of how the topic is logically expanded (such as cause/effect) in the two genre-specific sections?

Discuss the data with your partner and then share your findings on Stormboard.

Introduction

5.1 Introduction

The history of immigration is, simultaneously, the history of emigration. It is very much about the motivations of people who choose to leave behind what they and generations of their forebears knew and built. The rather inelegant dichotomy of "pushes" and "pulls" fails to take into consideration other countervailing forces but it does serve to remind us that people here were once people there. A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations for Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well. At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and unable to find work. Other push factors included … compulsory military duty for young men, degrading class distinctions, restrictions on the right to vote, the lack of a democratic spirit, the dominant position of the church, and personal reasons, such as escaping from a debt or an unhappy marriage. To use the language of 21st century marketeers, what Canada had to offer was a brand – democratic (socially and politically), free (in terms of movement and land availability), secular (insofar as it lacked a state church), tolerant of pacifist views (for a while), underpopulated, and capable of experiencing sustained economic growth — that was preferable to the comfortable familiarities of home. As any study of Canadian history will show, however, there were times when Canada had little to offer other than grief and maybe some money. The first step to understanding the history of immigration to Canada is demographic. The magnitude of the flow of humans into the Dominion after 1867 has to be appreciated, as does their distribution across the cities and farms and resource-extraction towns. Who the immigrants were in terms of ethnicity and places of origin matters. The second facet is the political and economic context of immigration: that is, the policies and opportunities that framed the immigrant waves. The social context of immigration is of immense importance as well. Canada's relationship with immigrants has been uneven, to say the least. At times it was nothing short of exploitive; at other times it was xenophobic and hostile; and at others still, generous and welcoming. Recent events in Canada, including mixed messages from governments about the kind of reception Syrian refugees might expect, serves to remind us that these attitudes have a long pedigree in Canada. A historical study of immigration and immigration policy thus informs us of the ways in which past generations understood questions about recruitment, assimilation, inclusion, citizenship, and rights.

Advanced conjunctions 4

Simple conjunctions 24

5.1 Introduction
Conjunctions

Word	Count
and	21
as	6
for	4
but	2
when	2
however	1
or	1
once	1
while	1
because	0

Conclusion

5.13 Conclusion

Across the century that began with the Great War in August 1914, the complexion of Canada changed significantly. And while the transition from a mostly rural to a mostly urban society continued on course, much of that work had been accomplished by 1921. The population patterns that emerged thereafter mostly reinforced existing urban settlement, adding ethnic complexities in close contact within one another. In 2006, nearly half of Toronto's population described themselves as belonging to a "visible minority"; about the same proportion now make the same claim in Vancouver's population. It is not true, however, of the rest of Canada. The share of Atlantic Canada's population that is comprised of non-northern European stock is tiny. In Newfoundland and Labrador, for example, the foreign-born constitute fewer than 2% and half that share are people of colour. The effects of these patterns have been significant. Earlier in this chapter it was pointed out that the immigration waves of the 20th century did not reframe Canada in the same way as the Edwardian waves. This is true. But they did recalibrate the country from a dualistic to a pluralistic society. Setting aside for the moment the relationship between Aboriginal and non-Aboriginal Canada, the non-Native demographic has been transformed. While that non-Aboriginal pluralism may not be experienced to the same extent in rural Manitoba or small-town Ontario, and while it might not be highly visible in Prince Rupert or Medicine Hat, its influence is widespread. That is partly because of the enormous ability of our metropolises to control the national conversation; it is in these major cities that the proverbial rubber hits the road. Canadian attitudes toward immigration have blown hot and cold, often at the same time. Settlers in the West were necessary to laying claim to that territory; at the same time, these settlers proved to be overwhelmingly foreigners, not locally-raised farm men and women from the original provinces. Immigrants of many different cultures were thus essential tools in the building of the nation and yet, at the same time, their foreignness was regarded as problematic. The newest newcomers promoted economic growth and, simultaneously, competed with native-born Canadians for jobs in an industrializing society. Immigrants thus played a critical role in steadying and expanding the Canadian economy while, usually without knowing it, competing against and undermining the power of labour. Even as they offered to lay down their lives for Canada in wartime, the immigrants were treated as not-quite-belonging. Accounts of immigrants' experiences tend to focus on host community responses. It is for this reason that immigration policies and narratives of prejudice prevail. This is, however, an approach that many historians of immigration have rejected. Their preference is to place greater emphasis on the role played by the immigrant instead. Ethnic community groups, the orchestration of emigration, the development of employment strategies in response to an often prejudicial environment, the extent to which they embraced, rejected, or found unpredicted advantages in programs of assimilation — all of these aspects point to agency. The very language of rights in Canada has been strongly influenced by immigrants and their descendants, and the anti-racist movements of the late 20th century owe much to acts of resistance and survival that were launched by visible minorities from the 1890s on. This is worth underlining because the history of immigration is a complex interplay of the personal, the political, the global, and the local.

Advanced conjunctions 10

Simple conjunctions 22

5.13 Conclusion
Conjunctions

Word	Count
and	16
as	5
for	5
while	4
or	3
because	2
however	2
but	1
yet	1
as long as	0

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter?	Noun modification: - How are nouns mostly modified? Are they mainly pre- or post-modified? Are prepositional phrases or relative causes more frequently used to modify nouns? What do these data suggest in terms of subject-specific discourse? - Do pre- and post-modifying elements mainly define, specify, or classify nouns? What do these data suggest in terms of subject-specific knowledge discourse? - Lexical density: Why are nouns modified through pre- and post-modification? Where are nouns more modified in the various sections? Which article (a/the) is mostly used? Why? Where exactly in the text? In noun groups, what are the most common collocates of subject-specific vocabulary items?

. . .

Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal			To what extent are articles, pronouns, and abstract concepts used to trace people, things, and ideas?

. . .

Function/ Level	7. Whole text (entire textbook and/or a chapter of a textbook)	8. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	9. Sentence / clause level
C. textual			To what extent is nominalization (and abstract nouns) used to package information? How and to what extent does grammatical metaphor (through nominalization) foster abstract language use? How often are articles and pronouns used to trace people, things, and ideas?

The data used in the activity below have been retrieved with Quirkos.

Look at the image below. How is 'the' mostly used in general in the introduction? How is 'the' mostly used in noun phrases in particular? To what extent is 'the' used to foster nominalization processes? To what extent is 'the' connected to grammatical metaphor? To what extent are articles and pronouns used to keep track of people, things, and ideas?

Carry out the same kind of analysis on the conclusion using Text Feature Analyser. Are there differences in the way articles and pronouns are used in the introduction and the conclusion? What do the data suggest in relation to the two genre-specific sections?

Discuss the data with your partner and then share your findings on Stormboard.

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter?	What kind of voice is mostly used? To what extent is the voice relevant to the genre?

. . .

Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal	To what extent is information presented as a factual or tentative? To what extend is information provided in an authoritative and impersonal way? Does the writer try to make the reader agree with his/her stance/claim/worldview? if so, how?	How does the writer position the reader in relation to the information presented? To what extent is the reader presented as aligned with the writer's stance?	To what extent does passive voice affect the focus of the message?

The data for the following activity have been retrieved with Textalytic. The same kind of activity may be applied to the various parts of a chapter, a textbook, and a scientific article.

To what extent and to what purpose is the passive voice used in the introduction and in the conclusion? Does the passive voice increase or decrease the sense of objectivity? What do the data suggest in relation to the way the author conveys, organizes, and evaluates the concepts presented?
Discuss the data with your partner and then share your findings on Stormboard.

Introduction

5.1 Introduction

The history of immigration is, simultaneously, the history of emigration. It is very much about the motivations of people who choose to leave behind what they and generations of their forebears knew and built. The rather inelegant dichotomy of "pushes" and "pulls" fails to take into consideration other countervailing forces but it does serve to remind us that people here were once people there. A recent and beautifully succinct answer to the question "What made them leave?" tells us about the motivations for Swedes who left their homeland between the 1880s and the 1940s, but it might easily be applied to a great many other nationalities as well. At the beginning of emigration, the main reason was the lack of hope for breaking the cycle of poverty that affected many families. Later came labour unrest, when participants were blacklisted and unable to find work. Other push factors included … compulsory military duty for young men, degrading class distinctions, restrictions on the right to vote, the lack of a democratic spirit, the dominant position of the church, and personal reasons, such as escaping from a debt or an unhappy marriage. To use the language of 21st century marketeers, what Canada had to offer was a brand – democratic (socially and politically), free (in terms of movement and land availability), secular (insofar as it lacked a state church), tolerant of pacifist views (for a while), underpopulated, and capable of experiencing sustained economic growth — that was preferable to the comfortable familiarities of home. As any study of Canadian history will show, however, there were times when Canada had little to offer other than grief and maybe some money. The first step to understanding the history of immigration to Canada is demographic. The magnitude of the flow of humans into the Dominion after 1867 has to be appreciated, as does their distribution across the cities and farms and resource-extraction towns. Who the immigrants were in terms of ethnicity and places of origin matters. The second facet is the political and economic context of immigration: that is, the policies and opportunities that framed the immigrant waves. The social context of immigration is of immense importance as well. Canada's relationship with immigrants has been uneven, to say the least. At times it was nothing short of exploitive; at other times it was xenophobic and hostile; and at others still, generous and welcoming. Recent events in Canada, including mixed messages from governments about the kind of reception Syrian refugees might expect, serves to remind us that these attitudes have a long pedigree in Canada. A historical study of immigration and immigration policy thus informs us of the ways in which past generations understood questions about recruitment, assimilation, inclusion, citizenship, and rights.

Passive voice 3

Conclusion

5.13 Conclusion

Across the century that began with the Great War in August 1914, the complexion of Canada changed significantly. And while the transition from a mostly rural to a mostly urban society continued on course, much of that work had been accomplished by 1921. The population patterns that emerged thereafter mostly reinforced existing urban settlement, adding ethnic complexities in close contact within one another. In 2006, nearly half of Toronto's population described themselves as belonging to a "visible minority"; about the same proportion now make the same claim in Vancouver's population. It is not true, however, of the rest of Canada. The share of Atlantic Canada's population that is comprised of non-northern European stock is tiny. In Newfoundland and Labrador, for example, the foreign-born constitute fewer than 2% and half that share are people of colour. The effects of these patterns have been significant. Earlier in this chapter it was pointed out that the immigration waves of the 20th century did not reframe Canada in the same way as the Edwardian waves. This is true. But they did recalibrate the country from a dualistic to a pluralistic society. Setting aside for the moment the relationship between Aboriginal and non-Aboriginal Canada, the non-Native demographic has been transformed. While that non-Aboriginal pluralism may not be experienced to the same extent in rural Manitoba or small-town Ontario, and while it might not be highly visible in Prince Rupert or Medicine Hat, its influence is widespread. That is partly because of the enormous ability of our metropolises to control the national conversation; it is in these major cities that the proverbial rubber hits the road. Canadian attitudes toward immigration have blown hot and cold, often at the same time. Settlers in the West were necessary to laying claim to that territory; at the same time, these settlers proved to be overwhelmingly foreigners, not locally-raised farm men and women from the original provinces. Immigrants of many different cultures were thus essential tools in the building of the nation and yet, at the same time, their foreignness was regarded as problematic. The newest newcomers promoted economic growth and, simultaneously, competed with native-born Canadians for jobs in an industrializing society. Immigrants thus played a critical role in steadying and expanding the Canadian economy while, usually without knowing it, competing against and undermining the power of labour. Even as they offered to lay down their lives for Canada in wartime, the immigrants were treated as not-quite-belonging. Accounts of immigrants' experiences tend to focus on host community responses. It is for this reason that immigration policies and narratives of prejudice prevail. This, however, an approach that many historians of immigration have rejected. Their preference is to place greater emphasis on the role played by the immigrant instead. Ethnic community groups, the orchestration of emigration, the development of employment strategies in response to an often prejudicial environment, the extent to which they embraced, rejected, or found unpredicted advantages in programs of assimilation — all of these aspects point to agency. The very language of rights in Canada has been strongly influenced by immigrants and their descendants, and the anti-racist movements of the late 20th century owe much to acts of resistance and survival that were launched by visible minorities from the 1890s on. This is worth underlining because the history of immigration is a complex interplay of the personal, the political, the global, and the local.

Passive voice 9

3.4.2.3 Group C

In this section, the activities focus on one of the subchapters of chapter five "Immigration and the immigrant experience" of the open textbook "Canadian History: Post-Confederation" by Belsha, specifically subchapter 5.8 "Race, ethnicity, and immigration".

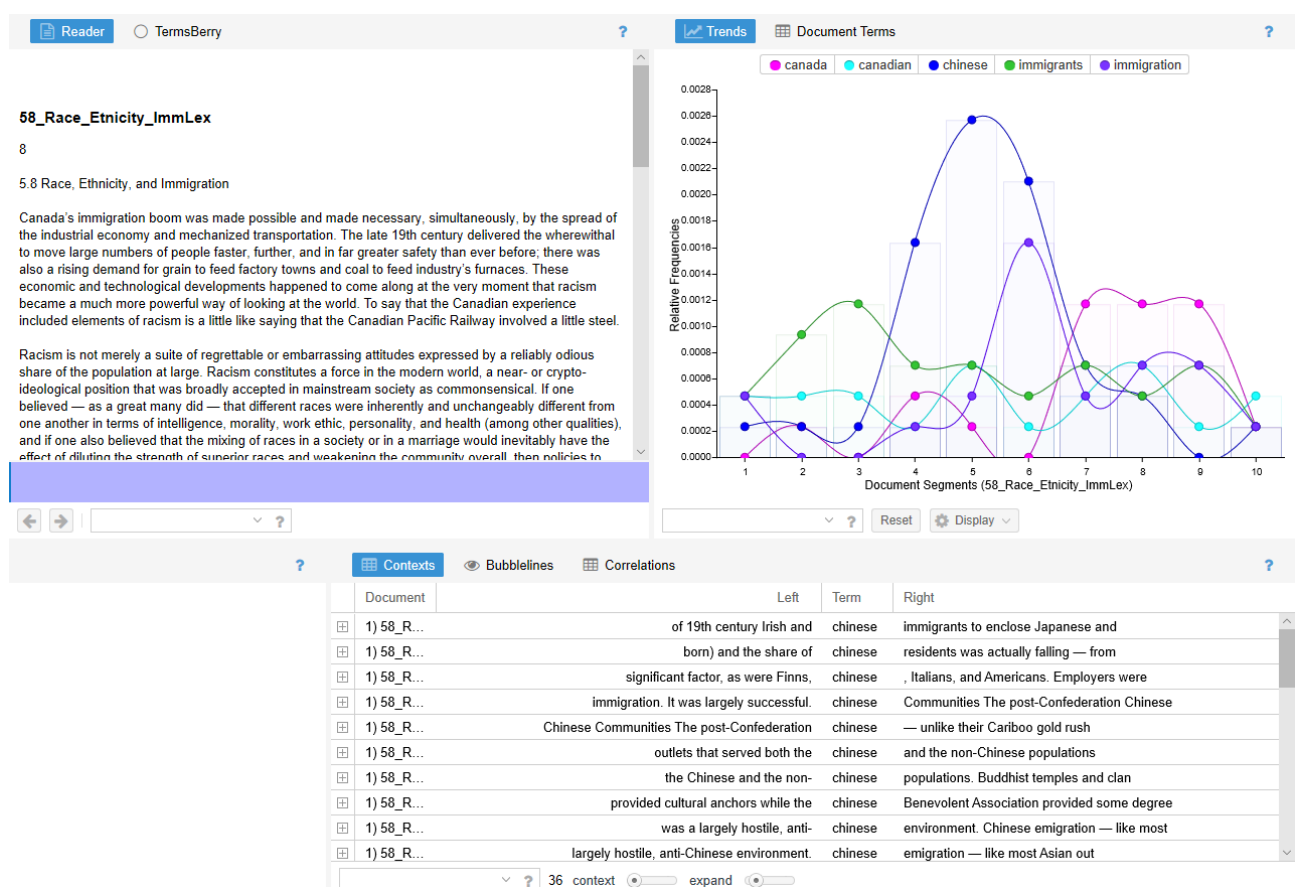| Function/Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How are keywords used to build disciplinary knowledge in a textbook chapter (in the introduction, the subchapters, and the conclusion)? How are keywords interconnected?	How are key topics and topic patterns organized in the various middle sections of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	Which language elements are used more frequently: nouns or verbs? To what extent are abstract and concrete nouns used? Which kind of nouns (namely abstract or concrete) is used most frequently? Do abstract and concrete nouns refer to people, things, or ideas? How is implicitness connected to nominalization? What do these data suggest in terms of subject-specific discourse? Noun modification: - How are nouns mostly modified? Are they mainly pre- or post-modified? Are prepositional phrases or relative causes more frequently used to modify nouns? What do these data suggest in terms of subject-specific discourse? - Do pre- and post-modifying elements mainly define, specify, or classify nouns? What do these data suggest in terms of subject-specific knowledge discourse? - Lexical density: Why are nouns modified through pre- and post-modification? Where are nouns more modified in the various sections? Which article (a/the) is mostly used? Why? Where exactly in the text? To what extent do the types of verbs used convey the processes specific of the genre (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)? In noun groups, what are the most common collocates of subject-specific vocabulary items?

. . .

Function/Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal	To what extent is information presented as a factual or tentative? To what extend is information provided in an authoritative and impersonal way? Does the writer try to make the reader agree with his/her stance/claims/worldview? If so, how?		How and to what extent do writers hedge their positions with modal verbs and / or other words / expressions conveying the same meaning?

The interactive panel of Voyant is embedded in the learning platform. The instructions provided to the students are more general since they are expected to work more autonomously after accomplishing all the various activities assigned previously.

Read subchapter 5.8 "Race, ethnicity, and immigration" with Voyant. Search the concordances of some of the key terms (such as immigration, immigrants, Chinese, Jewish, Asia, etc.) and investigate how the main topics are presented and evaluated by the author.
Discuss the data with your partner and then share your findings on Stormboard.
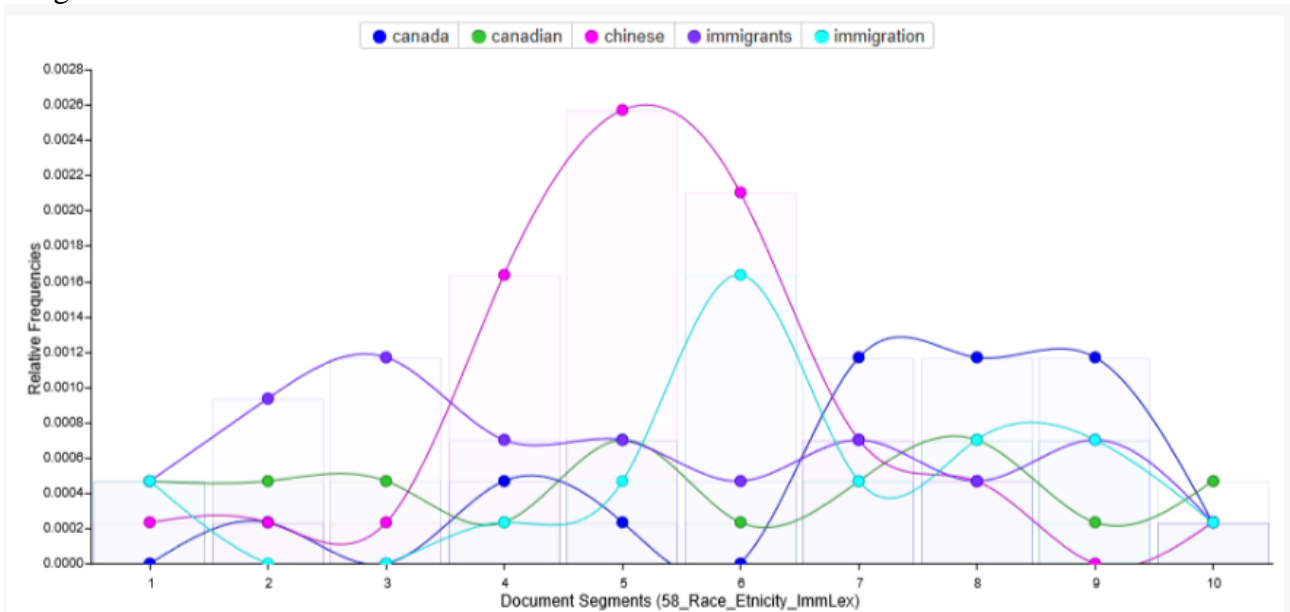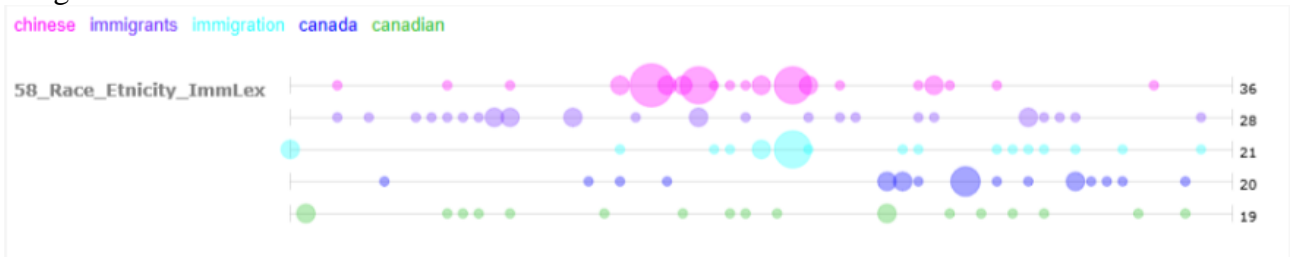
Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How are keywords used to build disciplinary knowledge in a textbook chapter (in the introduction, the subchapters, and the conclusion)? How are keywords interconnected?	How are key topics and topic patterns organized in the various middle sections of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	

The data used in the activity below have been retrieved with Voyant.

Look at the images below focusing on the subchapter 5.8 "Race, ethnicity, and immigration". How are the main topics organized and grouped throughout the chapter? What do the data suggest in relation to content organization?

Discuss the data with your partner and then share your findings on Stormboard.
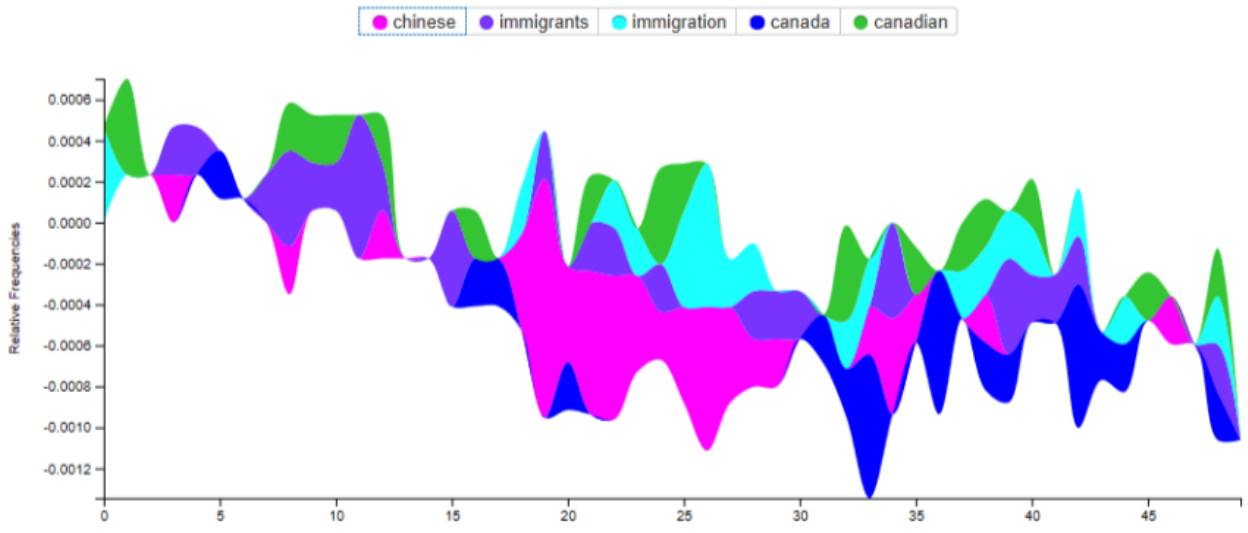
Image 1

Image 2

Image 3

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How are keywords used to build disciplinary knowledge in a textbook chapter (in the introduction, the middle subchapters, and the conclusion)? How are keywords interconnected?	How are key topics and topic patterns organized in the various middle sections of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	To what extent are abstract and concrete nouns used? Which kind of nouns (namely abstract or concrete) is used most frequently? Do abstract and concrete nouns refer to people, things, or ideas? How is implicitness connected to nominalization? What do these data suggest in terms of subject-specific discourse? Noun modification: - How are nouns mostly modified? Are they mainly pre- or post-modified? Are prepositional phrases or relative causes more frequently used to modify nouns? What do these data suggest in terms of subject-specific discourse? - Do pre- and post-modifying elements mainly define, specify, or classify nouns? What do these data suggest in terms of subject-specific knowledge discourse? - Lexical density: Why are nouns modified through pre- and post-modification? Where are nouns more modified in the various sections? In noun groups, what are the most common collocates of subject-specific vocabulary items?

. . .

Function/ Level	7. Whole text (entire textbook and/or a chapter of a textbook)	8. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	9. Sentence / clause level
C. textual		How and where does information flow from more dense abstract terms to less dense concrete terms?	To what extent is nominalization (and abstract nouns) used to package information?

The data used in the activity below have been retrieved with Voyant. The interactive interfaces of Voyant are embedded in the learning platform.

Look at the images and investigate the interactive interfaces provided below (you can also search other information you consider important to carry out the activity). How are topics organized and interrelated in "Race, ethnicity, and immigration"? How are words mainly pre- and post-modified? Where (namely, at the beginning, in the center, in the end) are noun phrases denser (that is, more pre- and post-modified)? Do nouns refer mainly to abstract or concrete meanings? Do nouns refer mainly to people, things, or ideas? How is implicitness connected to the processes investigated?

What do the data retrieved suggest in relation to the way the topics are presented and evaluated by the author? What do the data suggest in relation to subject-specific discourse?

Discuss the data with your partner and then share your findings on Stormboard.
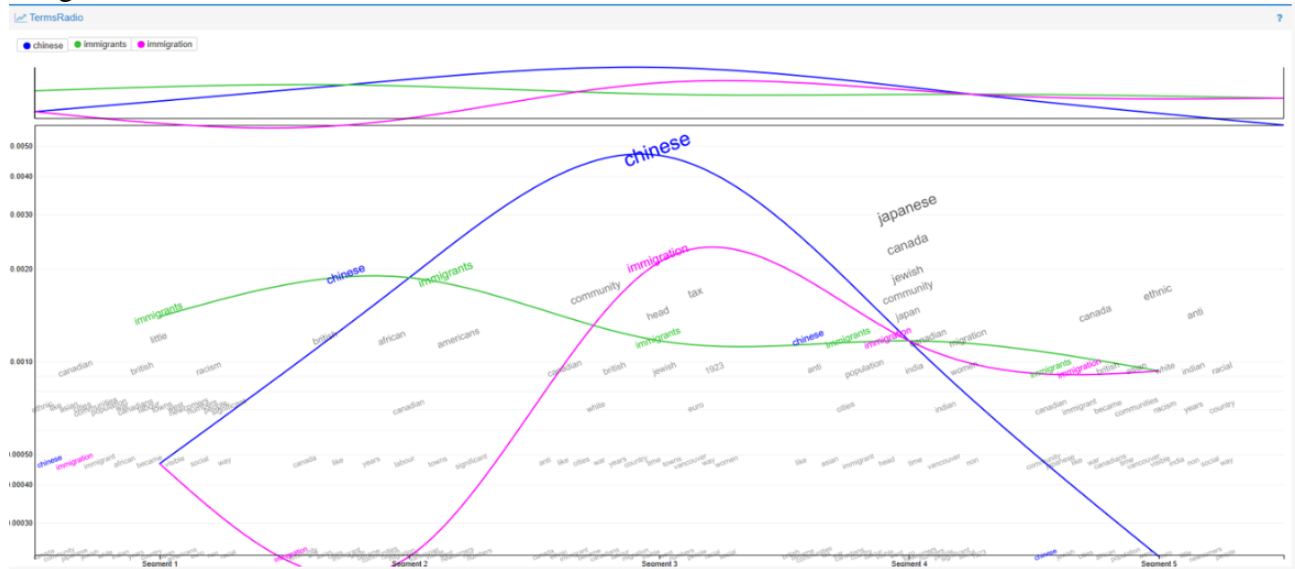
Image 1

Image 2

Image 3

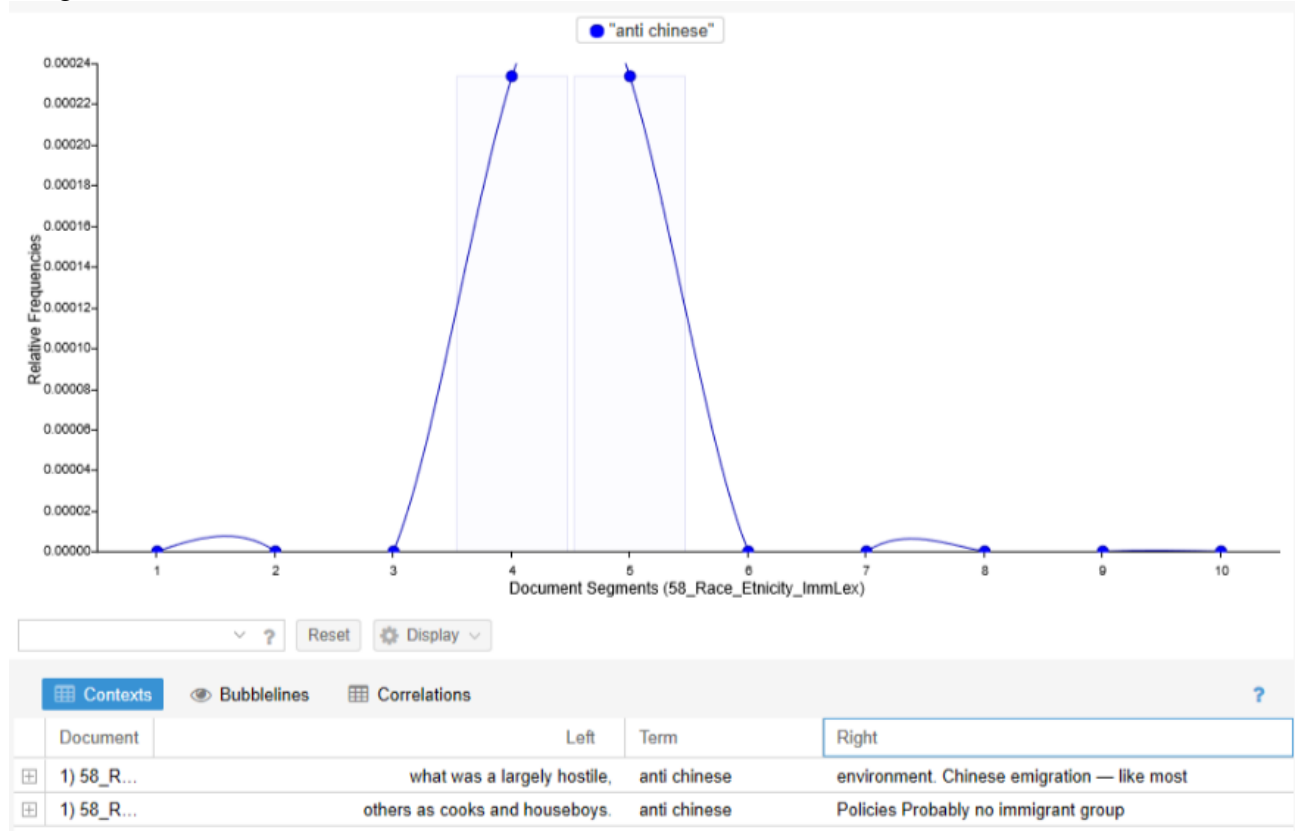|	Term	Count	Length
☐	could be found in montreal and	2	6
☐	in the years that followed	2	5
☐	played a key role	2	4
☐	production and sale of	2	4
☐	the continuous voyage requirement	3	4
☐	university of british columbia	2	4
☐	when it came to	2	4
☐	a fraction of	2	3
☐	a gentlemen's agreement	2	3
☐	a great many	2	3
☐	as a whole	2	3
☐	as much as	2	3
☐	at the time	2	3
☐	before the war	2	3
☐	cities and towns	2	3
☐	each of these	2	3
☐	early 20th century	2	3
☐	ethnic and racial	2	3
☐	euro canadian women	2	3
☐	for their part	2	3
☐	if they can	2	3
☐	immigrants who would	2	3
☐	immigration it was	2	3
☐	in british columbia	3	3
☐	in the 1920s	2	3
☐	in the 1930s	2	3
☐	in the west	2	3
☐	in this respect	2	3
☐	it had been	2	3

Image 4
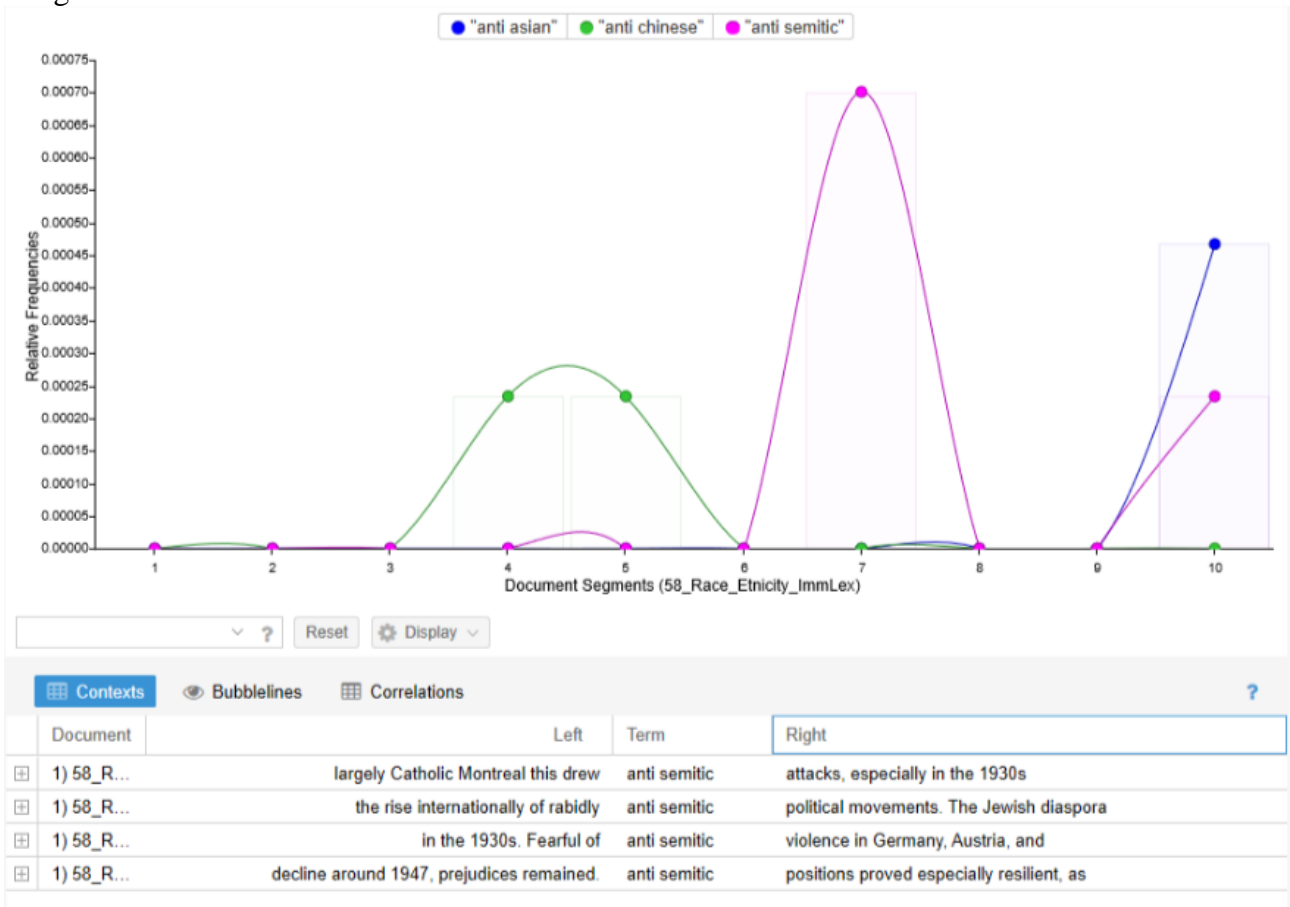
Image 5

Image 6

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the various middle sections of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	Transitivity analysis. What types of verbs are mostly used? What types of participants are mostly used? What kinds of prepositional phrases (circumstances) and adverbs (encoding time, place, manner, frequency, duration) are mostly used? What does these data suggest? How do these data convey the writer's worldview? To what extent do the types of verbs used convey the processes specific of the genre (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)?

Students will use the Stormboard provided below to share the findings of the activity that follows.

transitivity analysis

The data used in the activity below have been retrieved with Textalytic. The interactive interface of Voyant is embedded in the learning platform.

Look at the top occurring verbs focusing on "Race, ethnicity, and immigration" provided below and investigate further the text using Voyant:

- To what extent do these types of verbs convey the processes specific of the subject-specific discourse of history (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)? What do these data suggest in relation to the way the content of the chapter is presented and the subject-specific discourse used in a history book chapter?

- Highlight the participants in the platform. What is the main role assigned to participants? To what extent do participants seem to be conceived as active or passive? What do these data

suggest in relation to the way content is presented and the subject-specific discourse of history?

Discuss the data with your partner and then share your findings on Stormboard.

5.8 Race, Ethnicity, and Immigration
Verbs

Word	Count
was	64
were	62
is	19
be	13
had	10
could	9
became	8
would	8
did	7
found	7

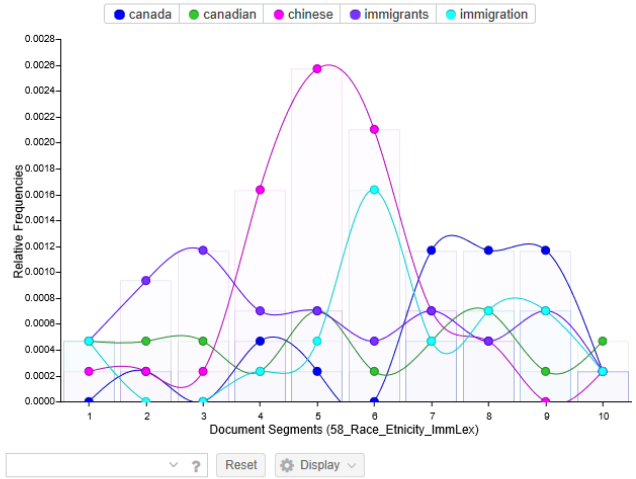● canada ● canadian ● chinese ● immigrants ● immigration

58_Race_Etnicity_ImmLex

8

5.8 Race, Ethnicity, and Immigration

Canada's immigration boom was made possible and made necessary, simultaneously, by the spread of the industrial economy and mechanized transportation. The late 19th century delivered the wherewithal to move large numbers of people faster, further, and in far greater safety than ever before; there was also a rising demand for grain to feed factory towns and coal to feed industry's furnaces. These economic and technological developments happened to come along at the very moment that racism became a much more powerful way of looking at the world. To say that the Canadian experience included elements of racism is a little like saying that the Canadian Pacific Railway involved a little steel.

Racism is not merely a suite of regrettable or embarrassing attitudes expressed by a reliably odious share of the population at large. Racism constitutes a force in the modern world, a near- or crypto-ideological position that was broadly accepted in mainstream society as commonsensical. If one believed — as a great many did — that different races were inherently and unchangeably different from one another in terms of intelligence, morality, work ethic, personality, and health (among other qualities), and if one also believed that the mixing of races in a society or in a marriage would inevitably have the

Relative Frequencies / Document Segments (58_Race_Etnicity_ImmLex)

Reset   ⚙ Display ▾

? ⊞ Contexts 👁 Bubblelines ⊞ Correlations ?

Document	Left	Term	Right
⊞ 1) 58_R…	of 19th century Irish and	chinese	immigrants to enclose Japanese and
⊞ 1) 58_R…	born) and the share of	chinese	residents was actually falling — from
⊞ 1) 58_R…	significant factor, as were Finns,	chinese	, Italians, and Americans. Employers were
⊞ 1) 58_R…	immigration. It was largely successful.	chinese	Communities The post-Confederation Chinese
⊞ 1) 58_R…	Chinese Communities The post-Confederation	chinese	— unlike their Cariboo gold rush
⊞ 1) 58_R…	outlets that served both the	chinese	and the non-Chinese populations
⊞ 1) 58_R…	the Chinese and the non-	chinese	populations. Buddhist temples and clan
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⊞ 1) 58_R…	largely hostile, anti-Chinese environment	chinese	emigration — like most Asian out

36 context expand

Function/ Level	1.　Whole text (entire textbook and/or a chapter of a textbook)	2.　Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3.　Sentence / clause level
A. Ideational		What are the most frequently occurring logical relations (such as cause, time, comparison, concession, consequence, addition, etc.) in the text? What do these data suggest in terms of how the topic is logically expanded in the subject-specific text? How are logical relations (such as cause, time, comparison, concession, consequence, addition) instrumental in fostering the development and expansion of ideas in the text?	What conjunctions are mostly used? What do the data suggest?

The data used in the activity below have been retrieved with Textalytic. The interactive interface of Voyant is embedded in the learning platform.

Look at the top occurring conjunctions in "Race, Ethnicity, and Immigration"; to carry out the activity, you can investigate further the text using Voyant and/or FLAIR. What do they suggest in relation to the most commonly used types of clauses (simple, complex, independent, dependent)? What are the most frequently occurring logical relations (such as cause, time, comparison, concession, consequence, addition)? What do these data suggest in terms of how the topic is logically expanded (such as cause/effect) in the subject-specific text?

Discuss the data with your partner and then share your findings on Stormboard.

5.8 Race, Ethnicity, and Immigration
Conjunctions

Word	Count
and	173
as	48
for	30
or	11
however	8
but	8
while	7
so	6
if	6
because	5

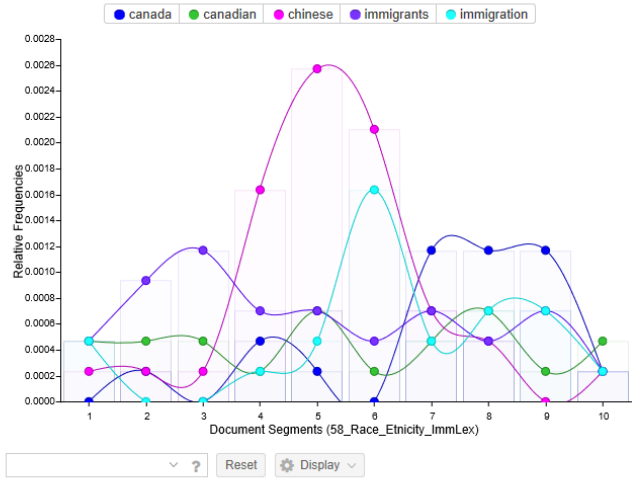● canada ● canadian ● chinese ● immigrants ● immigration

58_Race_Etnicity_ImmLex

8

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36 context ◉—— expand ◉——

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational		How are key topics and topic patterns organized in the various middle sections of a textbook chapter?	Which language elements are used more frequently: nouns or verbs? What is the ratio? What does the ratio suggest in terms of disciplinary knowledge construction? To what extent are abstract and concrete nouns used? Which kind of nouns (namely abstract or concrete) is used most frequently? Do abstract and concrete nouns refer to people, things, or ideas? What do these data suggest in terms of subject-specific discourse?

The data used in the activity below have been retrieved with Textalytic.

Look at the top occurring words, nouns, adjectives, and verbs in "Race, ethnicity, and immigration" and the ratio between the categories. What do the data suggest in terms of (a) topic management and (b) subject-specific discourse?

Discuss the data with your partner and then share your findings on Stormboard.
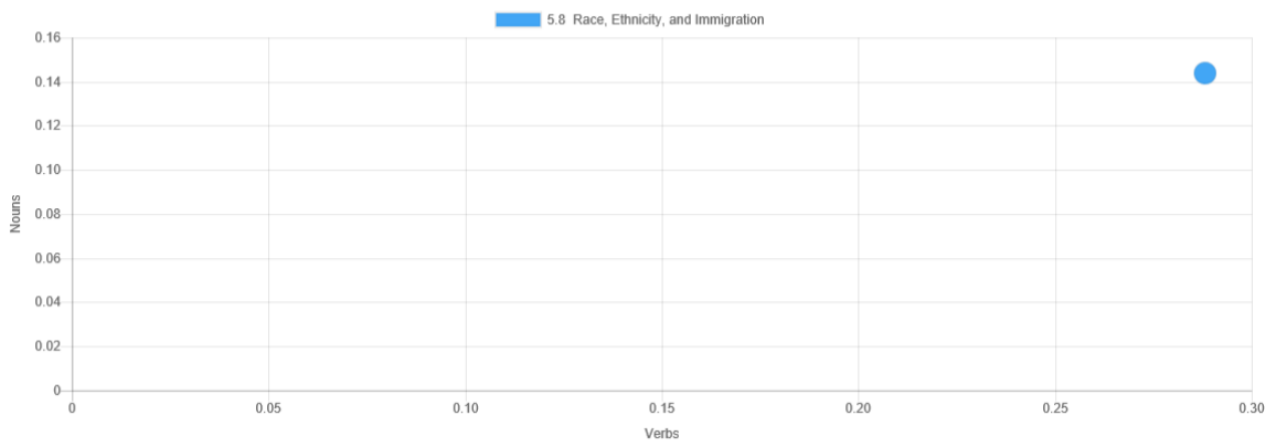
5.8 Race, Ethnicity, and Immigration
Words

Word	Count
Chinese	33
immigrants	26
Canada	20
community	17
British	16
immigration	15
Japanese	13
Jewish	12
Canadian	11
much	11

5.8 Race, Ethnicity, and Immigration
Nouns

Word	Count
immigrants	28
immigration	21
community	20
canada	20
cities	9
tax	8
years	8
head	8
vancouver	8
population	8

5.8 Race, Ethnicity, and Immigration
Adjectives

Word	Count
chinese	29
-	23
canadian	19
japanese	16
british	16
jewish	13
anti	11
other	11
many	11
white	9

244

Feature Comparison Scatterplot

Function/ Level	7. Whole text (entire textbook and/or a chapter of a textbook)	8. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	9. Sentence / clause level
C. textual		How and where does information flow from more dense abstract terms to less dense concrete terms?	How is the Theme used to control content organization? Is information mainly provided through an old-new structure? How often are marked Themes used? Why? How does the use of marked themes affect a shift in the way the message is conveyed? Why? What category of marked Themes (such as time, place, manner, etc.) are mostly used? To what purpose? How and to what extent does grammatical metaphor (through nominalization) foster abstract language use? To what extent is passive voice used? How does it affect the way information is conveyed? How is it related to the Theme?

The following activity has been devised with Voyant. The interactive interface of Voyant is embedded in the learning platform.

Using the interactive interface provided, analyze how theme and theme are used in "Race, Ethnicity, and Immigration".

- Is information mainly provided through an old-new sequence? How is the theme used to control content organization?
- How often are marked themes used? How does the use of marked themes affect a shift in the way the message is conveyed? What category of marked themes (such as time, place, manner, etc.) are mostly used? To what purpose?
- Is thematic progression mainly constant (that is, the theme of a previous sentence is used as the theme of a following one) or linear (that is, the theme of a sentence becomes the rheme of the following sentence)? How does thematic progression affect the shifts from less dense concrete expressions to more dense abstract expressions and/or vice versa? To what extent is grammatical metaphor connected to these processes? What do these data suggest in terms of subject-specific discourse and the way the author organizes the information flow?

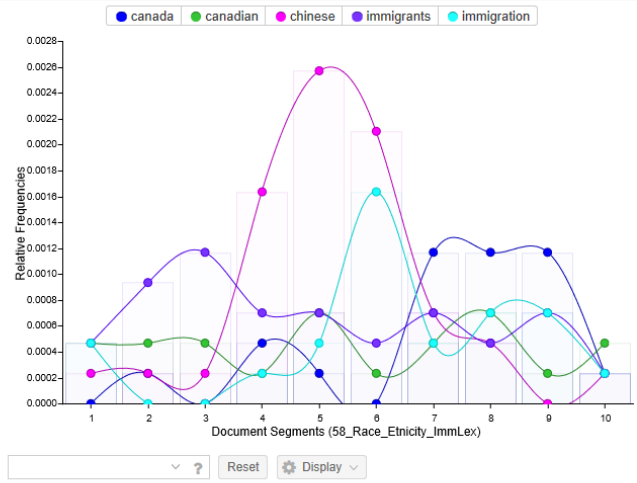Discuss the data with your partner and then share your findings on Stormboard.

58_Race_Etnicity_ImmLex

8

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● canada ● canadian ● chinese ● immigrants ● immigration

Document Segments (58_Race_Etnicity_ImmLex)

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▼ ? 36 context ⊙— expand ⊙—

Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal			To what extent are pronouns used? What pronouns are mainly used? Why? What do these data suggest in terms of subject-specific discourse?

The data used in the activity below have been retrieved with Textalytic.

Look at the data on personal, demonstrative and relative pronouns in "Race, ethnicity, and immigration" provided below. How are these elements used in the subject-specific discourse investigated? What do the data suggest?

Discuss the data with your partner and then share your findings on Stormboard.

Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal	Does the writer try to make the reader agree with his/her stance/claims/worldview? If so, how?	How does the writer position the reader in relation to the information presented? To what extent is the reader presented as aligned with the writer's stance?	What personal pronouns do writers use? When do they use them? How do the pronouns used position the writer and the reader? To what extent are pronouns used? What pronouns are mainly used? Why? What do these data suggest in terms of subject-specific discourse? To what extent are articles, pronouns, and abstract concepts used to trace people, things, and ideas?

The data used in the activity below have been retrieved with Text Feature Analyzer. Only some examples of the data are provided here. The interactive interface of Voyant is embedded in the learning platform.

Look at the personal pronouns used in "Race, ethnicity, and immigration" and investigate the text further using Voyant. Are pronouns used to track people, things, or ideas? What do they suggest in relation to the way the author conveys the content? How does the author use pronouns to engage with the reader and with the content?

Discuss the data with your partner and then share your findings on Stormboard.

```
1st person pronouns (subject)      =>    2
3rd person pronouns (subject)      =>   27
3rd person pronouns (object)       =>    7
3rd person pronouns (neutral)      =>   18
3rd person pronouns (possessive)   =>   25
```

White Anglo-Celtic Protestants dominated Ontario and the Eastern Townships of Quebec; while they were the clear majority, a significant Franco-Catholic population and concentrations of African-Canadians lived in the Maritimes. That is, they were all part of the emergent industrial world that globalized a particular kind of labour market.
While cities like Winnipeg, Regina, Calgary, and Edmonton announced their British loyalty as loudly as any other centre, they were also sites of acculturation and assimilation of non-British newcomers and the newcomers' parallel struggle to retain pre-emigration cultural elements.
Some — and this was true particularly of Slavic and Scandinavian immigrants — acquired a poor reputation with the railway companies precisely because they had achieved some success in farming.
They made their farms a priority and framed their wage labour around the rhythms of planting and harvesting.
The Western Federation of Miners complained in the Sandon Paystreak newspaper that they were being pushed to the brink in the Kootenays by employers who were, …importing cheap foreigners from the Minnesota iron ranges to displace union miners… [some employers] have it figured out that if they can run in Dagoes [Italians] at the rate of about two a day they will soon have the union locooed … if [they] can get emuf [sic] of them in, wages can be cut to a whisper and Rossland mapped as a colony of Italy.
There were, too, nativist responses from immigrants (largely British or American) and the grown children of immigrants (providing they were White) that worked to (a) denigrate the outsider, and (b) advance the claims of the nativist to inclusion in the mainstream.
Thereafter, some found work in the Vancouver Island coal mines but principally they settled in the cities and towns, especially along the CPR mainline.
These enclaves varied tremendously in size but they hosted a familiar variety of services and institutions.
Although Chinese market farms in suburban areas became an early and important source of food in West Coast Canadian cities, few Chinese were able to become farmers nor were they able to escape the urban neighbourhoods into which they were cast.
Sought out as cheap contract labour, they were recruited to meet finite economic and infrastructural goals.
While some Chinese arrivals saw themselves as sojourners — temporary immigrants who would return to their country of origin once they'd amassed some money — many more were in for the long haul.
The Lib-Lab Member of the BC legislature, Ralph Smith, supported this idea and one local newspaper chided him that he was worried that "his gallant wife should have to roast her comely face over the kitchen fire every day because the Chinese Head Tax makes it impossible for him to get a Chinese cook." Working Mothers and the Child Care Dilemma: A History of British Columbia's Social Policy (Vancouver: University of British Columbia Press, 2015), 30.
They were forbidden, in Vancouver, from purchasing homes and opening stores outside of a few blocks of the city core.
Like members of some other ethnic/racial/visible groups, they were also forbidden for years from attending post-secondary institutions and specifically from pursuing degrees through the University of British Columbia School of Pharmacy, a restriction that echoed Sinophobic associations between the Chinese community and drug trafficking.
Enclaves — ghettos without walls — could be found in Montreal and Winnipeg's North End in particular, although they were less visible in the other major cities.
Like the Chinese, they participated in the coal mining frontier on Vancouver Island and were drawn to the cities.
The phenomenon of "picture brides" developed from there and in the decades that followed, significant numbers of women relocated from Meiji Japan to Canada where they met, for the first time, their husbands.
Immigrants would be allowed from India (or Japan) into Canada if they could demonstrate that their vessel had travelled directly to a Canadian port without putting into another foreign harbour along the way.
Some of the parties involved were anti-British and sought Indian independence; the British, for their part, were anxious about divisive Indian politics just as tensions with Germany were becoming greater; Singh — in concert with Indo-Canadians — wanted to challenge the continuous voyage requirement just as much as he wanted the immigrants to succeed in reaching Canada; the British were as interested in putting down anti-colonial upstarts as they were in

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Public opinion among the non-Asian population was against them, as was demonstrated in a 1907 window-smashing and head-bashing riot led by the Asiatic Exclusion League (in which organized labour played a key role) that swept through the Chinese and Japanese quarters.

The picture brides endured lives with men who were hitherto strangers, many of them living in small fishing or other resource-extraction communities on the northwest coast; despite powerful Meiji traditions of female submissiveness, some women sought their own path and abandoned prescribed gender roles.

Once these notions were affixed to immigrant groups, the logic of barring them from medical schools and positions of responsibility became all but unassailable.

Cultural Demography Through to 1914 the ethnic shape of the older parts of the country was, with a few pockets of exceptions, much as it had been 50 years earlier.

Halifax was another entry point, and it acquired diversity in much the same way.

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Living conditions, however, were often very poor: The elements that defined the Chinese experience across Canada and distinguished it from that of European settlers included wages that were a fraction of what was earned by adult White males, overcrowded living conditions in Chinatowns, and the almost total absence of family comforts.

Some 81,000 people found the wherewithal to pay this fee before it was abolished, even though it rose from $50 in 1885 to $500 in 1903.

The Lib-Lab Member of the BC legislature, Ralph Smith, supported this idea and one local newspaper chided him that he was worried that "his gallant wife should have to roast her comely face over the kitchen fire every day because the Chinese Head Tax makes it impossible for him to get a Chinese cook." Working Mothers and the Child Care Dilemma: A History of British Columbia's Social Policy (Vancouver: University of British Columbia Press, 2015), 30.

The Black Candle (as it appeared in book form) was one of several diatribes against the Chinese community, one that catalyzed a revision of immigration legislation.

What immigration occurred between 1923-1947 was illegal and much of it involved reuniting spouses and family members.

A new spiritual and educational hub appeared on the south side, but it was never an enclave in the truest sense.

Like the Chinese, Japanese immigrants faced discrimination when it came to immigrant recruitment and host community hospitality.

It capped the number of men who could travel to Canada, but it left open the possibility of female migration across the Pacific by not restricting the emigration of wives.

It also informed the Indian community's strategies and tactics when it came time to fight for rights or survival.

The Komagata Maru incident is complex in that it draws together many different threads.

Even so, it is in some respects a challenge to understand.

There were, in 1911, fewer than 3,000 Indians in Canada and that number was roughly half of what it had been only five years earlier.

Crowded housing and poor water and sewage — widely recognized as causal factors when it came to infectious diseases — were disregarded when dealing with the immigrant, working poor, and non-White races.

While it is true that official anti-Asian sentiment began to decline around 1947, prejudices remained.

While cities like Winnipeg, Regina, Calgary, and Edmonton announced their British loyalty as loudly as any other centre, they were also sites of acculturation and assimilation of non-British newcomers and the newcomers' parallel struggle to retain pre-emigration cultural elements.

Unlike virtually all other immigrant groups, Asians were repeatedly described as unassimilable; barriers to their integration thus created a self-fulfilling prophecy of Asian separateness.

Anglo-Canadian homesteaders, too, demonstrated their own biases in the hiring of seasonal workers and tended to favour Canadian, British, American, and even German labour over Eastern Europeans.

Some Prairie newcomers were thus frustrated in their efforts to earn enough money to meet the costs of setting up a homestead.

They made their farms a priority and framed their wage labour around the rhythms of planting and harvesting.

Employers were happy to have minority immigrants, who would work for less than the Anglo-Canadian and British miners, sometimes for a fraction of their pay.

Reporting on a devastating local fire in 1908, the Fernie Free Press assigned to the diverse community that was battling the blaze the usual (and purportedly immutable) stereotypes: measured against "the serene indifference to danger of the Anglo-Saxons" there was the Italian, "with his excitable nature and glib tongue, the Oriental, with his inherent dread of danger, and his equally great regard for personal safety, [and] the stoic Slavonian [sic]…." The pulpit also played a role in this as was seen very clearly in the rise of eugenics (see Section 7.8).

Their numbers were not significant until about 1907, at which time conditions in the southern and central states deteriorated and word of opportunities on the Canadian prairies reached African-Americans struggling under Jim Crow Laws.

Chinese Communities The post-Confederation Chinese — unlike their Cariboo gold rush predecessors — were largely drafted in to build the CPR between tidewater and the Rocky Mountains.

Populated overwhelmingly by males (single or, if married, living there without their wives who were still in China), Chinatowns provided immigrants with employment in restaurants, laundries, and grocery outlets that served both the Chinese and the non-Chinese populations.

While some Chinese arrivals saw themselves as sojourners — temporary immigrants who would return to their country of origin once they'd amassed some money — many more were in for the long haul.

The Lib-Lab Member of the BC legislature, Ralph Smith, supported this idea and one local newspaper chided him that he was worried that "his gallant wife should have to roast her comely face over the kitchen fire every day because the Chinese Head Tax makes it impossible for him to get a Chinese cook." Working Mothers and the Child Care Dilemma: A History of British Columbia's Social Policy (Vancouver: University of British Columbia Press, 2015), 30.

By this time, however, there was growing fear among the White community of the opium trade and allegations that young Euro-Canadian women were being lured into the sex trade, what was called at the time "White slavery." Emily Murphy — a leading figure in first wave feminism, the suffrage movement, and counted among the Famous Five — wrote a series of highly popular pieces on the drug trade and its connections with Chinatown.

The phenomenon of "picture brides" developed from there and in the decades that followed, significant numbers of women relocated from Meiji Japan to Canada where they met, for the first time, their husbands.

The picture brides endured lives with men who were hitherto strangers, many of them living in small fishing or other resource-extraction communities on the northwest coast; despite powerful Meiji traditions of female submissiveness, some women sought their own path and abandoned prescribed gender roles.

Immigrants would be allowed from India (or Japan) into Canada if they could demonstrate that their vessel had travelled directly to a Canadian port without putting into another foreign harbour along the way.

The passengers seized control of the ship from its Japanese crew and waited as lawyers for the Crown argued that the immigrants had departed from Hong Kong, not India, and so were in breach of the continuous voyage requirement.

Some of the parties involved were anti-British and sought Indian independence; the British, for their part, were anxious about divisive Indian politics just as tensions with Germany were becoming greater; Singh — in concert with Indo-Canadians — wanted to challenge the continuous voyage requirement just as much as he wanted the immigrants to succeed in reaching Canada; the British were as interested in putting down anti-colonial upstarts as they were in blocking immigration to Canada.
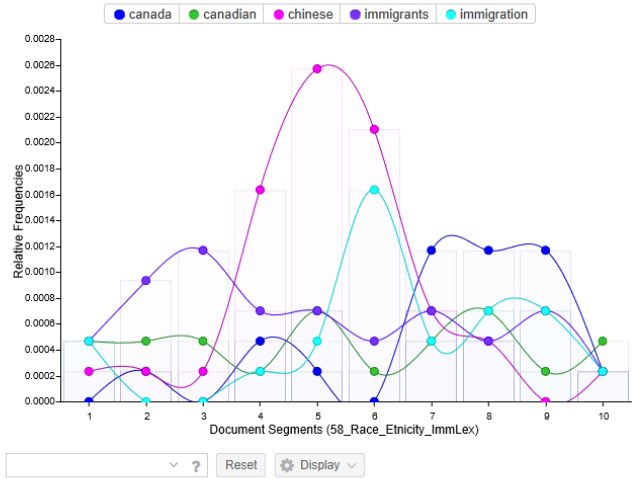
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[▾] ? Reset ⚙ Display ▾

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Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections / conclusion of a single chapter)	6. Sentence / clause level
B. interpersonal	To what extent is information presented as a factual or tentative? To what extend is information provided in an authoritative and impersonal way? Does the writer try to make the reader agree with his/her stance/claims/worldview? If so, how?		How and to what extent do writers hedge their positions with modal verbs and / or other words / expressions conveying the same meaning?

The data used in the activity below have been retrieved with Text Feature Analyzer. The interactive interface of Voyant is embedded in the learning platform.

Look at the modals used in "Race, ethnicity, and immigration". To what purpose does the author use modals (provided below) and/or words with similar meaning (some examples to be searched using the Voyant interface are provided)? To what extent do modals and similar words convey the author's stance and various degrees of certainty?

Discuss the data with your partner and then share your findings on Stormboard.

- *Certainty/doubt adverbials include*: no doubt, certainly, undoubtedly, probably, perhaps, maybe, arguably, decidedly, definitely, incontestably, incontrovertibly, most likely, very likely, quite likely, of course, I guess, I think, I bet, I suppose, who knows. (Biber, Conrad, and Leech 2002: 383)
- *Actuality and reality adverbials include*: in fact, really, actually, in actual fact, for a fact, truly. (Biber, Conrad, and Leech 2002: 383).
- *Source of knowledge adverbials include*: evidently, apparently, reportedly, reputedly, according to X, as X reports/notes. (Biber, Conrad, and Leech 2002: 383)
- *Limitation stance adverbials include*: in most cases, in most instances, mainly, typically, generally, in general, on the whole. (Biber, Conrad, and Leech 2002: 383)
- *Viewpoint or perspective adverbials include*: in our view, from our perspective, to my knowledge, to the best of our knowledge. (Biber, Conrad, and Leech 2002: 384)
- *Imprecision adverbials include*: like, sort of, kind of, so to speak, if you can call it that. (Biber, Conrad, and Leech 2002: 384)

If one believed — as a great many did — that different races were inherently and unchangeably different from one another in terms of intelligence, morality, work ethic, personality, and health (among other qualities), and if one also believed that the mixing of races in a society or in a marriage would inevitably have the effect of diluting the strength of superior races and weakening the community overall, then policies to control for these factors were a logical consequence.

Italian, Jewish, and Polish immigrants could be found in significant numbers and concentrated in specific neighbourhoods in Montreal, which was principally an English-speaking city with a large French minority.

People who could work in foundries, mines, mills, and on roads and rails were circulating around the planet through increasingly sophisticated systems of recruitment, transportation, settlement, and resettlement.

Employers were happy to have minority immigrants, who would work for less than the Anglo-Canadian and British miners, some of whom could be employed as houseboys and cooks.

The Western Federation of Miners complained in the Sandon Paystreak newspaper that they were being pushed to the brink in the Kootenays by employers who were, …importing cheap foreigners from the Minnesota iron ranges to displace union miners… [some employers] have it figured out that if they can run in Dagoes [Italians] at the rate of about two a day they will soon have the union locoed … if [they] can get enuf [sic] of them in, wages can be cut to a whisper and Rossland mapped as a colony of Italy.

This can be seen in the hostility shown toward African-Americans on the Prairies in the 1920s and 1930s by Central Europeans, whose families had themselves arrived hardly a generation earlier.

Racism thus became a bar over which some populations would attempt — with mixed results — to hurdle.

Others, usually by dint of skin colour or religion, could not.

In large urban areas and even in smaller resource-extraction towns, Chinese immigrants could be found working in the homes of others as cooks and houseboys.

While some Chinese arrivals saw themselves as sojourners — temporary immigrants who would return to their country of origin once they'd amassed some money — many more were in for the long haul.

Not everyone in the Euro-Canadian community supported the Head Tax, though for reasons that we might now consider discomfiting.

A group of Euro-Canadian women argued that reducing the Head Tax would attract more immigrants, some of whom could be employed as houseboys and cooks.

The Lib-Lab Member of the BC legislature, Ralph Smith, supported this idea and one local newspaper chided him that he was worried that "his gallant wife should have to roast her comely face over the kitchen fire every day because the Chinese Head Tax makes it impossible for him to get a Chinese cook." Working Mothers and the Child Care Dilemma: A History of British Columbia's Social Policy (Vancouver: University of British Columbia Press, 2015), 30.

Prejudice might stand in the way of other groups but no others were treated this way in law.

Many of these constraints would survive into the 1970s and early 1980s.

Anti-Semitism Parallels can be drawn with the Jewish community.

By 1914 there were reckoned to be 100,000 Jewish-Canadians, roughly 75,000 of whom could be found in Montreal and Toronto.

Enclaves — ghettos without walls — could be found in Montreal and Winnipeg's North End in particular, although they were less visible in the other major cities.

It capped the number of men who could travel to Canada, but it left open the possibility of female migration across the Pacific by not restricting the emigration of wives.

Immigrants would be allowed from India (or Japan) into Canada if they could demonstrate that their vessel had travelled directly to a Canadian port without putting into another foreign harbour along the way.

Stevens would prove to be a lifelong opponent of any kind of Asian immigration.

It capped the number of men who could travel to Canada, but it left open the possibility of female migration across the Pacific by not restricting the emigration of wives.
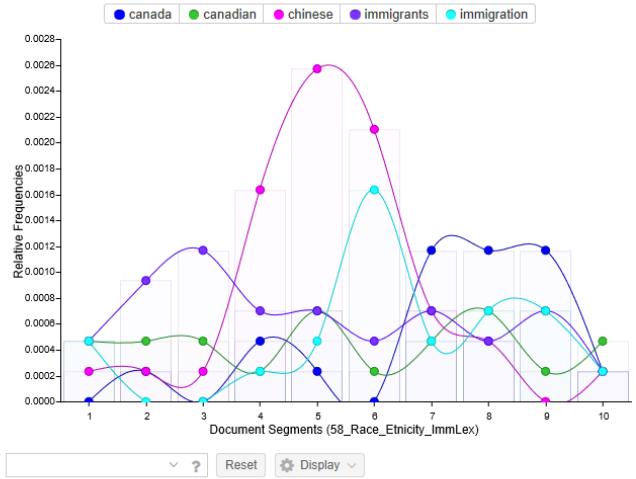
58_Race_Etnicity_ImmLex

8

5.8 Race, Ethnicity, and Immigration

Canada's immigration boom was made possible and made necessary, simultaneously, by the spread of the industrial economy and mechanized transportation. The late 19th century delivered the wherewithal to move large numbers of people faster, further, and in far greater safety than ever before; there was also a rising demand for grain to feed factory towns and coal to feed industry's furnaces. These economic and technological developments happened to come along at the very moment that racism became a much more powerful way of looking at the world. To say that the Canadian experience included elements of racism is a little like saying that the Canadian Pacific Railway involved a little steel.

Racism is not merely a suite of regrettable or embarrassing attitudes expressed by a reliably odious share of the population at large. Racism constitutes a force in the modern world, a near- or crypto-ideological position that was broadly accepted in mainstream society as commonsensical. If one believed — as a great many did — that different races were inherently and unchangeably different from one another in terms of intelligence, morality, work ethic, personality, and health (among other qualities), and if one also believed that the mixing of races in a society or in a marriage would inevitably have the

Document Segments (58_Race_Etnicity_ImmLex)

○ canada ○ canadian ○ chinese ○ immigrants ○ immigration

| | Reset | ⚙ Display ∨ |

Document	Left	Term	Right
⊞ 1) 58_R...	of 19th century Irish and	chinese	immigrants to enclose Japanese and
⊞ 1) 58_R...	born) and the share of	chinese	residents was actually falling — from
⊞ 1) 58_R...	significant factor, as were Finns,	chinese	, Italians, and Americans. Employers were
⊞ 1) 58_R...	immigration. It was largely successful.	chinese	Communities The post-Confederation Chinese
⊞ 1) 58_R...	Chinese Communities The post-Confederation	chinese	— unlike their Cariboo gold rush
⊞ 1) 58_R...	outlets that served both the	chinese	and the non-Chinese populations
⊞ 1) 58_R...	the Chinese and the non-	chinese	populations. Buddhist temples and clan
⊞ 1) 58_R...	provided cultural anchors while the	chinese	Benevolent Association provided some degree
⊞ 1) 58_R...	was a largely hostile, anti-	chinese	environment. Chinese emigration — like most
⊞ 1) 58_R...	largely hostile, anti-Chinese environment	chinese	emigration — like most Asian out

| | 36 context ○ expand ○ |

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How are keywords used to build disciplinary knowledge in a textbook chapter (in the introduction, the middle subchapters, and the conclusion)? How are keywords interconnected?	How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	

The data used in the activity below have been retrieved with KWords.

Look at how keywords ("keywords: word forms that are often closely connected to the overarching themes and the genre of a text"[70]), retrieved with KWords, are interrelated ("KWords can […] show relations between keywords. This function allows you to see which keywords (and the topics they represent) are more linked together than others"[71]) in the introduction and in the conclusion of chapter 5. What are the main differences and similarities? What do they suggest in terms of topic management in the two different genre-specific sections? What do they suggest in relation to the perspective the author adopts to present the various topics?

Discuss the data with your partner and then share your findings on Stormboard.
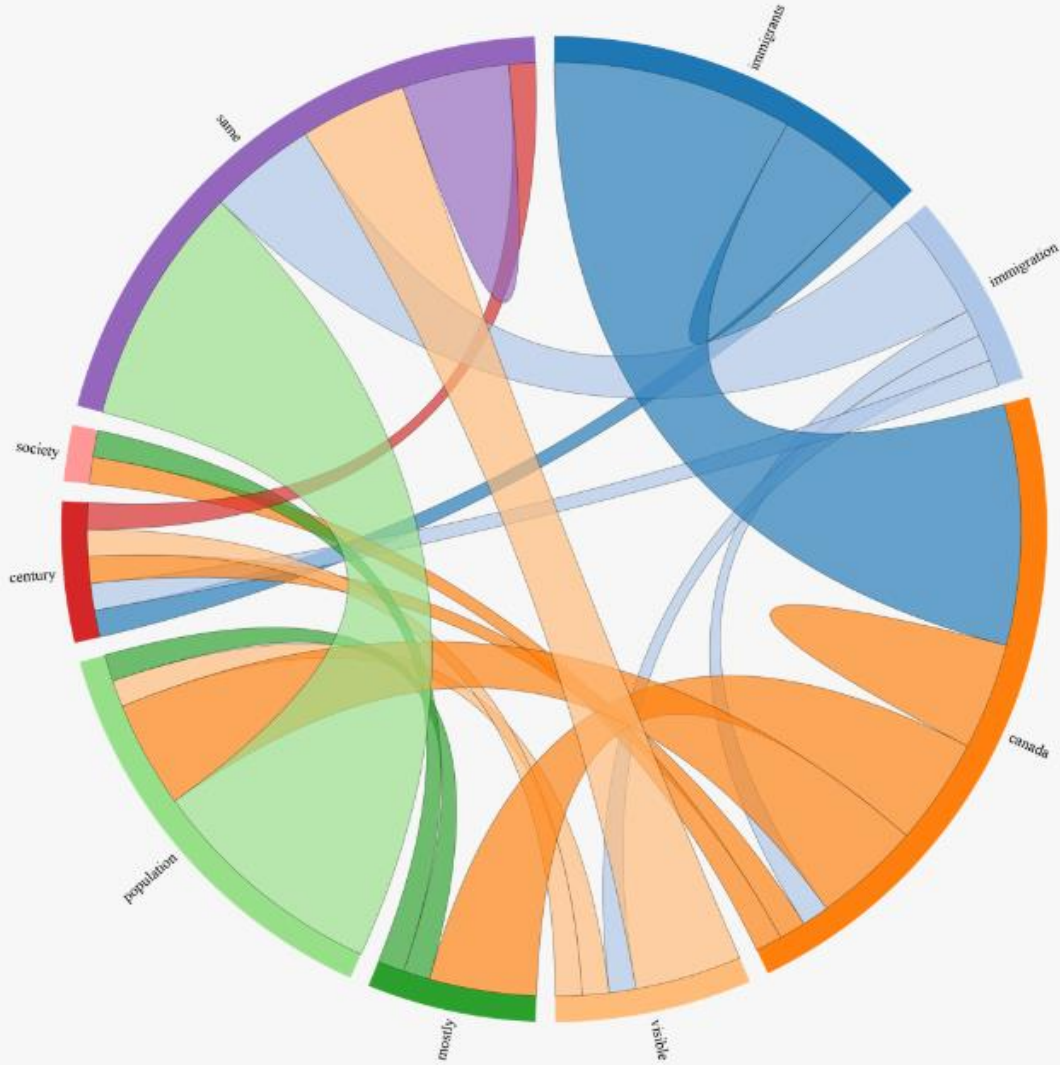
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[70] https://kwords.korpus.cz/
[71] https://kwords.korpus.cz/

Introduction

Conclusion

Function/ Level	1. Whole text (entire textbook and/or a chapter of a textbook)	2. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	3. Sentence / clause level
A. Ideational	How do the introduction, the middle subchapters, and the conclusion of a textbook chapter organize subject-specific knowledge (such as key topics)?	How are key topics and topic patterns organized in the introduction and conclusion of a textbook chapter? How are key topics and topic patterns organized in the various middle sections of a textbook chapter? How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	

The data used in the activity below have been retrieved with KWords.

A) First, look at the images below and analyze how keywords ("keywords: word forms that are often closely connected to the overarching themes and the genre of a text"[72]), retrieved with KWords, are interrelated ("KWords can […] show relations between keywords. This function allows you to see which keywords (and the topics they represent) are more linked together than others"[73]) in subchapter 5.8 "Race, ethnicity, and immigration". What do these connections suggest in terms of topic organization and evaluation? What do these connections suggest in relation to the perspective the author adopts to present the various topics?

B) Then, compare your findings with the ways keywords are interrelated in the introduction and the conclusion (see activity carried out previously). What are the main differences and similarities? What do the data suggest in terms of topic organization and evaluation in the three different genre-specific sections? What do they suggest in relation to the perspective the author adopts to present the various topics?

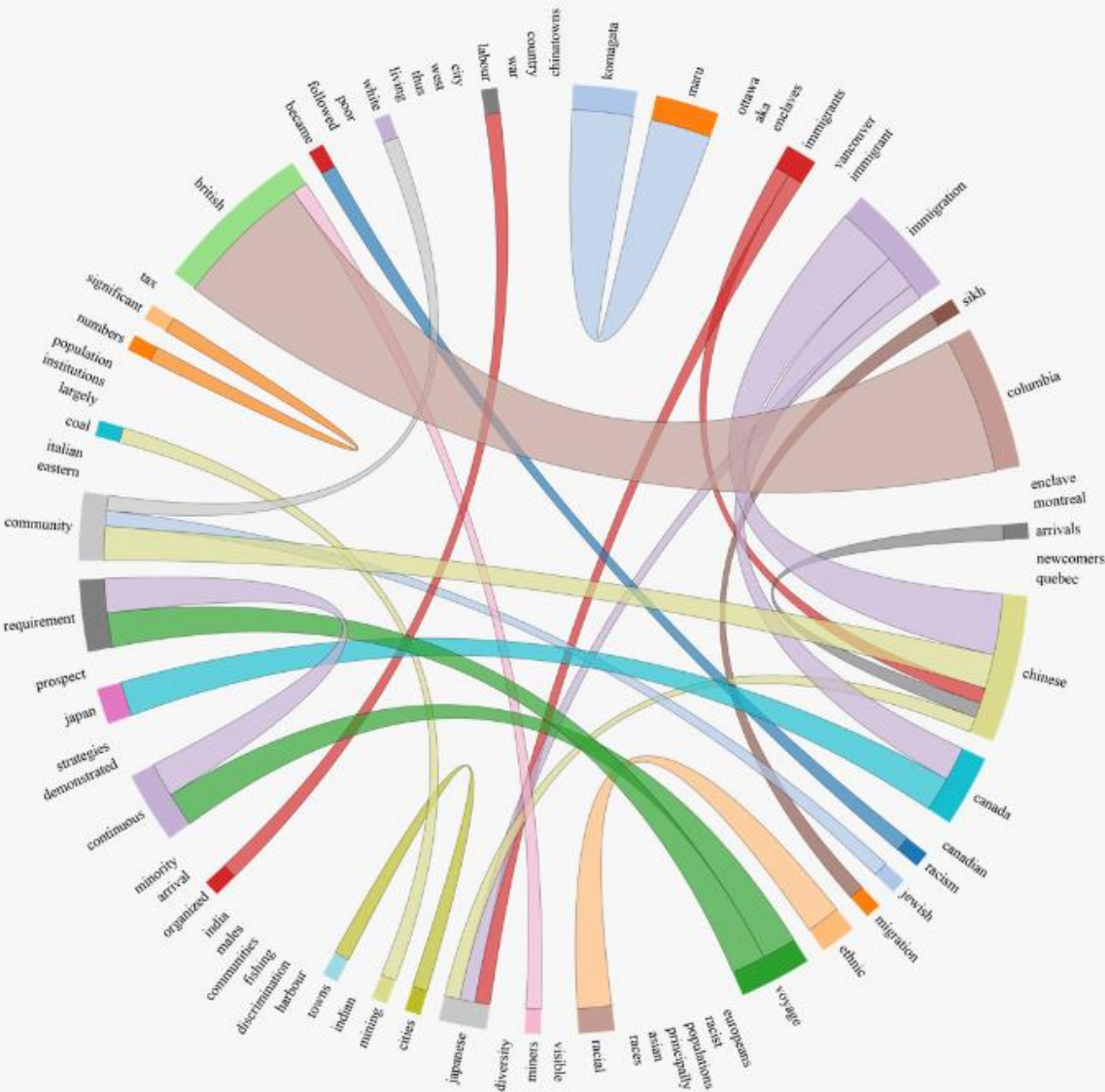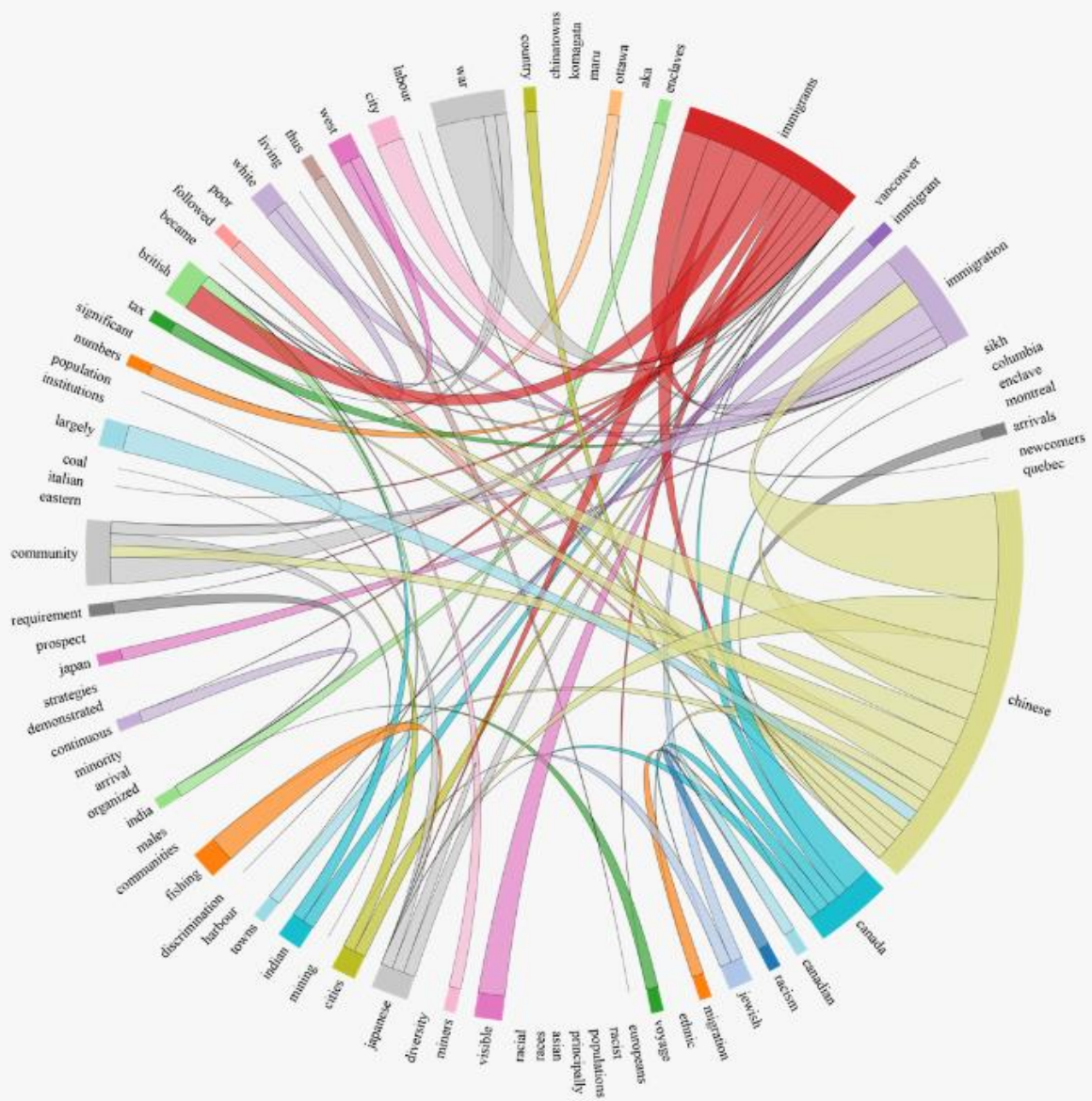Discuss the data with your partner and then share your findings on Stormboard.

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[72] https://kwords.korpus.cz/
[73] https://kwords.korpus.cz/
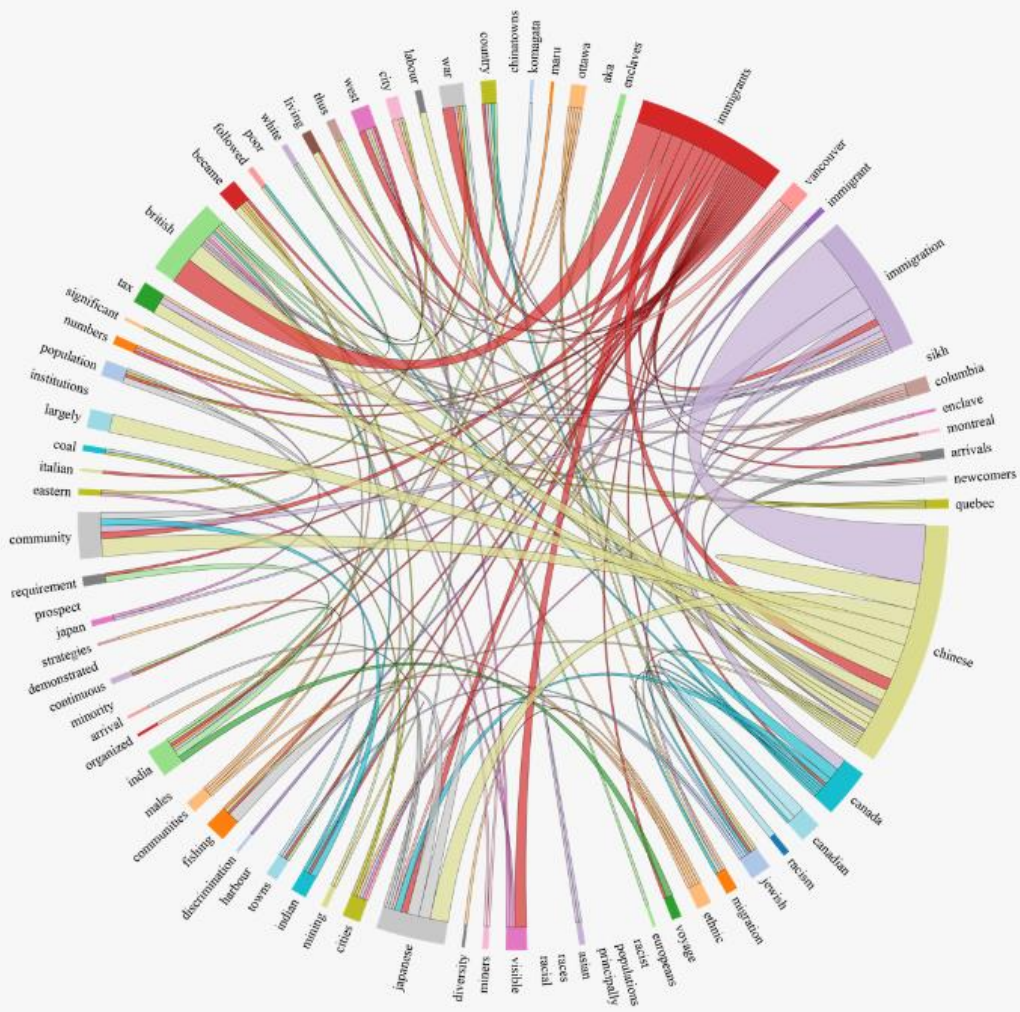
Keyword links

immediate keyword links

following distant

Function/ Level	4. Whole text (entire textbook and/or a chapter of a textbook)	5. Paragraph/Phase (such as, introduction / middle sections /conclusion of a single chapter)	6. Sentence / clause level
A. Ideational		How are interrelated key topics organized and interconnected in a disciplinary knowledge text? How are key topics aggregated in the text?	Transitivity analysis. What types of verbs are mostly used? What types of participants are mostly used? What kinds of prepositional phrases (circumstances) and adverbs (encoding time, place, manner, frequency, duration) are mostly used? What does these data suggest? How do these data convey the writer's worldview?

Students will use the Stormboard provided below to share the findings of the activity that follows.
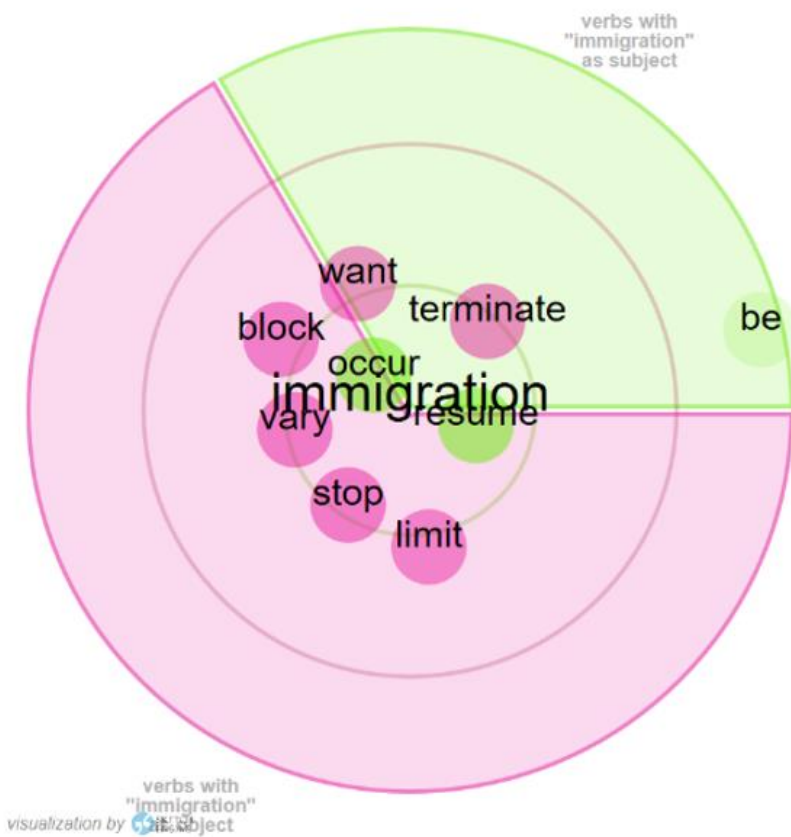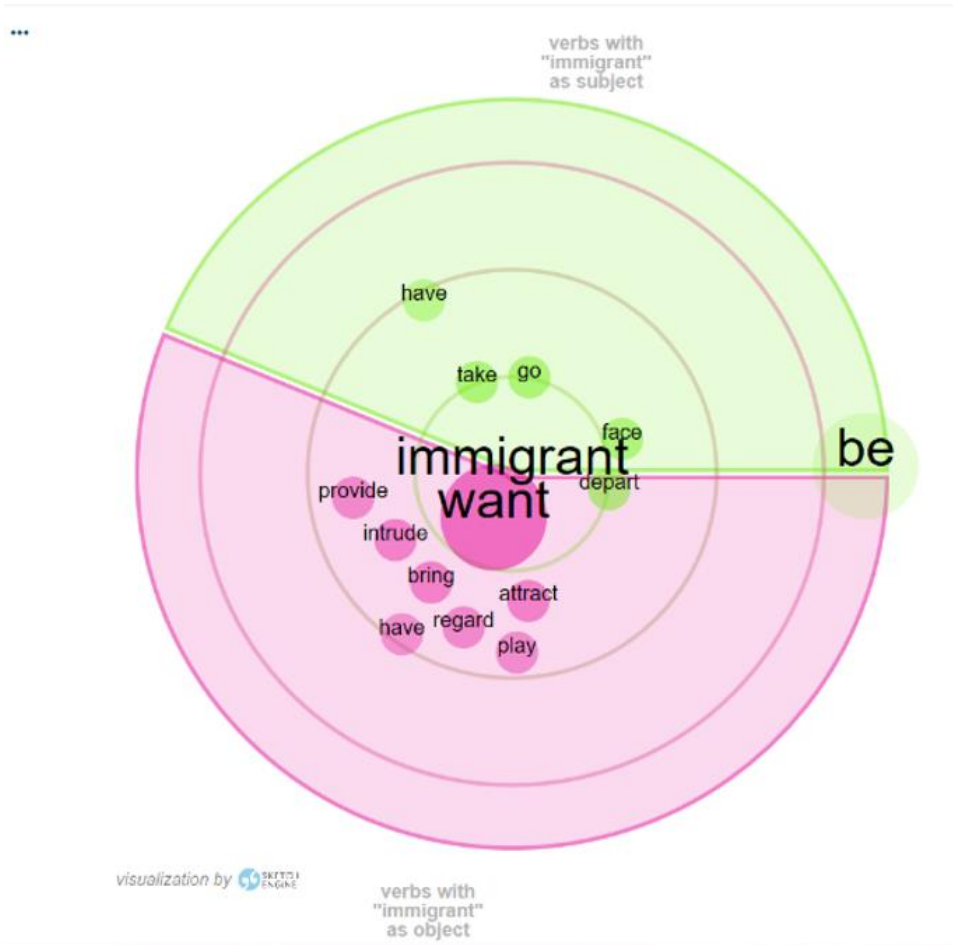

transitivity analysis

The data used in the activity below have been retrieved with Word Sketch available in SketchEngine; this is one of the few ways in which the elements necessary to carry out transitivity analysis can be retrieved automatically, without programming skills, and through visualization.
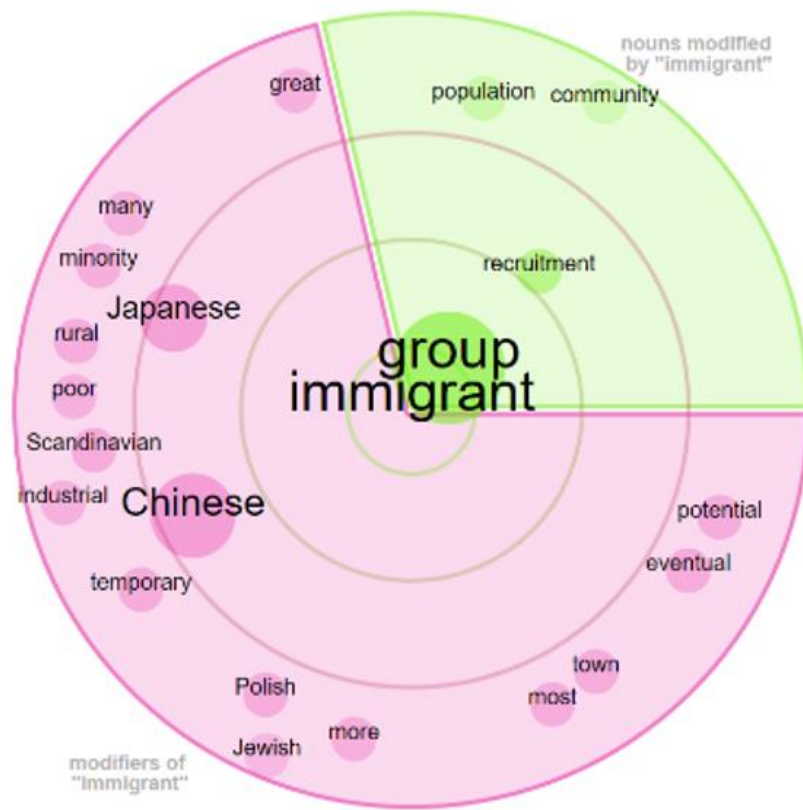
On the grounds of the information provided in the images below, how are 'immigrant', 'immigration' 'ethnic', and 'community' likely to be portrayed and evaluated in "Race, ethnicity, and immigration"?

- To what extent do the types of verbs used convey the processes specific of the subject-specific discourse of history (such as describing events and phenomena, identifying, defining, classifying, linking cause and effect, making hypotheses, etc.)?

- What do these data suggest in relation to the way the content of the chapter is presented and the subject-specific discourse is used in a history book chapter?

- What is the main role assigned to participants? To what extent do participants seem to be conceived as active or passive? What does it entail in terms of subject-specific discourse?
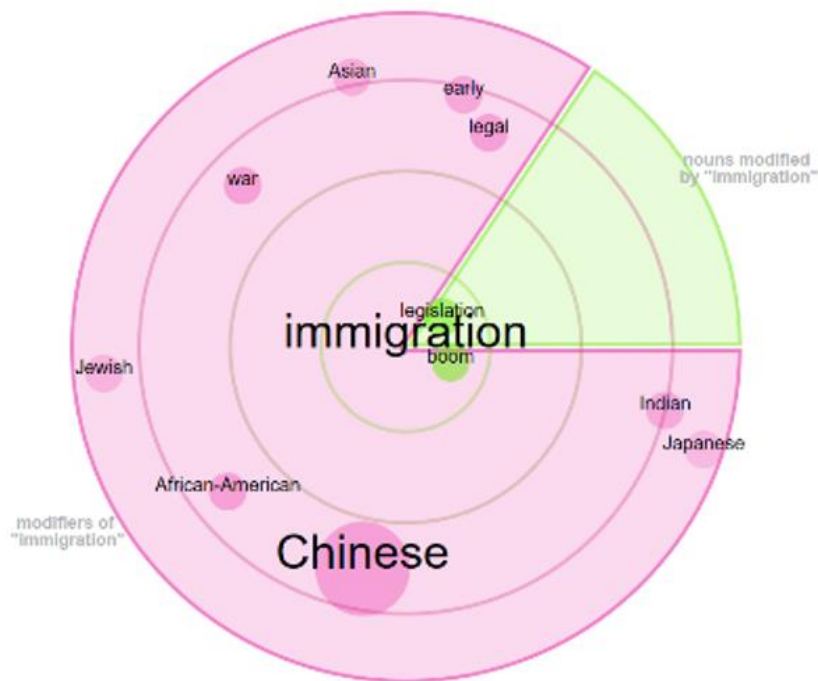
Discuss the data with your partner and then share your findings on Stormboard.
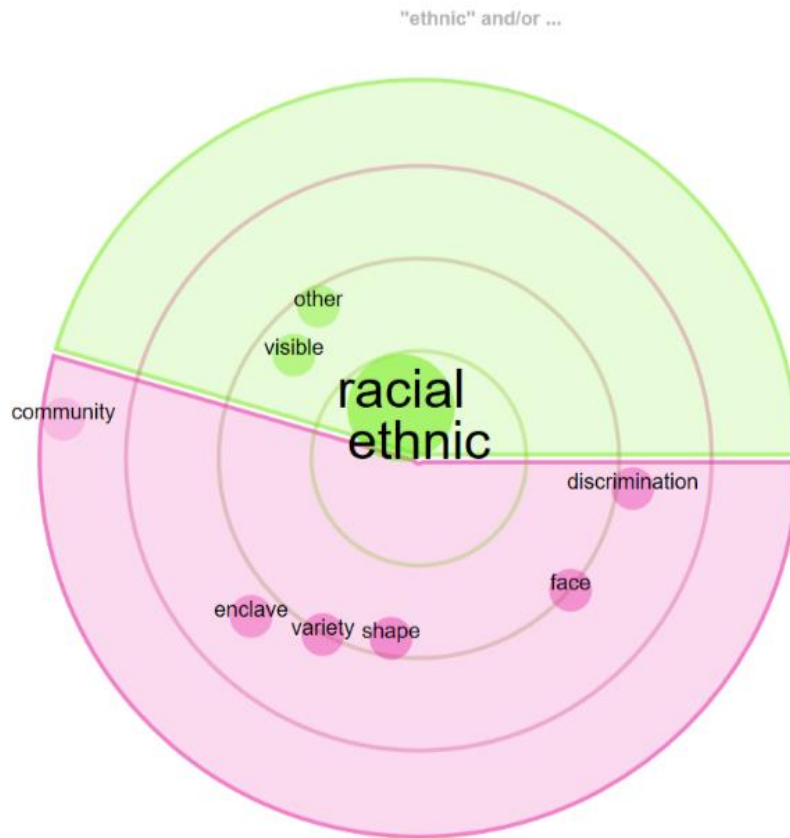

visualization by SKETCH ENGINE

verbs with "community" as subject

develop
cause
begin
weaken
support community become
explore
employ
retain
be
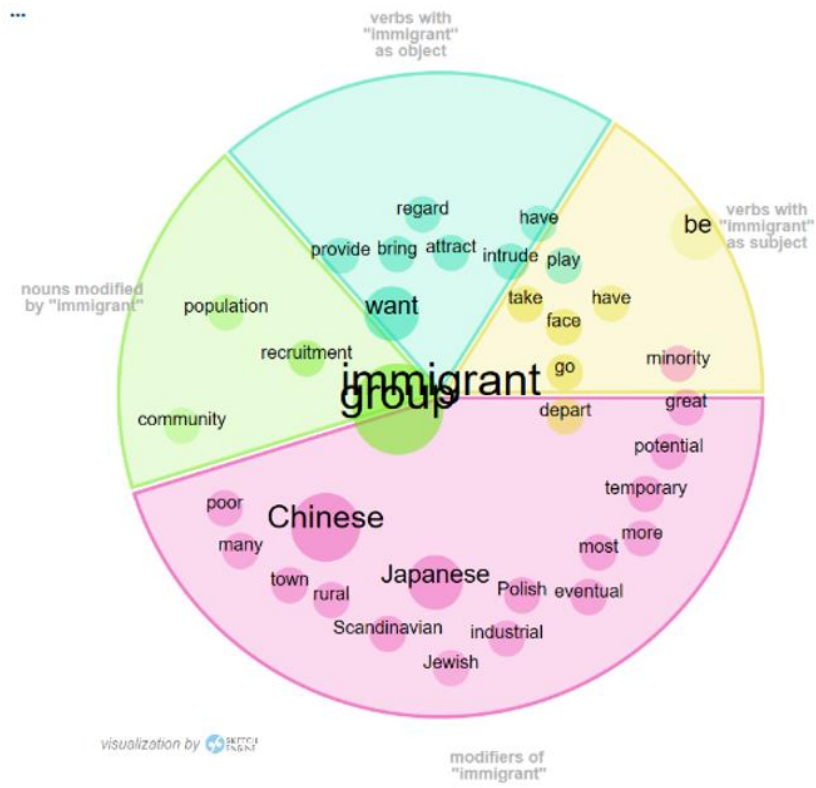
verbs with "community" as object

visualization by SKETCH ENGINE

nouns modified by "community"
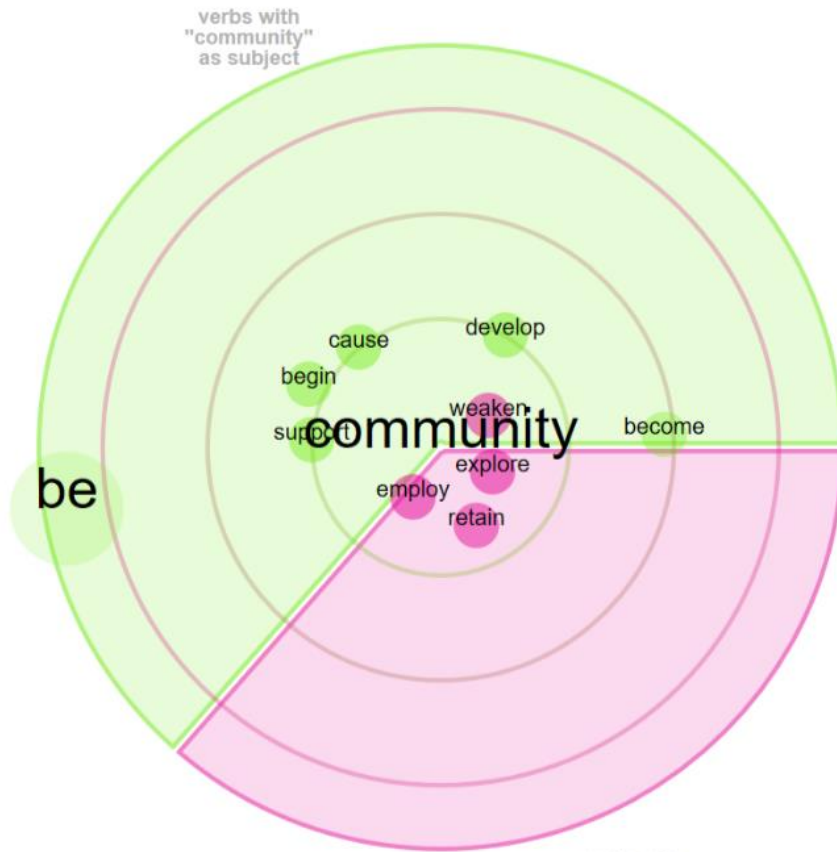
Italian
host
Chinese
hospitality policy
Jewish
Euro-Canadian
community
Asian
White
non-Asian
modifiers of Euro-Canadian European
"community"
diverse Japanese-Canadian
resource-extraction

adjective predicates of "community"

visualization by SKETCH ENGINE

prepositional phrases

... from immigrant

... on immigrant

... with immigrant

immigrant from ...

immigrant

immigrant with ...

... of immigrant

immigrant to ...

immigrant as ...
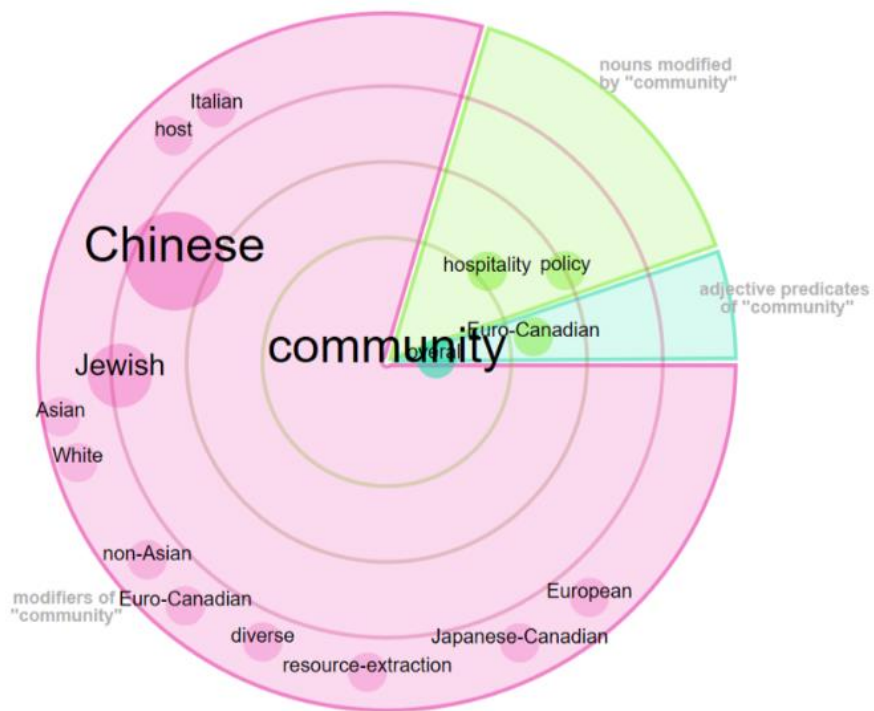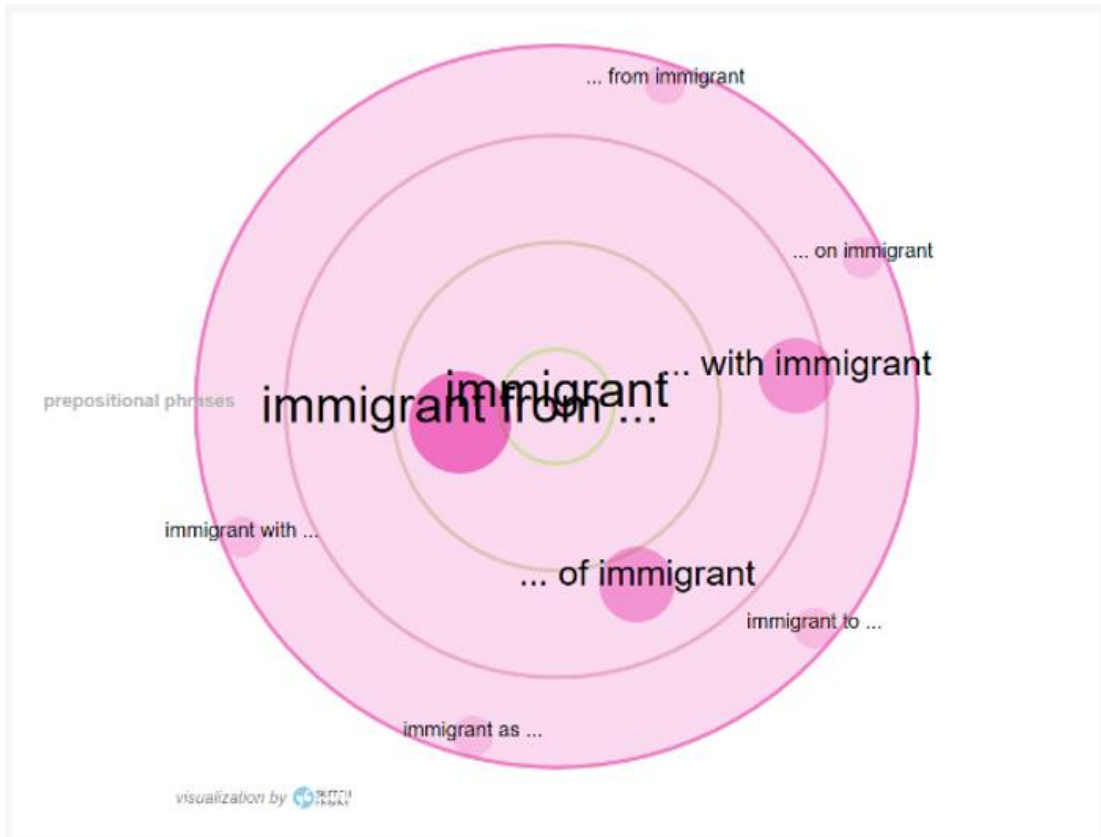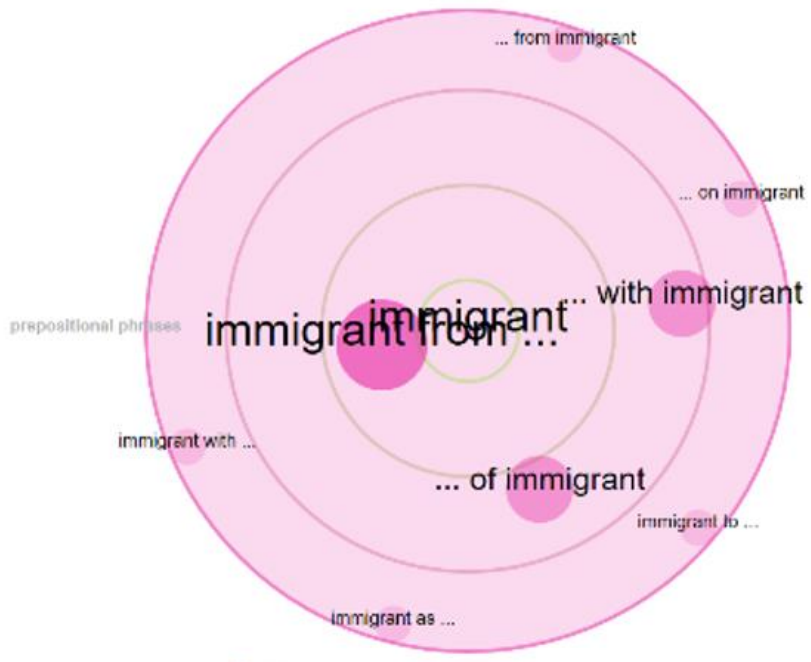
visualization by

Conclusion

In the present study, a framework suitable for embedding technology-enhanced SFL-informed content-specific literacy into content classes delivered through virtual mobility in ETPs from an Open Educational perspective has been elabora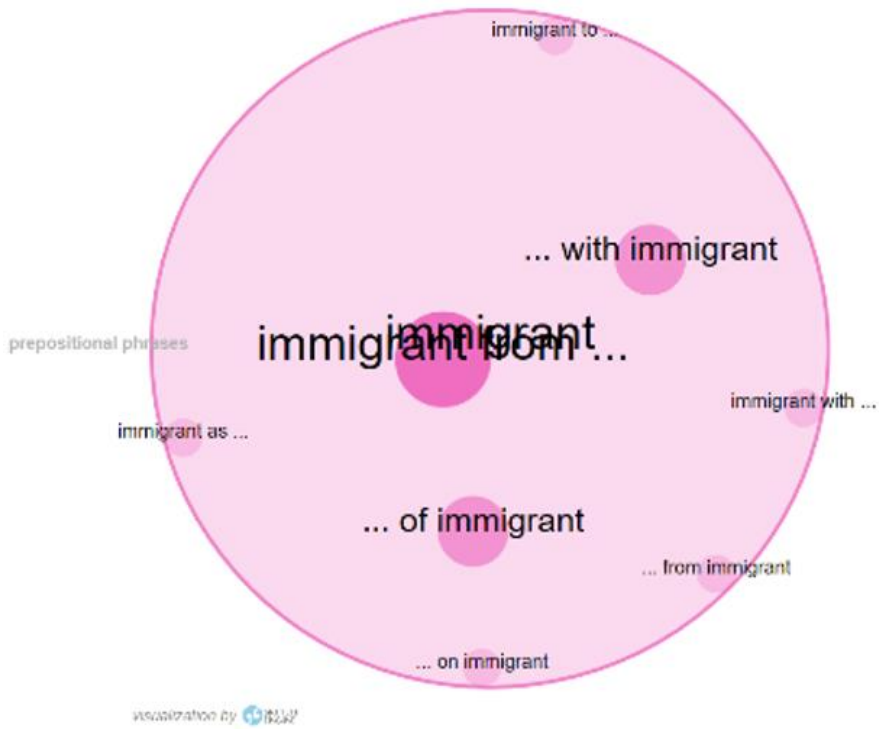ted so as to provide, as Dafouz and Smit suggest, some strategies suited to interconnect global and local needs in increasingly multilingual contexts (2016: 408). In particular, the framework devised entails the use of text analysis carried out through text mining to design digitally-enhanced SFL-informed content-specific embedded literacy where visualization plays a key role. To show how the framework can be used, some activities have been developed using an open textbook. In particular, for experimental purposes, the activities have been created in the panOpen platform, which has been especially built to foster the adoption and dissemination of Open Educational Resources and Open Educational Practices.

The SFL-informed content-specific embedded literacy framework devised aims to enhance students' critical language awareness in ETPs also to prevent them from adopting implicit Anglo-English theorizing practices as advocated by a superdiverse view of a multilingual society and in line with the value of social equity pursed by SFL-informed practices.

The framework developed is in keeping with EU (European Union) policy, which advocates the development of digital literacies and ecologies, engagement of students with technology-enhanced activities while collaborating with distant stakeholders, and the adoption of Open Educational Resources (European Commission

2013b: 2-3). Furthermore, in line with EU guidelines, the framework, envisaged as an Open Educational Practice, aims to foster: access through the adoption of OERs; the creation of high-quality OERs through the use of open educational technology; and collaboration through the use of a platform which enables the dissemination of OER-driven teaching materials (Inamorato dos Santos 2019: 19-68). In this light, the framework, which may be seen as an OER-supportive infrastructure (Miller 2016: 237), aims to promote the adoption of OERs and to increase the number of OER active users by providing a possible answer to the following question: "the very success of open textbooks raises a series of questions, not the least of which is how this beneficent system can be sustained and why a faculty member would ever undertake the onerous work of creating or adapting an open textbook" (Jhangiani, Green, and Belshaw 2016: 180-181).

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