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**Acquisition of additional languages as emerging multilingual
constructicons.**

A Construction Grammar approach to progressive aspectuality

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1. Introduction

When embarking on a study focused on the *progressive*, one might question the necessity, given the wealth of research that already exists. Numerous studies have explored the progressive from multiple angles, examining it both synchronically and diachronically, within various theoretical paradigms, across different learning contexts, and within diverse populations. These studies have provided substantial insights into the characteristics of the progressive, ranging from what actually means progressivity, how it is acquired by learners of various languages, its restrictions to verb semantic classes, the means that typologically distant languages possess to express it, and so on. With such an amount of knowledge already accumulated, one might wonder: what more is there to uncover?

A possible answer to this question lies in what this study actually investigates, which is *progressive aspectuality*, which differs from the traditional notion of *progressive aspect* commonly understood in the literature on aspect. While many are familiar with *aspect* as a grammatical category, aspectuality represents a broader and more abstract concept, extending beyond the traditional TMA grammatical categories (tense, mood, aspect) within which aspect is typically situated.

Over the last three decades, there has been a notable and expanding focus on aspect, especially when contrasted with aspectuality. This trend is evident in numerous typological studies, which have demonstrated that many of the world's languages typically express aspect through morphologically marked forms (see, among others, Bybee 1985; Bybee & Dahl 1989; Bybee et al. 1994; Dahl 1985, 2000). Furthermore, research focusing on the lexically encoded category of *Aktionsart*, often contrasted with the category of aspect,

has increased, and the issue of how clearly delineated the boundary between these two categories is has been a recurring topic of debate, with some studies, such as Sasse (2002) and Dessì-Schmid (2019), providing critical analyses on this matter.

In this context, the concept of a unified functional category that combines both aspect and Aktionsart has been introduced, which we refer to as *aspectuality*, and which is what we enquire in this study. Aspectuality is best understood as an abstract, content category that encompasses a wide range of ways, beyond grammatical forms, to depict and convey aspects of how actions or states unfold over time. Dessì-Schmid (2019: 39) defines aspectuality as “a general aspectual domain, i.e. as the content category by which speakers linguistically structure the nature of the development and distribution of a state of affairs in time”, with progressive aspectuality representing a specific subtype of it.

The difference between aspect and aspectuality is also reflected in the field of aspectology, which divides scholars into two main schools of thoughts: bidimensional vs unidimensional approaches. Bidimensionalists argue that aspect and Aktionsart are distinct categories within the broader aspectual domain, each contributing separate semantic components (see, among many others, Bache 1982, 1995a, 1995b; Bertinetto 1986, 1994; Ehrich 1992; Smith 1997). In contrast, unidimensionalists assume that there is no cognitive distinction between the two categories, seeing them as different formal expressions of the same content category (see, e.g, Verkuyl 1972, 1993; Sasse 1991; De Miguel 1999; Talmy 2000). While the majority of research mostly adheres to the bidimensional perspective, significant contributions have also emerged from the unidimensional approach, which this study aims to further advance and enrich.

To achieve this, it is essential to identify theoretical frameworks that support this viewpoint. Accordingly, the project is grounded in Construction Grammar, as outlined by scholars such as Bybee (2010), Goldberg (1995, 2003, 2006), and Trousdale & Hoffmann (2013). Within constructionist approaches, this perspective is complemented by a revised conceptualization of the relationship between lexicon and grammar, viewing lexical and grammatical elements as points along a continuum rather than as separate categories. Approaching the study of aspectuality from this angle implies that, within the aspectual domain, there is no clear semantic or conceptual boundary separating aspect, Aktionsart, or any other categorial distinctions.

This study aims at advancing the ongoing discussion by primarily identifying and empirically examining the conceptual category of progressive aspectuality. This is approached through a *usage-based* lens, positing that progressive aspectuality as a content category is expressed through the interplay of various elements that we can seek in speakers' actual productions. By adopting this approach, the study investigates some of these elements, including verb meanings, verb arguments and adverbs, that can be identified in speakers' productions across all levels of language organizations.

Starting from empirical data, it is also possible to sketch a partial idea of how speakers' knowledge of progressive aspectuality is linguistically organized. Following the main constructionist positions, the way in which speakers do that consists of *constructions*, i.e. linguistic structures intended as "conventional pairings of form and meaning" (Goldberg 2006: 5). Speakers do not store constructions randomly, but they form a system known as *constructicon* (sometimes written *construct-i-con*; Jurafsky 1991), which involves multiple types of associations that characterize it as a multidimensional network (cf. Kapatsinski 2018; Lyngfelt et al. 2018;

Diessel 2019; Schmid 2020; Smirnova & Sommerer 2020). The operations that speakers do to form such constructions include “mental operations, such as the recognition of recurring features, the grouping of contents that are similar or opposing or contiguous into larger relationship patterns [...], the creation of figure-ground schemas, and the production of hierarchical conceptual relations and structures” (Dessi-Schmid 2019: 4).

The present work aims at making hypotheses about how such operations take place from a *language learning* perspective. More specifically, we investigate and explain on the basis of their usage, how learners of an additional language conceptualize and organize their knowledge of progressive aspectuality in their emerging constructions. In learning scenarios in which several languages are involved, we can imagine that the linguistic units relevant for the expression of progressive aspectuality are rarely learned in isolation by language learners, but that their learning is dependent on other pre-existing linguistic units. Therefore, the organization of such a concept and its linguistic realisations should inevitably lead to relation types between the pre-existing language systems with the newly acquired one. The framework chosen to explain such organization is Dyasystematic Construction Grammar (DCxG) (Höder 2012), which shares principles with Construction Grammar applied to language contact scenarios.

What makes this study particularly special is the situation of *multilingualism* in which learners are embedded and are differently exposed to. The study, in fact, is set in the Italian province of Bolzano (South Tyrol) in which two main official languages (Italian and German), a minority language (Ladin - however only predominantly spoken in Val Badia and Val Gardena) and other migration languages coexist within this territory. The target population of this study is therefore composed by multilingual learners of English acquired as additional language (and school subject) in the South Tyrolean

educational context. The data on which the current study relies on consist of a *learner corpus* data collection (Leonide; Glaznieks et al. 2022) collected in eight lower-secondary schools in the province of Bolzano, in which students have produced written texts for the whole cycle of lower secondary school and have been followed for three years (the age of the students ranged between 11 and 14 years when the whole longitudinal data collection occurred).

Special emphasis has been placed on exploring the sociolinguistic contexts of the study participants, as I am convinced that language cannot be fully understood without considering its speakers. While I have developed prototypical language profiles of study participants to identify emerging patterns of use, I have also considered each speaker's individuality and language experiences whenever possible, based on the data available. Significant efforts during the extraction of the data and the analyses have also been made to capture the originality, innovations, and creative expressions of the participants in their language use. These elements have provided the most compelling examples of how multiple languages interact and offered valuable insights into the processes underlying language learning. This reasoning further supports the decision to avoid making direct comparisons with what Granger (2015) calls "reference variety," which generally denotes a high-level, native-like proficiency in the target language. The study intentionally adopts a cautious approach towards benchmarking against established language standards or reference groups. As a result, the study does not draw any parallels between the participants' language use and those of any deliberately chosen native speaker models or idealized language benchmarks. Since Selinker's (1972) foundational work on interlanguage, it has become understood that each learner develops a unique linguistic system, one that should not be mistaken for a flawed version of the target

language but recognized as a dynamic system influenced by ongoing change and eventual stabilization. More recent positions like Complex Dynamic Systems Theory (Larsen-Freeman 2015a, 2017) and DCxG itself have increasingly supported the idea that such systems are inherently dynamic, in the sense that learners' organizational knowledge of a certain concept is subject to both stability and variability that can be derived from language-using patterns. Different and potential factors can be considered as having an impact on it, as they are part of this fluctuating system and might influence it. Several factors have been identified as influencing the expression of progressive aspectuality and, consequently, learners' usage patterns. However, this study primarily focuses on a selected subset of these factors that prior research has established as particularly relevant. Specifically, the investigation considers extralinguistic variables such as students' language backgrounds, the language of instruction they receive in formal educational settings (i.e. school), and the quantity of input in the additional language provided within the school environment. Finally, given the longitudinal nature of the learner data collected in Leonide, the growing input students receive over the three years of instruction has also been considered.

The objectives of this study are fourfold: 1) to sketch an *evolving learner language constructicon* for progressive aspectuality as it emerged from students' productions; 2) to model such system in a way that it is a *multilingual and integrated* constructicon composed by (more or less) entrenched constructions sharing (or not) common characteristics across the pre-existing language systems; 3) to follow the development of this system by assessing the impact of the main input they receive in the additional language (English), but also the role exerted by the other language systems pre-entrenched in speakers' knowledge; 4) to trace progressive aspectuality

as a non-linear concept potentially evolving and changing the characteristics of learners' systems over time.

1.1 Why is this topic relevant?

The motivation behind choosing this topic was driven by a few compelling ingredients. First, the linguistic situation of South Tyrol and therefore, the study population, caught my attention. At the time of the corpus data collection, participants were being taught in two primary languages of the school they were attending, Italian and German, across two distinct school systems belonging to the South Tyrolean official educational system. These schools, either German or Italian, offered the corresponding language as the main language of instruction and one or the other language as a second language, reflecting the region's decisions in language education policies. Although students have the right and freedom to choose their language of instruction, they typically decide to attend schools that match their family's primary language used in daily interactions. This creates a dynamic where, despite a multilingual backdrop, students can be grouped into two dominant linguistic categories based on their language of instruction. I refer to these groups as prototypically dominant in either Italian or German, as their daily language use aligns with their educational environment.

This leads to the second driving factor: with these two languages at the heart of the study and co-existing in the same environment, I was interested in the differences between these two linguistic systems to explore how they would have shaped students' language acquisition and usage of an additional language when acquired in a formal setting. The language chosen was therefore English, which is the third language to appear in school curricula starting from elementary school in both school systems.

Progressive aspectuality was instead the phenomenon specifically chosen for this study as it is formally realized in different ways by the languages to which students participating in the data collection received formal

instruction at school, namely Italian, German and English. In light of their typological differences, while Italian and English possess a morphologically marked distinction for progressive aspectuality, German does not express aspectual distinctions morphologically. That means that dominant German learners may see progressive aspectuality as a completely new concept. However, there are German constructions that are used for aspectual specification, therefore we can guess that a similar concept already exists in their minds. Furthermore, it is likely that speakers dominant in German would hold similar conceptualizations in Italian, the other foreign language taught at school. As a result, progressive aspectuality may not be entirely unfamiliar or conceptually novel to them. When acquiring English, German dominant speakers may either perceive progressive aspectuality as a completely new concept or compare it with how other language systems express this concept, like Italian. In any case, they are required to learn an obligatory distinction that their dominant language does not typically make, due to its typological characteristics.

Dominant Italian speakers, who instead possess a morphologically marked aspectual distinction within their dominant language, have to learn a system that formally seems to be quite similar to the Italian one, but that differs in several aspects. Slight differences concern for example the fact that progressive aspect is mandatory in English (and not in Italian) and that differences in meaning also exist. The two languages are largely comparable with respect to progressive aspectuality, but learners must understand how the newly acquired constructions for progressive aspectuality fit into the English system of temporal-aspectual expression.

Therefore, learning the concept of progressive aspectuality and its linguistic realization in English represents a challenge, not only for the impact of the

dominant language systems of the speakers, but also for the interaction of all the existing systems in their multilingual minds.

The study further situates these interactions within the broader theoretical debates on Multiple Language Acquisition, which consider the varying roles of the languages in multilingual learning scenarios. The terms “transfer” and “cross-linguistic influence” are usually used to describe such interactions. While Odlin (1989: 27) defines transfer as “the influence resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired”, the term cross-linguistic influence has been introduced to provide a cover term for all phenomena arising from the interaction between languages, including the mutual influence of all the languages, as well as language attrition and avoidance phenomena (Cenoz et al. 2001). The core theories in Multilingual Acquisition have explored how existing language systems influence the process of learning additional languages. These perspectives examine various factors, such as the impact of the dominant language, questioning whether universal learning patterns exist across different linguistic backgrounds or if the dominant language specifically shapes the trajectory of acquisition (e.g., Odlin 1989; Kellerman 1997; Jarvis 2000, 2011; Jarvis & Pavlenko 2008). Some research emphasizes the significance of the first foreign language learned, often referred to as L2, arguing that its acquisition is governed by the same cognitive and contextual mechanisms as subsequent languages (e.g., Bardel & Falk 2007; Rothman & Cabrelli Amaro 2010). Other studies have accounted for other impacting factors such as exposure level, perceived typological distance, and other contextual influences. Nonetheless, the findings regarding how different languages influence each other remain diverse and sometimes contradictory, reflecting ongoing debates within the field.

It is important to state that this study, however, conceives multilingualism not as a juxtaposition of bounded languages, but as dynamic, integrated, holistic linguistic repertoires in which languages interact and influence one another within the multilingual mind, without any pre-categorization or ordering of languages and their speakers. This holistic perspective, while centering on English due to the nature of the data collection, informs the analysis of how students navigate their multilingual language use by transcending the rigid distinctions between discrete language systems typically upheld in formalist approaches. In line with this view, the categorization of speakers in this study does not rely on predetermined labels such as “native speaker”, “L2” “learner”, or similar hierarchical classifications. Instead, a sociolinguistic categorization is adopted, one grounded in the participants’ actual and routine use of their languages in everyday contexts at the moment of the data collection.

With respect to progressive aspectuality, to my knowledge, a huge number of studies have mostly dealt with the acquisition of morphologically marked constructions such as the English progressive *to be + Ving*. These studies have mostly focused on the form-to-function side of the progressive compared to function-to-form approaches (cf. Bardovi-Harlig 2014 for such a distinction). Within formalist studies, the progressive aspect has proved to be one of the first constructions acquired (e.g. Brown 1973; Dulay & Burt 1974) as it seems to be easy to conceptualize (Kleinmann 1977; Jarvis & Pavlenko 2008), and that there should be some universal mechanisms affecting verb morphology influenced by the lexical semantics of the verb and its predicates, also known as the *Aspect Hypothesis* (e.g., Robison 1995; Housen 2002a, 2002b; Rocca 2002; Collins 2004). There are also numerous studies showing that learners seem to use the progressive aspect in contexts in which it should not be required, and that this tendency comes from

dominant speakers of Germanic languages (e.g. Kellerman 1997; Axelsson & Hahn 2001; Housen 2002b), while speakers of Romance languages do not seem to show overuse (Robison 1995; Bardovi-Harlig 2000). Other studies have shown that learners often omit the auxiliary and use only *Ving* (e.g. Bardovi-Harlig 1998; Wold 2017).

This study relies instead on a function-to-form approach (Bardovi-Harlig 2014 calls it the “meaning-oriented approach”) by identifying the concept for progressive aspectuality and to investigate how it is expressed by students. Although the present study addresses a topic which has been extensively researched, it approaches it in a way that, to my knowledge, has not been employed before. Studies of the learning of English tense-aspect morphology have for example excluded cases which did not follow target-like occurrences. For example, when using the *to be + Ving* construction, a form with solely *Ving* cannot technically be labeled as progressive unless it includes a form of the auxiliary verb *to be*. Nonetheless, applying this strict criterion would ignore learners' early efforts to employ the construction. Therefore, in this study, *Ving* is regarded as functioning in a progressive meaning whenever it appears within contexts that demand a finite verb phrase and where a progressive meaning can reasonably be inferred from the context. Beside grammaticalized periphrases like *to be + Ving*, other periphrases which show a lower degree of grammaticalization like *continue+Ving* could be used by students and have therefore been considered in the present study. This holds true also for cases in which students use constructions that cannot be traced back to any of the constructions of English, but are the result of linguistic creativity. In order to do so, all occurrences found in the corpus that instantiated progressive aspectuality have been annotated, extracted and categorized as belonging to different

formally realized constructions, usually attributed to higher-level constructional schemas.

1.2 How is this dissertation structured?

After this brief overview on the motivation of the study and its relevance, it is now time to explain how the dissertation is structured.

Chapters 2 and 3 provide the theoretical foundations to understand the whole study, and they are complementary in a way that both follow a critical approach with respect to the field of Multiple Language Acquisition (Chapter 2) and to research on aspectology (Chapter 3).

Chapter 2 aims at critically examining the diversity of theories and constructs in multiple language acquisition in a way it helps to elucidate their underlying assumptions and implications for future research. Drawing on Berthele's discussion (2021) about the epistemological differences between formal and holistic theories of language acquisition, Chapter 2 reflects the same structural division in which both research stances are compared. The first part draws mostly on formal theories of multiple language acquisition, while already shedding light on some of the controversial issues that have been raised. The second part examines instead an alternative array of theories characterized by a holistic outlook on the process of acquiring languages, particularly in response to the discipline's interest in multilingualism and the so-called "multilingual turn".

Chapter 3 provides a theoretical account of the categories of tense, aspect and Aktionsart, and to present them from a perspective typical of the aspectology tradition. It will be done first on a general level and then narrowing down the discourse to English. Moreover, the main theories and study results on the acquisition of aspect by language learners are shown, by focusing specifically on the progressive. This sets the stage for addressing the challenges associated with the boundaries of traditionally defined

categories such as tense, aspect, and Aktionsart, and the need for adopting a more comprehensive notion of progressive aspectuality also in learning scenarios. In this way, this chapter complements the previous one by offering a concrete example on how the same phenomenon can be investigated by different research paradigms, thus impacting the creation of different theories and study results.

Chapter 4 contextualizes the investigation by providing an overview of the South Tyrolean sociolinguistic environment in which the study is set to clarify the specifics of the learner data collection and analysis. The chapter further details the methodologies employed for data extraction, for annotation conducted on the texts, and the characteristics of the final dataset that has been analysed.

In Chapter 5 the results will be presented adopting an onomasiological starting point, namely starting from the concept of progressive aspectuality and its differences in meaning. It will be shown from empirical data that progressive aspectuality represents a continuum between prototypical and more peripheral meanings which highlights the pragmatic/interpersonal component of this concept. A network of constructions consisting of form-meaning pairs with different kinds of linguistic relationships will be determined: from taxonomic connections that link abstract schemas to their linguistic realizations, to horizontal relationships that acknowledge commonalities across constructions, and symbolic relationships that assess the entrenchment of form and meanings.

Chapter 6 explains how the outlined constructicon sketched can be theoretically accounted for, considering students original language systems and how these interact with newly acquired linguistic information, thus forming a multilingual constructicon. The framework in which this chapter will develop this argumentation is called Diasystematic Construction

Grammar (DCxG) (Boas & Höder 2018; Höder 2012). Moreover, principles of “multilingual constructicography” (Lyngfelt 2018: 11) will be applied to comparing and connecting constructions in the three typologically different languages. Innovations or potential non-canonical productions of the students in English as additional language will offer a window on language learning mechanisms resulting from the interplay of the three languages. The last part of the chapter is dedicated to analyzing patterns of use depending on learners’ exposure to the three languages taught at school and to students’ language profiles, combining both theoretical and empirical observations.

In Chapter 7 the central findings are summarized, and some possible areas of further investigation, limitations of the study, as well as the relevance of the present study for research on aspectuality, are all discussed in Chapter 8.

2. Theoretical Foundations

2.1 Some epistemological reflections

In Applied Linguistics, the broad discipline where this dissertation places itself, scholars have developed various theories to explain language learning phenomena. These theories, built on constructs, ideologies, hypotheses, and models, underpin epistemological foundations and guide empirical research. However, the field often struggles with implicit or differently defined theories and constructs. For instance, the term “third language” in studies dealing with multilingual acquisition can have different meanings, depending on the criteria used to determine what actually is a third language and the scientific tradition shared by researchers. In fact, for some researchers “third” refers to the additional language acquired subsequently after a first and a second language, thus suggesting a sequence of languages in their definition and order of acquisition. Other researchers tend to avoid any ranking or sequencing among the languages of multilingual speakers and recognize them as unique systems, without prioritizing when each language was learned. This variability is evident in the different epistemological roots of the existing scientific communities dealing with multiple language acquisition, that will be presented in this chapter. It will also be critically discussed the fact that sometimes, such variability can lead to misinterpretation among readers, both within and outside the scientific communities.

Researchers’ theoretical and methodological preferences are also influenced by their ontological positions. Simply put, the way researchers define, describe, and analyze phenomena depends on their worldview. This can be illustrated by the distinction between “emic” and “etic” research

perspectives. Cultural anthropologist Pike (1954) introduced this distinction, highlighting the difference between interpretive frameworks used by outsiders (etic) and culturally specific frameworks used by insiders (emic). Etic approaches, rooted in positivism, interpret behavior using concepts from outside and are approaches usually defined as objective, comparative, and theory-driven. Emic approaches, instead, provide an insider's view of a certain phenomenon which is context-specific and experience-driven. From this distinction, it is common to identify quantitative methods within the etic approaches, which often emphasize the generalizability of quantitative data and statistical analysis, and qualitative methods within the emic approaches, which focus on participants' perspectives and qualitative data. As noticed by Dewaele (2019: 72), initial studies in Applied Linguistics predominantly utilized a quantitative perspective, which was later complemented by an increasing number of researchers adopting a qualitative methodology.

Further complicating matters, scholars like Gal & Irvine (1995) have examined how researchers' ideologies also shape the way in which a certain phenomenon is investigated. We will see that linguistic ideologies have been significant in constructing the boundaries between sub-disciplines within the broader field of multilingualism: for example, questions about the varying ways in which the boundaries of languages may be defined, or the diverse ways in which we name speakers or languages and how they are linked to social groups and their identities. In order to clearly define the conceptual objects of this study, as well as the methodologies used and how the interpretations of results have been conducted, we will start in this chapter by introducing key theories, assumptions, and constructs of multilingual language acquisition, providing a theoretical basis for the study. Dewaele (2019) describes it as a "battleground" of differing theoretical frameworks, ontological positions, epistemological stances, and methodologies. At the

same time, the chapter aims to critically reflect on the underlying assumptions of such diversity of theories and constructs in a way that it helps to elucidate the practical implications for this study. With its focus on multiple language acquisition, this chapter will explore the various ways in which researchers have investigated what does it mean acquiring multiple languages, highlighting the strengths and limitations of various approaches. In order to find a certain coherence and to highlight the differences in the way in which multiple language acquisition as scientific discipline has evolved, this chapter draws inspiration from Berthele's discussion (2021) which illuminates the epistemological differences between formal and holistic approaches. On the same lines, the theoretical framework presented here is structured to encompass two distinct segments: the first segment offers a brief overview of formal approaches developed within second and foreign language acquisition, with the aim of leading into the concept of multiple language acquisition (Section 2.2). This first part already sheds light on some of the controversial issues that have been raised during its historical development, especially when the focus of the discipline has extended to the acquisition of additional languages. The second segment examines instead an alternative array of approaches characterized by a holistic outlook on the process of acquiring multiple languages, particularly in response to the discipline's interest in multilingualism and the so-called multilingual turn (Section 2.3). By delineating these contrasting perspectives, this chapter endeavors to elucidate the fundamental epistemological foundations and theoretical paradigms that have guided my literature review in multiple language acquisition, traversing from formal approaches to emergent holistic models. While it is beyond the scope of this chapter to cover every existing theory in detail, the analysis adopts a critical stance that ultimately aligns with holistic frameworks. This orientation reflects the conviction that multiple language acquisition can be better understood through the

integrative and dynamic perspectives offered by holistic theories. Accordingly, particular emphasis will be placed on the second segment of this chapter, which explores these models in greater depth.

2.2 Part one: formal approaches to Multiple Language Acquisition

Theories that have approached the acquisition of multiple languages have mostly relied on formal approaches since the beginning (Berthele 2021: 90). These approaches have observed how individuals internalize and manipulate the rules and patterns of language through the lens of linguistic structure, delving into the grammatical, syntactic, and semantic frameworks that govern language use, in scenarios when multiple languages are at play. They have offered systematic frameworks to expand certain assumptions rooted in the work tradition of Second Language Acquisition (SLA) to cases in which more than two languages are involved. For example, the significant concept of “interlanguage” (IL), a term introduced by Selinker in 1972 to describe the unique language system that second language learners develop, has extended its scope of investigation to interlanguage systems having three or more languages. Such systems not only show general strategies for learning a new language, along with behaviors that address specific challenges unique to the target language, or even predictable behaviors among learners sharing similar characteristics (for example their language background or the degree of exposure to the new language). Such systems also show traces of the previously learned languages that can be transferred to the additional language under investigation. This is usually referred to as “cross-linguistic influence” (CLI), that is which previously learned languages will be transferred and to what extent to the newly acquired language.

As Berthele (2021) points out, this has been the central focus of formal approaches used to explain multiple language acquisition over the last years. Specifically, CLI has been conceived by Odlin (1989: 27) as “the influence resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly)

acquired”. Compared to the traditionally used term “transfer”, CLI is broader in scope “and includes the various manifestations and outcomes of CLI in terms of interference (or negative transfer), positive transfer (or facilitation), avoidance and overproduction” (Ellis 2008: 354).

Formal approaches have produced and formulated many conflicting theories and models about CLI, highlighting how the influence may originate from either the first or second language, or conversely, how all languages can mutually influence each other (Cenoz 2001; Jarvis & Pavlenko 2008, Jessner 2008; Peukert 2015). In theory, when examining how multiple languages interact within a speaker's repertoire, four primary transfer patterns can be identified (for a recent review, see Puig-Mayenco et al. 2020): in certain scenarios (i), no effects of other languages are apparent. In other situations (ii), the influence comes exclusively from the first language acquired. There are also instances (iii) where the second language is the sole source of impact. Lastly (iv), some patterns involve transfer that can originate from either of the languages individually or from both simultaneously. Among these possibilities, scenarios (iii) and (iv) have been incorporated into theoretical models or hypotheses, which will be briefly introduced below. In contrast, no models have been proposed for scenarios (i) and (ii) thus far. However, the idea of exclusive transfer from the first has been indirectly supported by evidence from various studies, even though it has not been explicitly formalized. I will make a summary of the main theories and assumptions starting with (ii):

(ii) Exclusive influence from the first language

It supports the view that the native language plays a dominant role in transfer (e.g., Hermas 2010, 2015; Jin 2009; Na Ranong & Leung 2009). This suggests that the first language serves as the default source of transfer. However, even studies presenting empirical evidence for this view,

frequently lack a clear explanation for its dominance (Puig-Mayenco et al. 2020). A possible explanation is that the first language as the dominant language may act as a more accessible and efficient framework for learning additional languages. This aligns with the overarching idea that the first language exerts a significant influence over additional language acquisition.

(iii) Exclusive influence from the second language

The latest version of this hypothesis aligns conceptually with Paradis' (2009) “Declarative/Procedural Model”, which posits that native and non-native grammars acquired after puberty rely on distinct memory systems. According to this model, while first-language grammar is primarily supported by procedural memory, any additional languages learned in adulthood depend on declarative memory. Building on this premise, the “L2 Status Factor Hypothesis” (Bardel & Falk 2007; Bardel & Sánchez 2017) posits that a second language (L2) is more likely to influence the acquisition of a third or additional language (L3/Ln), compared to a first language. As Bardel and Falk (2012) clarify, this is because the second and third languages share greater cognitive similarities in the working memory processes compared to the processes involving first languages (cf. also Bardel & Sánchez 2017).

(iv) Transfer may come from either language or from both at the same time.

Two prominent models address the possibility of transfer from either or both languages: the “Cumulative Enhancement Model” (CEM; Berkes & Flynn 2012) and the “Typological Primacy Model” (TPM; Rothman 2015). The CEM posits that both previously acquired languages can contribute to transfer during third language acquisition. Transfer occurs selectively, targeting linguistic properties that facilitate the creation of accurate

representations in the new grammar. Transfer scenarios are as follows: (a) if one language matches the target property while the other does not, the former will transfer; (b) if neither language is helpful, the property is acquired through mechanisms similar to first language acquisition. The TPM also focuses on early stages of third acquisition, and proposes that both the first and second languages can be transferred into the L3, but that transfer is mainly conditioned by the structural similarity between the languages at play.

Despite their substantial influence on the field, formal models, theories, and approaches to multiple language acquisition have faced some criticism in that they reflect specific assumptions about language, learning, and normativity that may obscure the complexity and individuality of multilingual experiences. For instance, a pervasive bias within these approaches is the tendency to view interlanguages and learners' errors as not only evidence of their experimentation with and testing of possible target language rules, but also as inherently imperfect productions. This is clear in how learners' progress is often charted through developmental stages, with occasional regressions (Biber et al. 2011). But most notably, it is also evident in how researchers typically determine whether an interlanguage form is grammatically accurate or used appropriately. This is usually done by evaluating these forms relative to the target language norms as understood by so-called native speakers. This approach has been criticized multiple times for its reliance on an idealized native standard. Bley-Vroman (1983) famously referred to this as the “comparative fallacy in interlanguage studies”, highlighting how non-native grammars are often assessed against native-like norms. This perspective, while offering a clear benchmark, inherently frames interlanguages as deficits rather than recognizing their uniqueness. This raises a fundamental question: are we truly capturing the

uniqueness of language learning and the individual experiences of multilinguals by continually measuring them against a monolingual ideal? This first critique suggests that a deeper understanding of multiple language acquisition requires moving beyond these foundational assumptions, or at least, engaging in critical self-reflection. The next section will delve further into this and other criticisms, exploring the implicit assumptions of formal models and the challenges they pose for the discipline.

2.2.1 Challenges and controversies of formal approaches in Multiple Language Acquisition

Building on the previous section, we have discussed how formal models of multiple language acquisition have had their major focus on trying to explain the acquisitional trajectories across the languages of multilingual speakers and the impact of the previously learned languages on the newly acquired. They have done so by formulating several theories and models explaining CLI occurring on different linguistic phenomena. Of course, to conduct a study on CLI, there is a sort of foundational need to classify and categorize languages in the speaker's repertoire. This classificatory impulse, necessary, to some extent, for operationalizing research on cross-linguistic influence, has nonetheless given rise to both terminological inconsistencies and conceptual limitations. As noted in the previous section, much of the formal literature attempts to explain CLI by determining which language (first, second, or otherwise) is influencing the third or additional, thereby presupposing that these languages are distinct, stable entities that can be clearly labeled and chronologically ordered. Yet this is not merely a terminological issue, but it reveals a deeper epistemological stance, one that assumes languages within an individual's repertoire are separable and hierarchically organized units.

Scholars like De Angelis (2007: 8) have highlighted not only the terminological challenge of defining which languages within speakers' repertoires are considered countable but also the underlying rationale, namely, why it is necessary to categorize and order languages. She discusses this terminological issue by noting that the emergence of a new field like multiple language acquisition inevitably involves a period of uncertainty, especially concerning terminology. Before the establishment of this

specialized area, researchers typically referred to a second language as L2 and described multiple non-native languages as L2s, Ln, or Lx. When it came to a third or additional language, it was often simply called L3, regardless of whether it was the third, fourth, or sixth language learned. As De Angelis (2007: 10–11) explains, the situation was similar in the field's naming conventions, which included terms such as Multiple Language Acquisition, Multilingual Acquisition, Third Language Acquisition (TLA), and Third or Additional Language Acquisition. This reflects an ongoing difficulty in conceptualizing, representing and term multilingualism in a clear and consistent manner.

The practice of counting languages led (and continues to lead) to terminological confusion, particularly in cases where languages are named based on their order of acquisition (L3, L4, etc.). This inconsistency is more than a semantic problem; it influences how researchers define, study, and interpret multilingual development. In this regard, Berthele (2021) goes so far as to argue that the field is deeply fragmented, with such incompatible conceptual and methodological assumptions that scholarly dialogue becomes difficult, if not impossible. As he points out,

our language-related fields of research are thus deeply divided since the assumptions and conclusions of the different approaches are so incompatible that scholarly discussion is difficult or impossible. The customary call for more research and more data that might allow arbitration between the positions will not work as long as there is no agreement on the conceptual, theoretical, and methodological presuppositions of such research. No shared rules are in place, and shared rules are necessary to arbitrate. (Berthele 2021: 82)

The issue becomes more apparent when labels like L1, L2, and L3 and the way in which they are applied are deeply examined. In this regard, Hammarberg (2010b, 2014) notices that the label second language, or L2, is usually any non-native language that a person acquires. However, Hammarberg also recognizes that L2 can denote “the language that was

acquired as the chronologically second language” (Hammarberg 2014: 3). This perspective aligns with what Hammarberg calls “the linear model” (2010b: 93), which is also the mostly used one among scholars. According to the linear model, the languages of a speaker are labeled according to the order of acquisition following a certain sequence: therefore, the first language is labeled as the L1, the second language as the L2, and so on and so forth (ibid.). Hammarberg (2014: 6) also acknowledges that a speaker may have multiple L1s as the native languages, while L2 remains defined as one or more non-native languages acquired subsequently. Conversely, Jarvis & Pavlenko (2008: 4) adopt a strictly chronological perspective to distinguish between the L1, i.e. the first (and only) language system encountered by a speaker, and L2 as any subsequent language system successively added to this one, regardless of current use or proficiency level (ibid.). However, this linear ordering approach encounters significant problems, especially in cases of simultaneous language acquisition. In such cases, a neat and sequential labeling becomes challenging, sometimes impossible, since multiple languages are acquired at the same time (Hammarberg 2010b: 93). This raises the question of whether such labeling is even meaningful (ibid.). Furthermore, while Hammarberg allows for the existence of multiple L1s, other approaches do not consider this possibility and adhere strictly to a linear time scale in which the L1 can only be one unique system. This perspective can marginalize multilingual individuals and struggles to accurately capture and categorizing the complexity of acquiring and maintaining multiple languages.

Another issue with this type of categorization is that the labels L1, L2, L3, and so forth tend to suggest a chronological sequence and a corresponding hierarchy of proficiency levels. As a result, L1 is often interpreted as the language in which the speaker possesses the greatest fluency, while

subsequent labels, such as L2 and beyond, imply progressively lower levels of proficiency. This framing also introduces an ideological perspective and highlights a further limitation associated with such categorization: it presumes a uniform level of proficiency within each labeled language. In reality, individuals may exhibit varied types of skills and competencies across different aspects of a language, such as speaking, writing, or understanding. Moreover, language proficiency can evolve through diverse learning trajectories, for example, re-engaging with a language after years of disuse, which complicates the assumption that each label corresponds to a single, static proficiency level. All these complexities could cause problems for the assumptions of the linear model (Hammarberg 2010: 94).

Another concrete example is offered by heritage speakers, for whom these labels may not be adequate. Meisel's definition of a "heritage language" (HL) states: "HL [...] is typically the language of origin of immigrants, and its use is frequently confined to family-related sociolinguistic domains" (2014: 437). For Gass & Selinker (2008: 23) heritage speakers are individuals learning a "language of personal connection", therefore the HL is not defined by the learning context or proficiency level. The category, therefore, includes individuals from bilingual households, whether active or passive users of the heritage language, regardless of their mastery of it. Montrul (2016) provides a comprehensive discussion of heritage speakers, explaining that they typically grow up as simultaneous or early bilinguals, and that their two languages consist of a minority language, which lacks official status, and a majority language, which is the official language of the country (ibid: 2).

It is not surprising the fact that these learners are the focus of numerous studies, but are often difficult to compare due to their varied contexts and the characterization of their repertoires. In fact, the order in which these

languages are acquired can vary among heritage speakers, making it challenging to differentiate between L1 and L2. Also, over time, the dominance and the proficiency of the two languages often shift, depending on different parameters such as the frequency of exposure and the actual use of the language. Montrul (ibid: 16–17) also notes that heritage speakers can be more proficient in the dominant language(s) of the environment than in the heritage language. This aligns with Hopp’s (2019: 579) observation that the language of the environment, even if it was acquired second chronologically, can become the language in which speakers feel more proficient and confident, as it is generally used more frequently and in a wider range of contexts. And this also aligns with Wiese et al. (2022) empirical conclusions to consider heritage speakers as part of the native-language continuum.

Another criticism to formal models concerns the terminological issue of the *language learner* which is often taken for granted, with its meaning assumed to be self-evident. This is particularly clear within Generative Linguistics, which distinguishes between a biologically determined first language and a second language acquired after a certain period of time. While a native speaker is generally defined as someone who has accessed from birth her/his first language and mastered its syntactic structures in a *native-like* manner, individuals learning a second (or additional) language are often labeled as ‘learners’ indefinitely, regardless of their proficiency level. This classification persists even at advanced stages, as seen in terms like “near-native speaker” (e.g. White & Genesee 1996). A strict dichotomy between learner and non-learner, thus, assumes that there is a specific point at which learning ceases and acquisition is complete. It is almost natural at this point to compare Generativist Linguistics with Cognitive Linguistics’ assumptions, which instead views language acquisition as a dynamic process, suggesting

that language learning is a lifelong endeavor, involving continual adaptation to changes, even for the so-called native speakers. Although interlanguage is typically associated with L2 learners, we can say that L1 speakers also develop their own interlanguages when they *learn* how to employ new and various registers of their L1 over time, depending on the context and interlocutors.

The limitations and contested assumptions of formal approaches have opened the door to new theoretical perspectives that adopt a more holistic view of multilingualism. These emerging frameworks increasingly conceptualize languages not as discrete, countable entities, but as interconnected and dynamically interacting systems within the multilingual mind. The central question has thus shifted from whether cross-linguistic integration or influence occurs, to examining the extent of this integration and how it shapes the overall language learning process across a speaker's entire linguistic repertoire. As the next section will illustrate, this evolution in thinking has led to a significant paradigm shift in the field, often referred to as the 'multilingual turn', which has given rise to new models and approaches that address these complex issues from a more integrated, holistic perspective.

2.3 Part two: holistic approaches of Multiple Language Acquisition

As discussed in the previous sections, formal models of language have long dominated the field, often prioritizing idealized, monolingual speaker norms and treating languages as separate units composing a fractionated view of multilingual repertoires. However, as it has been anticipated in Section 2.2.1, these approaches have been increasingly questioned, with a growing body of work exposing their limitations, particularly in accounting for the realities of multilingual speakers and their complexities. This critical reassessment has contributed to a paradigmatic shift in multilingual language acquisition research, one that moves towards more fluid, socially and contextually grounded frameworks. I align my work with this shift and with some of the holistic models it has inspired, that will be deeply illustrated in Sections 2.3.2, 2.3.3 and 2.3.4.

It comes not as a surprise that this transformation is particularly evident in the field of multilingualism, where the inadequacies of formal approaches applied to multilingual scenarios are most starkly revealed. In fact, multilingualism, inherently tied to sociocultural diversity, migration, and both macro- and micro-level influences, resists the neat categorizations presupposed by traditional linguistic models. It produces dynamic, hybrid, and fluid forms of language that challenge stable and bounded classifications. It does so also by the effects of globalization and digitalization (what Vertovec (2007) terms “superdiversity”), that have intensified the complexity of communicative practices (Blommaert 2016: 245). As Blommaert and Rampton (2011: 3) note, there has been a general rethinking of assumptions about languages and their speakers:

there has been ongoing revision of fundamental ideas (a) about languages, (b) about language groups and speakers, and (c) about communication. Rather than working with homogeneity,

stability and boundedness as the starting assumptions, mobility, mixing, political dynamics and historical embedding are now central concerns in the study of languages, language groups and communication.

Approaches that consider multilingual speakers as part of a broader experience in which it is not only the languages that matter, but also how languages' use is strongly intertwined with political dynamics and historical context, demonstrate that multilingualism can be investigated holistically. Particularly studies informed by language ideologies has played a central role in this change of perspective. These studies foreground the ideological underpinnings of language, highlighting how institutional and societal forces shape understandings of language, culture, identity, and power (e.g., Blommaert 1999; Gal & Woolard 2001; Makoni & Pennycook 2006).

It is within this broader reconfiguration that I situate my own work. This study adopts a holistic view of language, assuming its acquisition to be inherently dynamic and context-dependent. As a result, there was a need to recalibrate the focus of inquiry towards more integrated approaches, ones that view the languages of multilingual individuals as interconnected systems to be examined within their specific contexts. In this light, the South Tyrolean context emerges as a fundamental component that cannot be disregarded and that will be discussed more carefully in Section 4.2.

This re-orientation toward holistic perspectives, perspectives that embody the spirit of this work, guides the theoretical orientation presented in this second part of the framework. It begins with the multilingual turn (Section 2.3.1), which critically examines dominant assumptions and highlights the necessity for a paradigmatic shift. Building on this foundation, the study draws on three key theoretical frameworks: Complex Dynamic Systems Theory (Section 2.3.2), Diasystematic Construction Grammar (Section 2.3.3), and the Dominant Language Constellation model (Section 2.3.4). Together, these frameworks offer powerful analytical tools for examining

multilingualism from a holistic and context-sensitive perspective for the present study.

2.3.1 The multilingual turn

The intellectual efforts undertaken by modern scholars in Applied Linguistics and related disciplines such as Sociolinguistics have enthusiastically embraced what is known as the “multilingual turn” (May 2014). The proliferation of terminologies like “multiliteracies” (Cope & Kalantzis 2000), “codemeshing” (Canagarajah 2011), “metrolinguism” (Pennycook 2010) and “translanguaging” (García 2009) are proof of how much this shift in research has been recognized and inspired many scholars. This shift can also be observed across various scientific disciplines, as noted by May (2014), Ortega (2013, 2014), and others. For example, the sociolinguistics field has shifted toward emphasizing superdiversity (Arnaut et al. 2016; Blommaert 2013), alongside the emergence of Raciolinguistics (Alim et al. 2016; Flores & Rosa 2015; Rosa & Flores 2017) and the adoption of translanguaging as a pedagogical approach (García & Wei 2014; Wei 2015). The multilingual turn has further led to the development of various theories and models that explore language acquisition in multilingual speakers from different theoretical perspectives, contrasting with traditional formal models. Examples include the Factor Model (Hufeisen 2010), the Complex Dynamic Systems Theory (CDST) of multilingualism (Larsen-Freeman 2015a, 2015b, 2017), the Plurilingual Didactic Monitor Model (Meissner 2004), and the concept of the Dominant Language Constellation (Aronin 2019; Aronin & Moccozet 2021).

There are different reasons why the turn occurred exactly in the study of multilingualism. To properly understand it, it is essential to first examine its preconditions and to do a step back. The predominant formal models (Section 2.2) developed within an environment strongly influenced by the epistemological principles of positivism (Hughes 2001). About positivism,

Heller states that “in its history, the concept of positivism has been associated with what is viewed as scientific understanding based on observable facts [...]. Thus, language is studied as a rule-governed entity” (Heller 2007: 279). The sociological thinking came to play at this point, when scholars started to question which model explained better the linguistic structures that speakers use and acquire in their surrounding context, which theory addressed theoretical, practical, political and ideological concerns (Gumperz & Hymes 1972), as well as harmful terminologies that categorized speakers into certain ideological fuzzy boxes. From this point on (the 60’s and 70’s) the whole discipline was questioned for its ideologically formulated principles rooted in positivism. For example, one of the first discussions revolved around who was identified as being multilingual in the field, whom do we include and whom do we exclude from this category.

The term “multilingual” occurs with different meanings and definitions (for discussions, see Kemp 2009; Aronin & Singleton 2012), and what is understood as multilingualism still differs across disciplines and studies. For example, according to Cenoz (2013), concepts in the definitions of multilingualism might include 1) the number of languages, 2) level of proficiency and 3) use. As far as 1) is concerned, some researchers include people as multilingual when they know more than one language (Clyne 2017). This is also the reason why the terms bilingualism and multilingualism have often been used interchangeably, or one has been applied to encompass both concepts. However, in earlier discussions, bilingualism was the more commonly used term, implicitly reflecting a perspective in which monolingualism was considered the norm, and knowledge of an additional language was viewed as an extension beyond this standard (we will come back to this issue in the course of this section). Other researchers consider people as multilingual only when they have

acquired three or more languages (Kemp 2009). For others, the term multilingualism is widely used to describe any context involving more than one language, thus again creating a sort of binary classification distinguishing between monolingual and multilingual speakers (Hammarberg 2023: 699). As far as 2) and 3) are concerned, multilingualism can also be evaluated against a certain proficiency level in one's languages that allows a speaker to be identified as multilingual, or for the active use of the languages to be considered as multilingual (receptive vs. productive multilingualism). For example, Franceschini (2011: 346) defines multilingualism as “the ability of societies, institutions, groups, and individuals to have regular use of more than one language in their everyday lives over space and time”. This definition includes the component of regularity, which may exclude individuals from being identified as multilingual if they do not use their languages at a certain (undefined) frequency. Language learners who only use one or more of their languages in the school context may be excluded from being identified as multilingual within this definition, depending on what is meant by “in their everyday lives over space and time”. Others take a broader approach to the term, stating that the process of being multilingual begins as soon as the learning process of a new language has started and is regularly used (Fisher et al. 2020).

If the definitions provided by Cenoz (2013) include certain parameters such as the proficiency level or the number of languages, from a more recent perspective, multilingualism has started to be understood in terms of an individual's “linguistic repertoire”, defined as an integrated and evolving set of language experiences, knowledge, and skills that people develop over time. Rather than viewing multilingualism solely as the presence of multiple distinct languages in which speakers might or might not have a certain proficiency level, this approach emphasizes the dynamic and cumulative

nature of linguistic experience as it unfolds throughout a person's life. This view of multilingualism conceives multilingualism as a dynamic process where

[multilingualism] can be understood as the study of individuals' repertoires and agency in several languages, in different contexts, in which the individual is the locus and actor of contact; accordingly, a person's languages and cultures interrelate and change over time, depending on individual biographies, social trajectories, and life paths. (Marshall & Moore 2018: 19).

The concept of a repertoire was originally introduced by Gumperz (1964) and it has gradually evolved into more speaker-centred approaches (Blommaert & Backus 2013; Busch 2012; 2015), where the individual speaker becomes the focal point of the analysis, and spatial repertoires focusing on "the linguistic resources available in a particular place" (Pennycook & Otsuji 2014: 161). From a speaker-centered perspective, a linguistic repertoire is viewed as a broad, integrated system in which language knowledge, use, acquisition, dominance, and attrition evolve over time. This repertoire develops through the interaction of an individual's life experiences and exposure, as well as their cognitive abilities. It is evident that not all languages within a person's repertoire hold equal significance; instead, the degree and nature of proficiency and usage vary depending on how, where, and for what purposes each language has been learned and applied. Regarding spatial repertoires, researchers contend that viewing the individual as the sole focal point of the linguistic repertoire is problematic. They warn that this perspective may overlook the social dimensions inherent in the concept, which were fundamental to Gumperz's (1964) original definition. While such warning is to a certain extent valid and important, it is also crucial to recognize that adopting a speaker-centred perspective on the linguistic repertoire does not mean treating speakers as independent entities from the context in which they live. Instead, this approach emphasizes that the speaking individual is fundamentally shaped by, and constituted through,

interactions within their social environment (Blommaert & Backus 2013; Busch 2012, 2015). In Busch's (2015: 7) terms, it is understood "not as something the individual possesses but as formed and deployed in intersubjective processes located on the border between self and the other". While Blommaert & Backus (2013) and Busch (2012, 2015) both focus on the repertoire within interaction, Busch further develops this idea by introducing the concept of the "lived experience of language" (Busch 2017). This concept highlights the bodily and emotional aspects of experiencing language during interactions. As a result, the speaking subject is viewed as an experiencing being who perceives themselves and others as speakers. Furthermore, various approaches seek to bridge individual and social-interactive perspectives by exploring the language practices people engage in, often emphasizing only certain languages within their overall repertoire, i.e. those that are essential and actively used in their linguistic environment, thus forming a kind of functional core. Aronin & Singleton (2012) introduce the concept of "Dominant Language Constellation" (DLC) to exactly describe the set of languages that hold significance in an individual's life within their linguistic context, or, correspondingly, the languages most frequently utilized by a community. Given the importance of this concept in the theoretical framework of the present study, it will be discussed in greater detail in Section 2.3.4.

From this initial terminological debate about who multilingual speakers are and how their repertoires should be understood, it becomes clear once again that the broader discourse on multilingualism and the various positions taken within the field, are deeply rooted in the ontological and epistemological assumptions of researchers. When the languages of multilingual individuals are ontologically conceived as static, bounded entities, and when speakers are classified as multilinguals based on the number of languages they speak

or the degree of proficiency they demonstrate, such perspectives can be traced back to specific ideological and social constructs. These are precisely the kinds of assumptions that the multilingual turn has sought to unpack and critically examine. For example, Makoni & Pennycook (2006) argue that the notion of language is a social construct. If we then start from the assumption that communication does not only consist of spoken and written words, as communication is multimodal in nature and includes semiotic resources such as gestures, mimicry, emojis, graphics, and that these also can be regarded as languages, then one might argue that no monolinguals exist because even people who only learned one (official) language are using various semiotic resources depending on what they want to communicate and with whom they are communicating.

This, in turn, highlights one of the most significant critiques emerging from sociological thinking: the dominance of *monolingual* ideology in linguistic research and societal norms. Monolingualism can be defined as the condition or state in which an individual is able to speak only a single language: at the level of society, “a monolingual community is one which has at its disposal input from only one language and consequently the members of those communities are hence destined to be monolinguals” (Rothman 2008: 443). This type of assumption has been based around the fact that “bilingualism and multilingualism are [...] special rather than typical sociolinguistic situations” (Bucholtz 2003: 404) because, in some way, bilinguals and trilinguals challenged with their code-mixing practices the blurred line between the linguistic systems of monolingual speakers. However, framing these linguistic experiences as atypical has historically positioned multilingualism itself as atypical, thereby marginalizing these practices and the speakers who engage in them.

The dominant ideology of monolingualism and its implications for social categorization was strongly challenged from a political perspective. At its core, the nation-state's promotion of standardized monolingualism aligns with its imperative to consolidate a cohesive national identity (Blommaert 2016). This ideology posits that each nation should have one official language, which serves as a cornerstone for nation-building efforts (Phillipson 1992). Consequently, linguistic diversity becomes marginalized, with linguistic varieties perceived as threats to the norm of monolingualism. The state and governments, together with other powerful infrastructures, play a role in shaping language by promoting standard forms and suppressing irregular or non-conforming ones. Such influence is also reflected in the nationalist movement of recent centuries, “which has promoted public monolingualism as the norm via the modern nation-state model” (May 2019: 123–124).

Language acquisition and Linguistics, as academic fields, have inevitably been influenced by national interests, often reinforcing the dominant language ideology of monolingualism in their research. Foucault (1983) observed that monolingualism was a key development of the early modern and Enlightenment periods, laying the groundwork for the emergence of a European middling class that was broadly predisposed to conceptualize languages as distinct, territorially bounded entities. Building on this, Otsuji & Pennycook (2015: 20) describe the term "monolingualism" as “not much more than an elite strategy to distract us from the diverse, centrifugal linguistic practices in evidence everywhere.” As Ortega (2014) emphasizes, understanding these dynamics calls for a broader sociopolitical reflection on the foundational features of modern social and political organization, as well as on how disciplines are shaped by their embeddedness within wider societal structures.

An additional argument in favor concerns the fact that language, including accents, serves as one of the most potent markers for social and ethnic categorization by nations. Empirical research highlights that individuals, both children, and adults, utilize language as a basis for social categorization (e.g. Byers-Heinlein et al. 2017). For example, the study by Kinzler et al. (2009) shows how young children exhibit preferences for peers with native accents, regardless of ethnicity. Such preferences, rooted in linguistic biases, can catalyze stereotyping, prejudice, and discrimination (Cuhadar & Dayton 2011). Perceptions about a language are, in fact, deeply connected to how its speakers are viewed, often reinforcing stereotypes and fueling social biases. In our increasingly globalized society, interactions involving different languages and accents have become routine. Nonetheless, referring to certain accents as ‘foreign’ implicitly assumes the existence of a ‘standard’ or ‘native’ accent, an idea rooted in the notion of a pure, idealized native speaker. However, in reality, native speakers rarely speak solely according to a standardized form; they often display regional dialects, speech patterns tied to age groups, and social varieties that undermine the idea of a single, uniform native speaker. This raises a critical question: is the concept of the ‘ideal’ native speaker still tenable in today’s linguistic landscape?

Over the past decade, linguists have critically reexamined this notion, a process that began with Thomas Paikeday’s 1985 book, *The Native Speaker Is Dead!* In a series of interviews with over forty linguists, Paikeday challenges the conventional definition of a native speaker as someone with an innate ability to distinguish between grammatical and ungrammatical structures in a language. He ultimately argues that “the native speaker, in this linguistic sense, is more of an idealized construct or a convenient fiction than an actual, tangible reality” (Paikeday 1985: 10).

Traditionally, native speakership was considered an unquestioned birthright: those born into a language were deemed its native speakers, possessing not only implicit grammatical knowledge inaccessible to non-native speakers but also the advantages conferred by education. More than just linguistic competence, native speakers have internalized the values, beliefs, and dominant ideologies reinforced through schools and other institutions (for a recent discussion on “nativespeakerism”, see Slavkov et al. 2022).

The risk of prejudice and discrimination still persists in these ideologies and as a consequence, individuals may form judgments based on linguistic cues. Thus, while globalization fosters linguistic diversity and intercultural interactions, it also underscores the urgent need to address these biases in the disciplines and attitudes toward linguistic diversity. The fact that there are more multilinguals than monolinguals and native speakers in the world, started to be a topic as a counterargument to these ideologies (cf. Myers-Scotton 2006). Here a quote from Bhatia & Ritchie (2012):

There are, in fact, more bilingual/multilingual speakers in the world than there are monolinguals. The Ethnologue (2009) estimates more than 7,000 languages (7,358) are spoken in the 194 countries of the world, or approximately 38 languages per country. According to the Ethnologue, 94% of the world’s population employs approximately 5% of the world’s languages. Furthermore, many languages [...] are spoken in many countries around the globe. Such a linguistic situation necessitates that many people live with plurilingualism. (Bhatia & Ritchie 2012: 21)

For Berthele (2021), this counter-assumption has inherent biases and might not be a valid argument against the monolingual ideology. For example, the assertion that we can estimate an average of 38 languages per country does not necessarily provide meaningful insights into the fact that the number of bi/multilingual speakers is higher compared to monolinguals. Plus, the number of languages spoken by an individual within a country may not align with this average. “As a consequence, bi- or multilingualism would hardly qualify as something special—and the whole discussion on bi- and

multilingualism providing special cognitive, linguistic, or other advantages would be moot.” (ibid: 90). I personally share Berthele’s critical perspective. While the evolving views on language and multilingualism emerging from the multilingual turn have indeed challenged dominant academic and societal norms, the growing institutional recognition of multilingualism, as seen in the establishment of organizations like the International Association of Multilingualism, has not dismantled the deep-rooted influence of monolingual ideologies, which remain pervasive, particularly in key institutions such as schools and the broader education system¹. Within educational settings, a predominantly monolingual approach to language learning remains prevalent. This approach often involves segregating language subjects into separate classrooms and emphasizes the use of the target language exclusively (Cummins 2007). Additionally, assessment methods typically focus on evaluating linguistic competencies in isolation, disregarding the richness of learners' multilingual repertoires and their ability for translanguaging, that is the practice of using various linguistic and semiotic resources for communication and exploration, often in creative and innovative ways (Shohamy 2011).

To conclude, I think that while the multilingual turn has played a crucial role in challenging dominant, monolingual-centric ideologies by promoting more inclusive understandings of language, its critical momentum has not been fully translated into academic or institutional practice. Despite its powerful theoretical recognition, academia itself often continues to reproduce the very ideologies it seeks to dismantle. In particular, the tendency to spectacularize multilingualism as something exceptional, cognitively superior, or sociolinguistically rare, risks reinforcing the notion that multilinguals are

¹ Section 4.2 discusses the case of South Tyrol in which the education system is strongly oriented towards monolingual education.

special cases, rather than acknowledging multilingualism as a common and natural condition. This framing not only distances multilingual individuals from the perceived linguistic norm, but also hinders the normalization of multilingual practices in educational and institutional contexts. As Gramling (2016) in *The invention of monolingualism* notes:

whether we opt to call it a myth, a pathology, a paradigm, a relic, or a sham, monolingualism is woven into modernity's most minute and sophisticated political structures, and it is clearly not yet inclined to be waved off the stage by a university professor, nor even by a 'multilingual turn' in one or another discipline" (Gramling 2016: 3–4).

2.3.2 From homogeneity to complexity: Complex Dynamic Systems Theory

The paradigm shift of the multilingual turn, as we have seen, brought to new fundamental theoretical developments. For example, all the contributions from sociolinguistic research about language ideologies has enabled a new sophisticated view of how research, and the different research disciplines, conceptualize speakers and language, and more generally, social organization according to the parameter of language. We are able now to see how institutionalized relationships are driven by particular ideologies about language, identity, culture and political structures. More importantly, these developments have refocused the field from a static and homogeneous concept of language to a new kind of concept, which takes into consideration the heterogeneity of speakers and the dynamicity of language, which develops as repertoires according to people's experiences, social interactions and practices. According to Blommaert (2016: 245) "this move represents a major theoretical effort, for it disrupts the long tradition, in which language, along with other social and cultural features of people, was primarily imagined as relatively fixed in time and space, as sedentary, so to speak". A significant change came from the Complex Dynamic Systems Theory (CDST) (Larsen-Freeman 1997, 2007) to which I will dedicate the present section, considering the relevance that this theory has for some aspects of the present work.

As Dewaele (2019: 78) declared about Larsen-Freeman: "she introduced chaos/complexity science in applied linguistics". Actually, the concepts of complexity and complex systems were decades old and firmly grounded in the quantitative methods of physics, chemistry and biology, and result in a well-known scientific field called "complexity science" (Larsen-Freeman

1997). Unlike traditional scientific models that seeks clear and direct causes for observed phenomena, complexity science offers a different approach. It perceives systems as dynamic, unpredictable, and constantly evolving because they remain open-ended, influenced by multiple independent forces without a central governing structure. Within these systems, change is continuous and inevitable, driven by two key factors: external influences from interactions with other systems and internal transformations that occur both independently and in response to those external connections. Consequently, each system adapts over time, making repeated interactions inherently different, as the systems involved are no longer in the same state as before. A key insight from complexity science is that chaos does not signify disorder but rather represents a unique form of structured complexity, marked by heightened interaction and interdependence among components.

Taking complexity as central concept and transporting it into language systems means assessing that chaos and complexity create a certain degree of unpredictability and instability of the language systems. In these systems, internal and external forces of change coming from the interactions that speakers regularly have, operate simultaneously, so that a language system is always dynamic and never complete. There are different levels of this system, which goes from the individual (which is itself a system within the systems) to a group level, arriving at the macro level of larger groups, which could be for example the environment in which the speaking subjects live. The elements of the systems constantly change and move, so that the same characteristics of the elements might change in relation to the environment in which the system makes sense. The change is also historically embedded since the systems are all subject of time and place mutations. If we acknowledge that all human communication occurs within a tangible social context, where individuals utilize every linguistic and expressive tool at their

disposal, then viewing communication through the lens of complexity becomes entirely reasonable.

On a macro-level, we cannot ignore the fact that new forms of migration due to globalization and historical processes, combined with the emergence of online technologies, have generated complex environments of people and ways of communication. Contemporary repertoires are complex and unstable systems, so that accounting for monolingual and native-like competent language users (cf. Section 2.3.1) fails its explanatory power. In contrast, drawing on real and actual bodies of experience of speakers operating within a context in which they have social encounters, it becomes a key issue to investigate the experiences of participants.

Building on these foundational ideas, Complex Dynamic Systems Theory offers a framework for understanding language, its use, and its development as dynamic and interconnected phenomena (Ellis & Larsen-Freeman 2009). CDST conceptualizes language as a complex adaptive system that balances both stability and continuous change. In this view, language use is an iterative process of adaptation, where speakers adjust to their environment and interlocutors to fully realize language's communicative potential.

This perspective has established complex systems as a core approach in usage-based linguistics. In fact, from a usage-based perspective, grammar is not an abstract set of fixed rules but rather a structured network formed through experiences with language. Linguistic patterns emerge through exposure and interaction, shaping the cognitive representations of language over time (*ibid.*). The aim of this approach is to examine how language patterns evolve across different contexts, how usage influences linguistic change, and how cognitive mechanisms underpin language development and processing. Given the nonlinear nature of language acquisition, development unfolds unpredictably with variable patterns across all levels of linguistic

analysis. These changes arise through interactions between local, speaker-driven construction processes and broader, system-wide constraints. According to Larsen-Freeman (2015b), a systems-based approach to language assumes two key principles: first, that all elements within a system are interconnected and influence one another (the relational principle), and second, that change is an inherent and ongoing characteristic of the system (the adaptive principle). These principles call for a reconceptualization of language, language use, and language development as dynamic and context-dependent phenomena, in which they also challenge traditional assumptions and encourage new methodological approaches (Hiver et al. 2021). In this regard, there are multiple ways to investigate complex systems, but a central focus is the study of change processes, particularly over time, i.e. understanding how complex systems adapt to their environment to maintain functionality (cf. Hiver et al. 2022). Hiver & Al-Hoorie (2016: 752) also suggested that CDST research should describe complex systems at different levels, identifying and modeling patterns of change and emergent behaviors, and understanding the mechanisms driving these developments (cf. also Hiver et al. 2022). Recent methodological advancements seek to address the nonlinear nature of language development by employing probabilistic and multifactorial models that align with the complexity of language data more effectively than traditional approaches. For instance, recent CDST-based studies (e.g. Murakami 2016) have increasingly used generalized additive mixed modeling (GAMM), ideal for analysing nonlinear change over time (cf. Verspoor et al. 2011; Verspoor et al. 2021). In addition to quantitative methods, mixed-method designs inspired by CDST can be also be a viable choice because they incorporate both qualitative and quantitative approaches to deepen understanding in specific areas of Applied Linguistics (cf. Larsen-Freeman & Cameron 2008). Another methodological consideration in CDST research is the level of analysis, i.e. whether to examine language

development at the group or individual level. While group-based studies remain common and reveal broader patterns that highlight variations across a population, individual-level analyses may better capture the principles of CDST by closely examining developmental trajectories and individual linguistic variability (Molenaar & Campbell 2009). Molenaar (2015: 37) emphasizes that research should not be solely devoted to individual cases; rather, its goal is to develop more comprehensive models that incorporate personal factors while also identifying overarching patterns and trends: “analyses of intra-individual variation does not preclude valid generalization across subjects [...] In this way nomothetic knowledge about idiographic processes can be obtained”.

Since its introduction into language learning research, CDST has significantly influenced applied linguistics and its impact has continued to expand rapidly, even surpassing its adoption in related disciplines such as education and theoretical linguistics (cf. Hiver et al. 2022). Recent syntheses of Applied Linguistics research informed by CDST highlight its substantial contributions across various domains, including Sociolinguistics (Blommaert 2014) and Bilingualism and Multilingualism (Herdina & Jessner 2002; Höder 2018) among others.

For the purposes of the present study, we will focus on the last aspect of multilingualism. In the next sections, the two frameworks considered for this work will be treated as key theoretical anchors for understanding multilingual language use. The first one is Diasystematic Construction Grammar (DCxG), which places itself within the field of Cognitive Linguistics and Construction Grammar and aims at explaining language contact phenomena in light of a multilingual, integrated system of constructions (Section 2.3.3). The second framework, Dominant Language Constellation (DLC), focuses more on the sociolinguistic dimension of

multilingual language use, and serves as the empirical basis for modeling the language backgrounds of the participants in the present study (Section 2.3.4). Importantly, both frameworks resonate with several of the key principles and assumptions found in CDST. In particular, they share the view of language as a non-static, dynamic and contextually embedded system, and of speakers' repertoires as flexible and shaped through interaction and experience. Also, languages in both frameworks consists of multiple subsystems that are interdependent and should be studied holistically, thus contrasting the narrow, discrete, or isolated assumptions about languages of formal approaches (cf. also Byrne & Callaghan 2014). DCxG, like CDST, highlights the interconnectedness and fluid boundaries of linguistic knowledge within multilingual minds, conceptualizing constructions as co-existing and co-evolving within a diasystematic grammar shaped by usage. Similarly, DLC embraces the variability of multilingual language use across contexts, aligning with CDST's attention to adaptive behavior and the influence of social environments. These shared foundations provide a coherent basis for integrating insights from CDST with both cognitive-constructionist and sociolinguistic perspectives in my analysis.

2.3.3 Constructionist principles and Diasystematic Construction Grammar

Similar to CDST, Diasystematic Construction Grammar (DCxG) as introduced by Höder (2012, 2014a, 2014b), emerges as a response to the assumption that speakers' language system(s) should be treated as coherent, separate and systematized systems. Traditional linguistic theories, such as generative or structuralist approaches, have tended to portray language systems as singular, static entities devoid of variation. In line with CDST, also Höder (2014a: 140) challenges this perspective when he states: "I would claim that there has not been any successful attempt to actually integrate multilingualism as a basic feature into a coherent system of grammatical description". Moreover, we have also discussed the fact that, historically, Applied Linguistics has predominantly focused on monolingual systems, relegating discussions of language contact and multilingualism to the periphery. Höder highlights the emergence of contact linguistics, particularly influenced by the work of Weinreich (1964), as pivotal in foregrounding these phenomena within linguistic discourse. As it has been previously problematized, formal views of language often treat multilingualism as a mere juxtaposition of separate language systems rather than inherent to human linguistic cognition (cf. Section 2.2.1). In this regard, Höder (2018: 41–44) presents compelling arguments favoring an approach on language contact that recognizes multilingualism as a fundamental aspect of human language:

- 1) Multilingualism has always been and in most cases still is the rule in most societies across the globe.

- 2) There is psycholinguistic evidence that multilinguals process all of their languages as jointly activated and not in cognitive isolation from each other.
- 3) Tendency of some type of convergence, i.e. interlingual structural similarity, in how languages interact cognitively.
- 4) Languages and multilingualism have different functions in multilingual communities according to a set of communicative domains.
- 5) Language is based on its social functions (including cultural, economic, political and religious aspects) rather than properly linguistic factors.

Furthermore, Höder argues that multilinguals should be not seen as the sum of separate language systems but speakers' linguistic knowledge consists of a common repertoire of elements and structures for all of their languages and varieties. Central for Höder is the concept of linguistic repertoire, wherein speakers possess a common set of elements and structures across all their languages and varieties (cf. Section 2.3.1). This concept challenges the notion of distinct language systems, proposing instead a unified system that integrates language-specific and language-unspecific elements.

To properly understand the whole DCxG framework, there are some of the main concepts that needs to be defined and explained which are fundamental for the present study. Most of them are key concepts of the theories of Cognitive Grammar (CG) and Construction Grammar (CxG), from which DCxG borrows and shares some of the core constructs.

The first core concept that should be clarified is the one of “construction”, which has been defined by Goldberg (1995, 2003, 2006) within the CxG framework as follows: “speakers rely on constructions, i.e. pairings of form

with meaning/function for building linguistic expressions.” (Goldberg 2006: 5). Constructions define the morphological, syntactic, and lexical forms of language, along with their associated semantic, pragmatic, and discourse functions. All together, they constitute a structured, interconnected inventory of a speaker’s linguistic knowledge and are valuable due to their symbolic functions (Ellis & Larsen-Freeman 2009). Figure 1 illustrates the basic architecture of constructions as pairings of form and meaning.

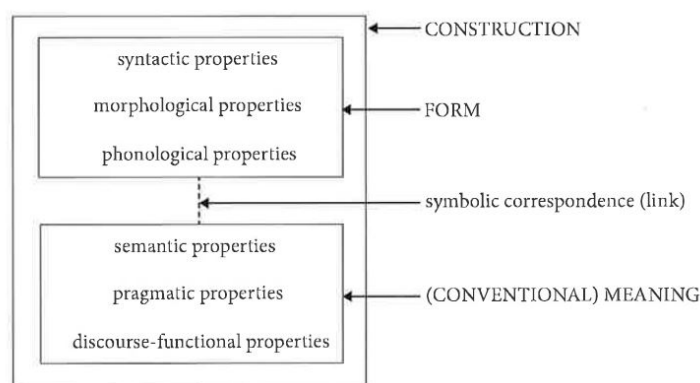


Figure 1: The symbolic structure of a construction (taken from Croft 2001: 18)

Although both cognitive and constructionist perspectives acknowledge the idea of form-meaning units, they differ in their interpretation of what constitutes the ‘form’ component within these pairings. In Cognitive Grammar, form pertains specifically to phonological patterns, and deliberately excludes grammatical structures. Since CG conceptualizes grammar as inherently symbolic, these symbolic entities encompass the relationship between semantic content and phonological form, positioning semantics and phonology as the two primary elements. In this view, grammatical forms are not symbolic representations of semantics but are instead integrated into the overall symbolic structure, with semantics as a fundamental pole (see Langacker 1999). Conversely, Construction Grammar explicitly includes grammatical features within the form side of form-meaning pairs: Goldberg (1995: 51) speaks of “a pairing between a semantic level and a syntactic level of grammatical functions”.

The form-meaning pairs contribute to create what is called “constructicon” (ibid: 67) which is another core concept that we should clarify. The constructicon is a large repository of form-meaning pairs that represent speakers’ knowledge of a certain concept. This repository is “not a flat list or even an unordered bag of constructions” (ibid.), but instead it forms a network of linked constructions according to a specific hierarchy and structure. Therefore, the constructicon should be imagined as an inheritance hierarchy or taxonomy of constructions. The term “inheritance” is another key term: it was borrowed from computer science, where the concept of inheritance refers to a process where child objects acquire general properties from parent objects. The term was adopted in CxG to describe this hierarchical relationship among constructions (Shieber 2003; see also Diessel 2023). The constructicon can be therefore imagined as a network of schematic parent constructions from which lower-level child constructions inherit shared features. There are different types of inheritance connections: in addition to standard inheritance links (sometimes called instance links, i.e. links between constructions that share core or prototypical meanings), Goldberg (1995: 75–89) adds the polysemy and metaphorical links to designate semantically motivated inheritance relations between semantic subtypes of the same construction. Goldberg (1995) describes these as extensions of its core meaning and argues that the construction exhibits polysemy (1995: 161–174). To mention a concrete example, Goldberg identifies the caused-motion construction in the syntactic pattern [NP V NP PPLOC], which represents an act of transfer by an agent (NP) who performs an action (V) that causes an object (NP) to move to a specific location (PPLOC). As represented in Figure 2, she suggests that from this caused-motion construction a semantic network can be sketched, where different subtypes inherit general semantic properties from the construction’s fundamental meaning and use (cf. also Diessel 2023: 7).

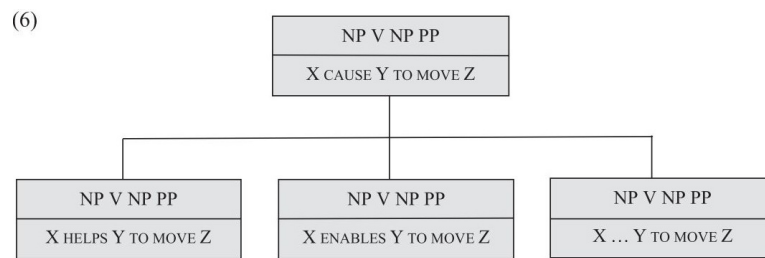


Figure 2: The caused-motion construction (taken from Diessel 2023: 8)

A visual representation of the constructional network, such as the one in Figure 2, illustrates how constructions that share certain formal and semantic properties are interconnected through inheritance hierarchies, leading to varying levels of abstraction and generalization (see Goldberg 1995). This approach is beneficial not only for identifying broad generalizations across constructions with similar forms and meanings but also for accounting for specific exceptions and intermediate-level patterns within the same network (cf. Sag 2010; Boas 2010).

Building on these principles, DCxG applies the same systematic organization of linguistic knowledge to multilinguals' constructicons. DCxG suggests that language contact phenomena arise from situations in which multilingual individuals possess a shared repertoire of linguistic elements and structures. This means that multilingual speakers organize their linguistic knowledge regardless of any pre-existing boundaries between the languages (A and B or more) (Höder 2014b: 45). The way in which linguistic knowledge is organized for all speakers' languages and varieties is based on Goldberg's concept of constructions, conceived as pairings of form with meaning/function for building linguistic expressions. Moreover, "constructions are organized into networks of overlapping patterns related through shared properties" (Fried & Östman 2004: 12), forming an architecture of constructional networks (i.e. what we have called constructicon).

The multilingual construction from a DCxG approach can be modeled as a unique network including language-specific and language-unspecific elements, with the difference that in this case, there are more languages involved in this network. In this manner, DCxG conceptualizes a construction as a collection of linguistic structures that include both idiosyncratic constructions (also termed “idioconstructions”), e.g. constructions containing elements unique to a single language or variety, and common subsets (also termed “diaconstructions”) which consist of elements shared across multiple languages within the individual's repertoire (Figure 3).

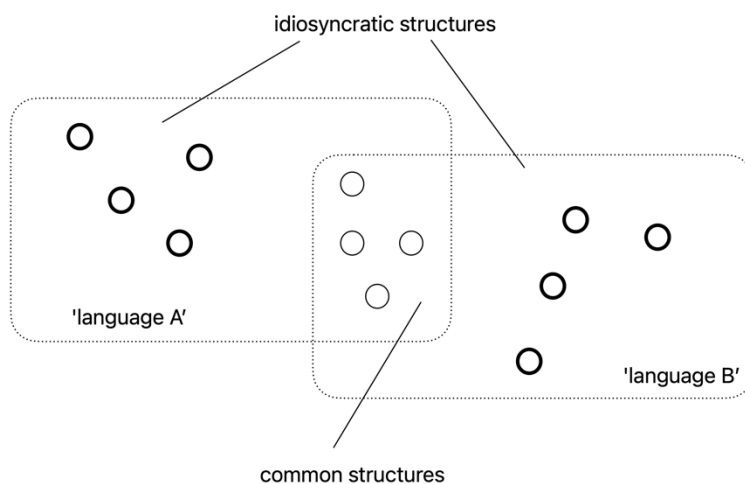


Figure 3. Multilingual repertoire: idiosyncratic and common subsets (adapted from Höder 2018: 44)

The organizational process of the multilingual repertoire consists of a mechanism known as “interlingual identification” (Weinreich 1964: 7), which is not a fully predictable process but reflects a creative activity of the speakers: “speakers are able to process and access the relevant structures in Language A and Language B (or more languages) as interlingual equivalents because they are able to identify mutual counterparts in the two or more languages motivated by formal or functional similarities, including phonic,

semantic, morphological, syntactic, pragmatic, and frequential features” (Höder 2012: 245). Moreover, “equivalence is not pre-determined by formal of functional properties of the relevant elements, but rather emerges as a result of speakers’ communicative practice in multilingual communities” (ibid.). In summary, interlingual identification is not entirely arbitrary; it is usually driven by perceptible similarities in either form or function, yet it remains socially influenced and context-dependent:

The grammatical description of a language system in a multilingual environment – i.e. the socially conventionalized set of all structural elements shared by a specific speaker group as well as cognitively stored and processed by the individual speakers- must include structures of all languages or varieties involved, and the social establishment and individual acquisition of such a system must be inherently multilingual (Höder 2014a: 140).

Similar to CDST, also in DCxG the organization of the constructicon is seen as system subject to continuous fluctuations, it is a system subject to a continuous self-reorganization, is nonlinear and evolve and adapt in several way. This means that idio- and dia-constructions as part of the multilingual constructicon are subject to constant re-organizational patterns. As Höder (2018) explains:

note that neither idioconstructions nor diaconstructions are absolute concepts, rather they allow for different degrees of schematicity and different inter-construction relations. What starts out as an idioconstruction can turn into a diaconstruction. When diaconstructions are not acquired immediately but via the initial establishment and subsequent connection of idioconstructions (for example in the successive acquisition of constructions from different L1s), this requires procedures of abstraction and generalization at a later stage. However, these are not essentially different from what is assumed to be going on anyway in monolingual acquisition and in the re-organization of pre-existing constructional knowledge. (Höder 2018: 51–52)

The idea that a person’s constructicon can change over the course of a lifetime (see e.g. Neels 2020) is perfectly in line with one of the core characteristics of usage-based approaches in which also DcxG is placed, namely to conceive grammar as a probabilistic system in which categories

and constructions are constantly updated, restructured, and reorganized under the influence of language use (for reviews, see Bybee & Beckner 2010). There are different types of changes that are subject to different principles, and that can be analyzed not only from an acquisitional perspective, but also as the result of the natural and diachronic change of languages in their self-development. Höder (2014b) speaks about “pro-diasystematic change” to define the tendency of simplification and diaconstructions formation of speakers due to the higher cognitive costs of maintaining two separate language systems. This process of simplification might also occurs in diachronic studies:

Diachronically speaking, the expectable consequence of this type of simplification is “pro-diasystematic change”: a reduction in the overall number of idiosyncrasies and a corresponding increase in the number of diasystematic elements across the relevant speaker group[...] The reverse process, “counter-diasystematic change”, leads to an increase in idiosyncrasies and a reduction of common structures. (Höder 2014b: 46)

The so-called “counter-diasystematic change” occurs driven by different mechanisms, in which speakers instead of conforming to systematic common patterns, introduce idiosyncrasies that challenge the coherence of the overall system. According to Höder, counter-diasystematic change “cannot be explained by the same mechanisms of the pro-diasystematic change but it has to be the result of intervening, non-cognitive or sociolinguistic factors” (ibid.). These types of changes can be characterized as the establishment of multilingual elements with one function and different language-specific forms within one common system, like in Figure 4:

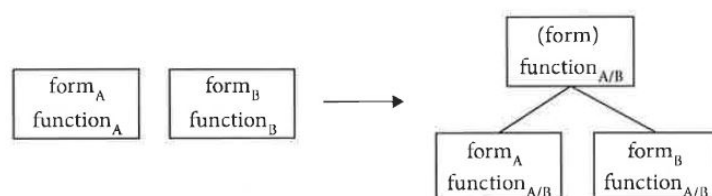


Figure 4: Pro-dyastematic change (taken from Höder 2014b: 47)

There is also a last aspect that deserves more attention, i.e. that DCxG, in line with constructionist approaches and other usage-based approaches, does not assume a strict separation between syntax and lexicon. Ellis & Larsen-Freeman (2009: 93) explain that: “cognitive linguistics, corpus linguistics, and psycholinguistics are alike in their realizations that we cannot separate grammar from lexis, form from function, form from meaning, meaning from context, nor structure from usage”. Specifically, DCxG argues for networks of constructions which might cover any levels of the language system (including syntax, lexicon, morphology and so on): in Figure 5, Höder (2014a) represents a diasystematic network consisting of both language-specific constructions filled with primarily lexically and phonologically filled constructions, and constructions unspecified for language which are the more schematic ones.

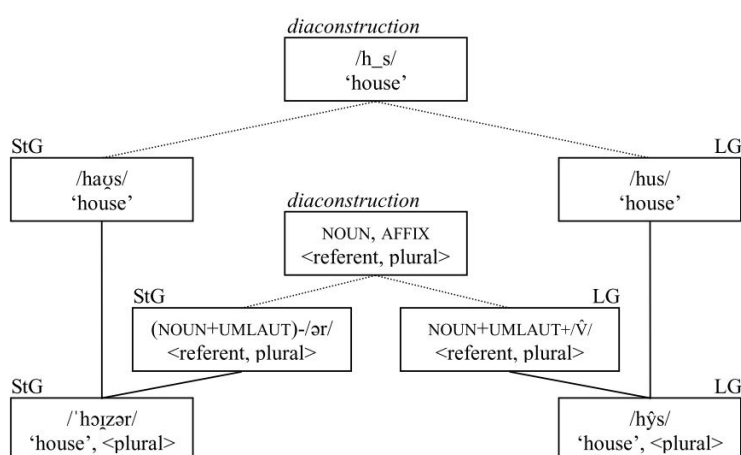


Figure 5: Diasystematic network (StG, LG 'house'; singular, plural) (taken from Höder 2014a: 145)

In Figure 5 we can observe the Standard German (StG) and Low German (LG) lexemes for *house* linked via a semantically established lexical concept 'house' for both languages. To this concept are assigned the schematic phonological form /h_s/ and morphological properties, such as the word

class (NOUN) or the plural affix (AFFIX). The two variants of plural forms are linked by a schematic diaconstruction which specifies that plural is expressed by adding an affix. However, the affixes differ across StG and LG, in that StG has umlaut and an additional suffix (/ər/), whereas LG has umlaut and a suprafix (i.e., a prosodic modification, / \hat{V} /) (ibid).

In conclusion, if CxG operates under the premise that "it's constructions all the way down" (Goldberg 2006: 18), meaning that all elements of a speaker's linguistic knowledge are encapsulated within the construction without rigid boundaries between different levels, then, as Höder points out, it is crucial that every component of the language system and all facets of language use are demonstrably compatible with this model in a sociolinguistic manner. This principle is particularly relevant in the framework of Dominant Language Constellation, which will be introduced in the following section. This framework not only supports such integration but also enriches the sociolinguistic dimension of the theoretical framework of the present study.

2.3.4 Dominant Language Constellation

The concept of Dominant Language Constellation (DLC) was formulated by Aronin (2006) to denote “a group of one’s most important (vehicle) languages, functioning as an entire unit, and enabling an individual to meet all needs in a multilingual environment” (Aronin 2019: 16, but see also Aronin 2006, 2016; Aronin & O’Laoire 2004). In simple terms, a DLC can be understood as a unit of the most essential languages for an individual, i.e. those that, together, fulfill the most crucial functions for the speaker in a specific moment and context. Figure 6 provides a visualization of a DLC (Aronin & Jessner 2014: 65).



Figure 6: Dominant Language Constellation in Israel Jewish sector (taken from Aronin & Jessner 2014: 65)

Aronin & Jessner (ibid.) describe a Dominant Language Constellation for the Jewish community in Israel, “in which prototypically Hebrew, English, Romanian and German might compose the core DLC, with ‘planets’/rounds composed of the repertoire languages with weaker knowledge or seldom in use. The other languages are languages a person is exposed to in his/her

close or farer environment and often understands, whether separate words and phrases, or more”.

Unlike a language repertoire, which includes all the languages known to a person or community (cf. Section 2.3.1), a DLC does not necessarily encompass every language in an individual's repertoire. The concepts of a language repertoire and DLC are related, however, as both involve language knowledge and skills, and both are biographical, evolving based on personal life trajectories and choices. The dynamics of these concepts suggest that languages from the repertoire may join the DLC when personal or social circumstances change, and conversely, languages in the DLC may return to the repertoire when they become less relevant. This constant and dynamic link between the two aligns with the idea of complex dynamic systems in the CDST. For example, if a language becomes less needed due to a significant life event, such as relocating to another country, it may exit the DLC but remain part of the repertoire.

To clarify the distinction between the two, Aronin (2019: 18) highlights "new emergent features" of the DLC that are not present in a linguistic repertoire. These features include:

- a) More clearly defined boundaries (a limited set of languages, skills, registers, and vocabulary) that adapt to the specific context and time.
- b) A focus on the practical use of languages, language practices, and a close connection to societal conditions and demands.
- c) The operation of the DLC as a cohesive unit, functioning as an open system.

A DLC, unlike a speaker's repertoire, is always context-dependent and reflects social rhythms and timing. At the same time, it functions as a structured and manageable system that provides immediate insight into the

linguistic behavior of both individuals and communities. As an abstract model, the DLC concept allows for the investigation of languages as systematically organized systems, making their complexity more accessible. Therefore, this framework facilitates the organization and refinement of existing knowledge about speakers, enabling the collection of data across fields such as language policy, applied linguistics, and language acquisition into a unified and analyzable resource (cf. Aronin 2019).

Relating it to the concept of language as complex systems as postulated by CDST, a DLC provides a useful way to manage the complexity of such systems from different perspectives. For instance, in language acquisition research, it is possible to investigate DLCs used by a population sample considering “whole sets of languages as units, rather than focusing, one by one, on the specific languages used by given individuals or groups” (Aronin & Singleton 2012: 69). In this way, DLC works as a structured methodology to investigate multilingual environments and speakers, going beyond the monolingual way to see languages as separate entities. On a societal level, DLCs are also able to provide a picture of the languages actually used in the same territory and how they interact, thus informing studies having a more sociolinguistic orientation (Aronin & Jessner 2014). By comparing patterned DLCs across time and space, the framework also allows for the observation of evolving dynamics and changes in a specific community and to account the determining factors for such changes. To conclude,

both as an abstract model, and as the lens through which a particular real multilingual situation is perceived, DLC carries out the functions of systematizing, organizing, specifying and collecting the data regarding how multilinguals deal with multiple languages in parallel, and how societal multilingualism occurs in real places and communities. (ibid.)

2.4 Chapter summary

In this chapter I have presented different epistemological stances, with their theories and models, that have shaped the discipline of multiple language acquisition into two main paths and approaches, namely formal vs holistic approaches. We have seen that formal theories have developed starting from certain assumptions that have been completely rediscussed by holistic approaches, according to which language learning is gradually seen as a dynamic and holistic process, rather than a static one. For formal approaches, we have seen how multilingualism has been investigated in a cause-effect relationship with different factors that have been considered, such as the amount of input received, the age of exposure to a target language, or previous experiences with the language. Despite the lack of clear-cut categories and definitions in how such factors have been described and how multilingual speakers have been portrayed, formal models have built their own discrete models and theories to explain, in systematic ways, what are the underlying principles that are the cause for the linguistic events to occur. At the same time, formal theories and models of language acquisition were considered to not adequately capture such complexity. In light of this, the so-called “multilingual turn” has spread across different disciplines to signal the need for a shift of paradigm towards more holistic accounts of language acquisition. The theories considered and discussed in this chapter, i.e. CDST, DLC and DCxG, all have in common the fact that they view languages as emergent complex systems indivisible from the environment in which speakers interact. Additionally, this chapter prompts us to reflect on how every linguistic inquiry into the field of multilingualism, whether implicitly or explicitly, embodies specific ideologies regarding the way in which different research paradigms portray speakers, the extent to which their

linguistic experiences in their complexity can be captured, and what aspects may be overlooked due to different epistemological stances of each paradigm. All these considerations have significantly influenced the chosen research methodologies and analyses, as well as my understanding of the linguistic phenomena under scrutiny.

As an additional note to the reader (and as reiterated throughout this chapter) the present study is firmly grounded in a holistic perspective and shares the core assumptions associated with such an approach. While, as Berthele (2021: 91) observes, “from a methodological perspective, the fractional view of multilingualism is undoubtedly the most convenient, as it allows one to easily separate source and target language information in empirical research,” this study deliberately adopts a holistic orientation. This choice is not only epistemologically motivated but also ensures consistency in the analysis of the linguistic phenomenon under investigation, namely, progressive aspectuality. Conceptualized as both a linguistic and cognitive construct, progressive aspectuality has been examined in the next chapter within diverse research paradigms, ranging from formal linguistic frameworks to cognitively oriented, holistic approaches. The present study aligns with the latter, aiming to account for the phenomenon within the dynamic language use of multilingual speakers participating in this study.

3. The Progressive

“The English progressive has proven intractable and its analysis controversial” is the first opening sentence of Binnick (1991: 281) in *Time and the verb* when approaching the topic in a dedicated chapter about the English progressive. Being aware in advance that a full account of all the studies cannot be feasible and that a big boost of confidence would have been needed when I first approached this topic, I will try to compose this puzzle pushing the progressive into a corner, trying to provide a representative selection of influential works that have been published in several years of debate. As with any selection, it is of course possible to point out that there are omissions of works that should have been included: all I can say is that these works have been considered as reasonably representative works of what has been said about the progressive in English. To phrase it in less personal terms, all the works included and compared here are the result of a long literature review to understand how the English *progressive aspect* has been narrated to us over the course of a century by some of the leading authors and how this narrative distinguish itself from the one of *progressive aspectuality*. A problem that we will soon face in the following pages is that the notion of what can be considered progressive and how this concept can be expressed in linguistic terms faces different positions and definitions.

In the following sections I clarify such issues, starting with a general overview on the category of aspect, which is a specific property of time reference that some languages express using a grammatical category (Section 3.1). It follows a focus on the progressive aspect and the English progressive construction *to be + Ving* (Section 3.2), complemented with a constructionist perspective (Section 3.3). It follows a semantic-cognitive

account for progressive aspectuality, different from progressive aspect, which is actually the focus of the present work (Section 3.4). The following section (3.5) explores how the progressive has been investigated as a linguistic phenomenon acquired by learners from a form- or functional-based approach (3.5.1), identifying the main theories belonging to the first (sections 3.5.2) and second approach (3.5.3).

3.1 The dark and savage forest of aspect

The study of aspect has been compared to a dark and savage forest full of “obstacles, pitfalls and mazes which have trapped most of those who have ventured into this much explored but poorly mapped territory” (Macaulay 1978: 416). According to Binnick, compared to tense, “aspect is not a traditional concept in the same way as tense, and speakers of most European languages have no very clear notions concerning it” (cf. Binnick 1991: 135). In this regard, it is maybe convenient to start with some examples to understand the difference between the two. Let us consider the following sentences translated into the three different languages central to this thesis, i.e. Italian, German and English:

(1a) Italian: *Olga mangia un cornetto al cioccolato.*

(1b) English: *Olga eats a chocolate croissant.*

(1c) German: *Olga isst ein Schokocroissant.*

(2a) Italian: *Olga mangiò un cornetto al cioccolato.*

(2b) English: *Olga ate a chocolate croissant.*

(2c) German: *Olga aß ein Schokocroissant.*

(3a) Italian: *Olga mangiava un cornetto al cioccolato.*

(3b) English: *Olga was eating a chocolate croissant.*

(3c) German (= 2c): *Olga aß ein Schokocroissant.*

(4a) Italian: *Olga mangerà un cornetto al cioccolato.*

(4b) English: *Olga will eat a chocolate croissant.*

(4c) German: *Olga wird ein Schokocroissant essen.*

In sentences (1a–c), (2a–c) and (4a–c), the Italian verb predicates *mangia/mangiò/mangerà*, the English *eats/ate/will eat*, and the German *isst/aß/wird essen* encode tense grammatically, marking whether the action takes place in the present, past, or future. These forms directly indicate whether an event is simultaneous with, precedes, or follows the moment of utterance. Traditionally, tense is regarded as a deictic category that relates to the placement of situations along the timeline. It indicates the temporal connection between the time at which an event occurs and a deictic reference point known as the “moment of speech,” which aligns with the moment when an utterance is made (Reichenbach 1947). Reichenbach refers to this reference point as the “point of speech” (S), whereas the position of an event along the timeline is called the “point of event” (E). The “point of speech” acts as a temporal anchor for the “point of event,” allowing events to be classified as occurring in the past, present, or future relative to this anchor. If we now compare (2a–c) and (3a–c) we can see that both sets of forms share the past tense. However, the distinction between them is traditionally understood as an aspectual contrast, marking a difference in how the action unfolds over time and how it is perceived by the speaker. If we analyze the situation in (3b), it is perceived as evolving, as though the speaker is observing it from an internal perspective; in contrast, (2b) presents the situation as a complete moment in time, viewed externally as a whole. This

distinction falls within the grammatical category of aspect, which governs whether an action is viewed as completed, ongoing, or incomplete.

The most popular definition of aspect dates to Comrie (1976: 3), who defined it as “different ways of viewing the internal temporal constituency of a situation”. Following Comrie’s (1976) explanation:

Although both aspect and tense are concerned with time, they are concerned with time in very different ways. As noted above, tense is a deictic category, i.e. locates situations in time, usually with reference to the present moment, though also with reference to other situations. Aspect is not concerned with relating the time of the situation to any other time-point, but rather with the internal temporal constituency of the one situation; one could state the difference as one between situation-internal time (aspect) and situation-external time (tense). (Comrie 1976: 5)

Therefore, unlike tense, aspect is a non-deictic category, meaning it does not require additional reference points to convey temporal meaning. Instead, aspect reflects the internal structure or progression of an action, independent of its specific placement in time. In Comrie’s view, aspect is primarily expressed through two fundamental categories: the perfective and the imperfective. The perfective aspect encapsulates an event as a single, complete unit, without considering its internal progression. In contrast, the imperfective aspect emphasizes “the unfolding or ongoing nature of an event, focusing on its internal structure rather than viewing it as a finished whole” (ibid: 16). A common classification and widely quoted visualization of aspect is given by Comrie in the following schema (Figure 7):

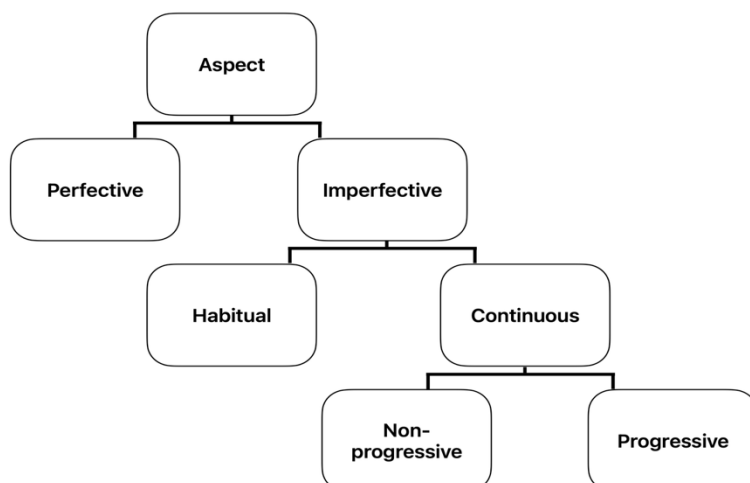


Figure 7. Aspectual-grammatical oppositions (adapted from Comrie 1976: 25)

We can observe that imperfectivity can convey two distinct meanings, often resulting in an interpretation of habitual or continuous actions. This distinction is evident in languages that possess separate grammatical categories for habitual and continuous aspect. In contrast, some languages express imperfectivity through a single category. For example, in English, the habitual aspect is expressed by sentences like “Sarah used to go jogging every morning,” while the continuous aspect can be shown with “Sarah was reading a book.” Comrie further subdivides the category of continuous into two subtypes: progressive and non-progressive. According to him, the progressive aspect is limited to dynamic verbs and predicates, whereas the non-progressive continuous also includes stative predicates. This will be one of the central arguments in studies about the progressive that will be discussed later.

Building on Comrie’s perspective, Bertinetto (1986) offers another widely recognized framework for conceptualizing and visualizing aspectual distinctions. According to his view, aspect is also grammatical and inflectional, but non-deictic (distinguishing it from tense, which requires a reference point in time), is obligatory, as it is encoded through verbal

inflection or grammaticalized periphrastic constructions, and is subjective, since it reflects the speaker's chosen perspective on an event's temporal structure. Unlike Comrie's framework, Bertinetto applies aspectual oppositions to the Italian verbal system as follows (Figure 8):

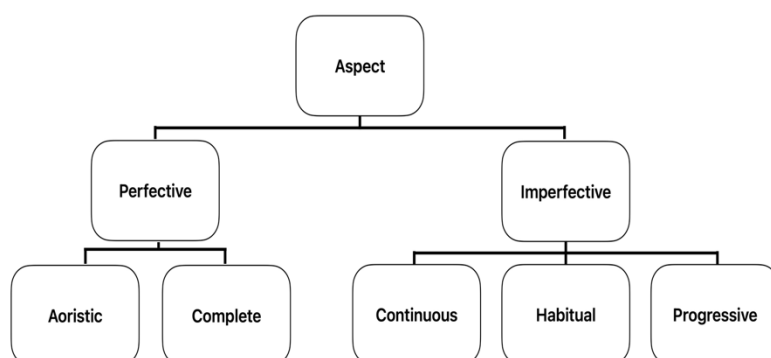


Figure 8. Aspectual-grammatical oppositions in Italian (adapted from Bertinetto 1986: 119)

Some of the differences with Comrie's classification should be noted. In Bertinetto, the perfective is divided into two subtypes, complete and aoristic, while the imperfective is divided into three subtypes, namely habitual, progressive and continuous, as shown in the Examples (5-7):

(5) *Ogni mattina, Marco leggeva il giornale al bar.*

‘Every morning, Marco used to read the newspaper at the café.’

(6) *Marco stava leggendo il giornale quando Luca entrò.*

‘Marco was reading the newspaper when Luca came in.’

(7) *Mentre Marco leggeva il giornale, Luca parlava al telefono.*

‘While Marco was reading the newspaper, Luca was talking on the phone.’

What distinguishes Bertinetto's definition of the imperfective aspect is his emphasis on indeterminacy or non-delimitation as a unifying feature across the three subtypes habitual, progressive, and continuous (Bertinetto 1986: 345). For the habitual use of the imperfective (5), indeterminacy arises from

the repetitive nature of the action, which occurs frequently (*ogni mattina*, ‘every morning’) but requires completion before it can be repeated. In the case of the progressive use (6), indeterminacy is highlighted by the action's ongoing incomplete state as it unfolds from a specific perspective (*Marco stava leggendo il giornale quando*, ‘Marco was reading the newspaper when’). Similarly, the continuous use of the imperfective *Mentre Marco leggeva*, ‘While Marco was reading’, in (7) involves an incomplete action, but it is not framed by a particular viewpoint or repetitive pattern, focusing instead on the ongoing nature of the event without indicating whether it is happening repeatedly or at a specific point in time (ibid: 120-190).

In aspectual studies, another key distinction is drawn between aspect and the related concept of *Aktionsart*. The difference between the term aspect and *Aktionsart* lies in the fact that *Aktionsart* is a lexical category, nongrammatical, optional and unsystematic. For Dowty (1979),

aspect markers serve to distinguish such things as whether the beginning, middle or end of an event is being referred to, whether the event is a single one or a repeated one, and whether the event is completed or possibly left incomplete. In all languages, semantic differences inherent in the meanings of the verbs interact with aspect markers and adverbials. It is because of this intimate interaction that the term aspect is justified in a wider sense and that we can distinguish the aspectual class of a verb from the aspectual form (Dowty 1979: 52)

What Dowty calls “aspectual class” refers to *Aktionsart*, which is understood as a category linked to the semantic content of a verb. For McManus’ (2013: 300) as well, aspect deals with a *lexical aspect* referring to the intrinsic semantic properties of the verb as a lexical item, and with a *grammatical aspect* referring to the aspectual distinction encoded by verbal morphology. Smith (1997) uses the expression “viewpoint aspect” to highlight that verbal morphology is selected by the speakers to convey their perspective or stance regarding the nature of the event. Klein (2009b: 40) instead considers the terms “lexical aspect”, “*Aktionsart*” and “event type” as synonyms referring

to the “subdivision of verb types according to the temporal properties of the situations which they describe”.

Over the years, the classification of verb predicates based on their lexical-semantic properties became a key focus of linguistic research, especially following Vendler's (1957) work on English, which remains one of the most influential classifications used widely applied to other languages. Vendler (1957) defines four classes that are intended to capture “the most common time schemata implied by the use of English verbs” (ibid: 144). These four classes, i.e., activities, accomplishments, achievements and states, are determined by the semantic criteria of “punctuality”, “telicity” and “dynamicity” as represented in Table 1.

Class	[±Dynamic]	[±Telic]	[±Punctual]	Examples
State	-	-	-	<i>Know, love</i>
Activity	+	-	-	<i>Run, walk, swim</i>
Accomplishments	+	+	-	<i>Run a mile</i>
Achievement	+	+	+	<i>Find, reach</i>

Table 1. Vendler's four verb classes

Telicity: events are considered telic because they involve actions or processes that have a defined endpoint, where the characteristics of the endpoint are determined by the event's description. This endpoint, often referred to as the "culmination" or "terminal point", marks the completion of the event. For instance, an event like *Olga arrives at the station* concludes when she reaches the station, which serves as the event’s culmination. In contrast, atelic events once they begin, they can continue indefinitely because the event's inherent nature does not specify a fixed endpoint. In Vendler’s classification, achievements and accomplishments are telic, and states and activities are atelic.

Dynamicity: refers to the property of an event which is dynamic and involves change and/or non-uniform internal structure. States (as in *I hate the onion soup*) are the only non-dynamic class in Vendler's classification because they are basically characterized by a lack of change, they can continue indefinitely or persist over stretches of time, without any inherent boundaries, and during this time any given moment looks exactly like any other. States differ from achievements, accomplishments and activities in that they "cannot be qualified as actions at all" (Vendler 1957: 106). Vendler uses "the progressive criterion" to distinguish between states and activities: verbs expressing states do not have progressive form (for Vendler, it is not possible to say *I am hating the onion soup*) and involve no dynamics compared to activities.

Punctuality: is a defining feature of achievement verbs, which focus on either the initiation or the culmination of an action (e.g., *Olga found a treasure*). These verbs can be pinpointed to a specific moment in time or placed within a broader temporal span, but they cannot, by their nature, stretch or extend continuously over a period of time.

Other scholars have suggested alternative semantic classifications to Vendler's one. For example, Croft (1998) develops a three-way distinction and identifies the event types as "states", "processes" and "achievements". Robison (1995) also uses these three dimensions, but he develops a sixfold classification of lexical aspect, adding the categories "punctual states" and "punctual activities", which together form the group conventionally classified as achievements. Finally, I also mention the categorization proposed by Biber et al. (1999) for a large corpus-based study, in which verbs are categorized into different domains according to their semantic properties. In this categorization, there are seven different semantic domains into which verbs are categorized: "activity verbs" (e.g. *come, run*),

“aspectual verbs” (e.g. *start, continue*), “causative verbs” (e.g. *cause, help*), “communication verbs” (e.g. *ask, say*), “existence verbs” (e.g. *be, live*), “mental verbs” (e.g. *accept, think*), and “occurrence verbs” (e.g. *become, die*).

Around the different categorizations of verb semantic classes, there is, however, much discussion on the problems that these categories could cause. For example, Vendler (1957: 150) himself, about his taxonomy, states that it is able to capture “almost unambiguous cases” of verb predicates belonging to the respective categories. As also Wold (2017: 76) argues “a blind adherence to the Vendler’s or any other categorization makes analysis difficult and a framework that manages to squeeze all possible verb phrases into these categories practically impossible”. Some have, in fact, questioned this practice and the whole assumptions in aspectual studies. Verkuyl (1989) above all questioned whether the aspectual interpretation of a situation should be attributed only to the lexical-grammatical complex formed by the verb and its arguments, or should comprise an analysis of sentences and discourse properties as well (cf. also Dessi-Schmid 2019: 34).

Starting from Verkuyl on, aspectual meaning has begun to be conceptualized and analyzed differently from other scholars (e.g. Dowty 1979; Rothstein 2004), creating a methodological divide in the field. This divide is clearly visible in the determination of a unidimensional approach on the hand, which sees aspectual content as a single conceptual category that is realized through different linguistic devices in the languages of the world, and a bidimensional approach on the other, with the traditional division between aspect and *Aktionsart* (Sasse 2002: 202–203; Binnick 2012: 34–38).

Specifically, a bidimensional approach to aspect assumes that there are differences between the two categories of aspect and *Aktionsart* and that the set of aspectual content has two different dimensions. The distinction is

made between a set of characteristics associated with aspect as a grammatical and obligatory category encoded in the verb inflection and a set of meanings associated with the lexical aspect or *Aktionsart*, which is a lexical and optional category inherent of verbs. Dessì-Schmid (2019) summarizes the differences that are traditionally held to exist between aspect and *Aktionsart* (Table 2):

Aspect	Aktionsart
Exemplified, e.g., via the perfective vs. imperfective opposition marked on the verb	Exemplified, e.g., via the verb meanings as anchored in the lexicon, see Vendler’s verb classes
Grammatical category Verbal inflection (highly grammaticalised verbal periphrases)	Lexical category The meaning of the verb as it is anchored in the lexicon
Obligatory category because it is grammatical	Optional category because it is lexical
Subjective category Point-of-view category, via which the speaker expresses a state of affairs (e.g., as a whole, completed or in progress)	Objective category Category that is inherent to the state of affairs (the speaker cannot influence it)

Table 2. Differences between Aspect and Aktionsart according to the bidimensional approach (adapted from Dessì-Schmid 2019)

Almost all the counter arguments of the two separate systems come from the opponents of “the dangerous mixing of aspect and Aktionsart” (Bertinetto 1986: 84) that Dessì-Schmid (2019) summarizes in several points as follows:

First of all, just as the perspective stored in the lexicon (here, in the verb stem) is “frozen” or conventionalised, so too is the perspective stored in the grammar, in the grammatical rule, which allows for variation, for choice between perfectivity and imperfectivity. In other words, the rule underlying the freely chosen aspectual perspective – the fact that it exists as a binary option following precise combinational possibilities – is to be considered as conventionalised and fixed as that of any Aktionsart. The assumed actuality by the decision

for one or the other form of aspect is comparable to the decision for one or the other predicate, one or the other verb meaning. And why, in a linguistic system, should lexical determinations – which moreover are not so purely lexical, since they imply grammatical relationships with their own arguments – be more conventionalised than grammatical ones in the narrower sense? (Dessi-Schmid (2019: 63)

As Dessi-Schmid explains, the interpretation of a verb or verb phrase can vary depending on the context, leading to debates about the appropriate level at which lexical aspect should be assigned and casting doubt on the overall concept of lexical aspect itself. Consider sentence (8):

(8) *The students were reading books for hours.*

In this example, the past tense suggests that the reading session was completed at some point, but the use of the progressive indicates that the activity might still be ongoing or not fully finished. The object, "books," refers to an indefinite quantity, implying the activity is not completed. The adverbial phrase "for hours" establishes the duration of the activity, offering a temporal boundary that partly frames the event's scope, though the overall interpretation can vary. How that sentence should be classified in Vendlerian terms is complex: "to read a book" is often considered an accomplishment, and the combined context points toward that interpretation, especially given the time expression. But what about other sentences like:

(9) *The teachers are grading papers all day.*

(10) *Teachers grade papers regularly.*

While "to grade papers" remains an achievement, the components present in (9), i.e. the plural subject, indefinite object, ongoing aspect, and time frame, collectively suggest an ongoing activity. Even without the explicit temporal phrase, the habitual and imperfective nature implied by (10) with its plural, indefinite subject and the general statement, supports an interpretation of

repeated or habitual activity, possibly even a state if grading papers is viewed as characteristic of teachers.

It is from this skepticism that a unidimensional approach to aspect has been proposed to go beyond the traditional categorial division between aspect and *Aktionsart* of verb predicates. Aspectologists have become conscious of the fact that “a pure morphosyntactic approach to aspect falls short of recognising the importance of the interaction between the organisation of the verbal lexicon and the aspect markers and/or aspectual interpretation cues operating on the morphosyntactic level” (Sasse 2002: 220). A unidimensional approach argues that there is no semantic distinction between them at the cognitive level, “with aspect and *Aktionsart* representing only different formal realizations of one and the same content category” (Dessi-Schmid 2019: 11), meaning there is no cognitive separation within these categories. There should be a broader category that is able to encapsulate all the linguistic tools that languages possess to express aspectual content. This broader category has been defined “aspectuality”, that is “the content category by which speakers linguistically structure the nature of the development and distribution of a state of affairs in time” (Dessi-Schmid 2019: 3). This content category can be seen as universally applicable across languages, encapsulating various grammatical and non-grammatical ways of expressing the traditional notion associated to aspect.

The present work seeks to contribute to the ongoing discussion on aspectuality by focusing specifically on the elements that, through their interaction, form the aspectual value of states of affairs. In particular, progressive aspectuality, a specific sub-type of aspectuality, will be the testing ground for an investigation within the broader scope of aspectuality from a unidimensional perspective.

3.2 The English progressive construction *to be + Ving* and its meanings

When approaching the topic of progressive aspectuality, it is probably easier to start from its corresponding formal expression, i.e. the progressive aspect, as the obligatory grammatical category marked by the English construction *to be + Ving*. Various terms have been proposed when referring to the English progressive aspect. Some common labels include “continuous,” as used in English language teaching, while others such as “expanded form” (see, for example, Visser 1963: 73), or “expanded tense” (e.g., Jespersen 1909: 49). Additionally, it is often simply described as the construction involving the auxiliary verb “to be” combined with the present participle form, *Ving*. Each of these labels suggest different positions when looking at the English progressive aspect which mostly refer to its functions: as an example, in Jespersen’s view, the main function of the progressive aspect (or as he calls it, the “expanded tense”) is to act as a time-frame with regard of some other event, and in this sense progressive would be a “kind of transitory frame that expands and rounds something else” (Jespersen 1931: 179) in contrast with unexpanded forms that express a permanent state. In recent years, however, linguists more and more seem to favor the neutral term “progressive” and only rarely refer to the other labels listed above (Römer 2005: 20). The term progressive is now generally widely used “because it avoids some misleading associations which belong to other terms commonly used by grammarians” like “durative”, “temporary”, “continuous” (Leech 2004: 112).

To avoid any misconception and terminological confusion, I decided to keep the terminology *progressive aspect* when I refer to the morphologically marked realization of aspect that, in the case of English is mainly expressed

by the periphrastic construction *to be + Ving*, and the term *progressive aspectuality* to refer to the cognitive-semantic notion of the progressive. In this section we will mostly deal with the formal realization of the progressive aspect in English, i.e. the construction *to be + Ving* and the different meanings it expresses.

The reason why so many linguists have found difficulties in defining a precise and unique meaning for the English progressive aspect lies in the fact that the construction has been gradually extending its range of meanings in English: “the English Progressive has, in comparison with progressive forms in many other languages, an unusually wide range of meanings” (Comrie 1976: 33). As a consequence, a lot of theories and monographies have tried to capture the changing nature of the progressive aspect over time but problems in defining a unique framework have represented a challenge and matter of debate for several years. In 1991, Binnick stated that, at that time,

no one has ever specified in a complete and satisfactorily general way how it is used or how the progressive tenses differ in meaning from the corresponding simple tenses (*he eats lunch in the cafe vs he is eating lunch in the cafe*). No one has convincingly argued for any one basic meaning for it, but neither has anyone established that it lacks one (Binnick 1991: 281–282).

Given the multitude of meanings attributed to the progressive aspect and various theories, it is probable that most scholars would agree with Binnick's assertion that "none is adequate as a basic meaning" (ibid: 289). Applying the fundamental aspects of the Lachmann method as used in philology, I noticed that for every scholar who ascribes a specific interpretation or meaning to the progressive aspect, there are others that in the meantime reject that this interpretation or meaning is the core and basic meaning for the progressive. What basic meaning, if any, does progressive aspect have? To answer this question, I really needed to find an order among the several positions I read. Following Binnick's discussion, it could be useful to

disentangle the discussion starting with the four major functions that he identifies as the most important meanings (and consequently theories) traditionally associated to English progressive aspect (ibid: 282), namely “durative”, “action in progress or process”, “incompletion”, and “progressive of the frame”.

The first one that most authors have seen being the main meaning of the progressive aspect, is the one of “limited duration” or temporariness, usually referred to as “**durative**”. Scheffer (1975: 21) in fact says that “of all the different basic meanings attributed to the progressive, that of duration is found most often”. To explain the concept of durative aspect, Leech (2004) notes the differences in meaning between the following pair of sentences:

(11a) *My watch works perfectly*

(11b) *My watch is working perfectly*

(examples taken from Leech 2004: 20)

While in (11a) the present tense expresses a permanent state of the watch, the progressive aspect in (11b) expresses a temporary state of the watch, that may suggest that in that particular moment the watch is working perfectly, but that it can be the case that it cannot show the same reliability in the future. Leech’s notion of the English progressive aspect expressing limited duration in (11b) does not necessarily mean a short period, but rather duration without the implication of being endless. But what does “duration” mean in this respect? Binnick gives his critical discussion on the typical durative aspect of the progressive aspect looking at serious problems in determining if duration refers “to continuance (endurance) or to mere extension (non-momentariness) or to non-completion” (for a comprehensive discussion see Binnick 1991: 284). And the same skepticism comes from the use of the concept of “limitation” that can hardly be the basic meaning of the

progressive, since often there is no difference in limitation or permanence, like in this pair of sentences:

(12a) *Your slip shows at the back*

(12b) *Your slip is showing at the back*

(examples taken from Binnick 1991: 285).

Furthermore, Ljung (1980: 19) argues that "limited duration" should not be considered the primary or core meaning of the progressive aspect; instead, he contends that it constitutes one of its subsidiary meanings. To support his stance, Ljung references examples from Dowty (1975: 584), which illustrate how the progressive can be used in contexts that do not inherently emphasize duration:

(13) *The earth is rotating around the sun at a rate of 365 days per revolution.*

(14) *I am living in London now.*

(15) *These machines are always running.*

(16) *The universe is forever expanding.*

Ljung (1980) suggests that the idea of "limited duration" is not the primary meaning of the progressive aspect but rather a secondary or derived implication. He supports this by pointing out that sentences like (13-16) using the progressive can be uttered without implying that change or temporary conditions are imminent. Therefore, the notion that the progressive inherently conveys temporary or limited duration is questionable, raising the possibility that its core meaning might lie elsewhere.

The “secondary use” (Poutsuma 1926: 318) concerns the meaning of the progressive that involves “**action in process**”, or a dynamic situation. “We think of progress as change, and in the ordinary uses of the terms “progression”, “progressive” and so on, change toward some definite end is a central concept. Thus, progressivity is based on a process which is dynamic, and some authors have taken this facet as central” (Binnick 1991: 286). A typical progressive situation is one that is presented as progressing through time: “often the progressive implies that the activity is going on *still* (longer than expected) or *already* (sooner than expected) or that the activity is tenuous and about to cease” (Timberlake 2007: 287). According to the theories of Palmer, “the simplest and clearest use of the progressive is when it is used to indicate activity going on at a point of time, i.e. both before and after it” (Palmer 1987: 54). Also in this case, many scholars contested the idea of dynamicity as the main meaning of the English progressive by comparing it to the other side of the coin, stativeness. If the nature of the progressive is dynamic, why could static verbs also allow some ideas of dynamicity? To cite one of the first scholars to raise this issue (i.e. Ljung 1980: 10), static verbs are usually claimed to express “static ideas”: we are referring here to stative verbs e.g. *know*, *understand*, *hate*. However, as also Zandvoort (1962: 40) explains, “a number of those verbs which do not occur with the progressive in their “central meaning” of durativity, may take it in a collateral or subsidiary sense” As an example, he offers these two sentences with the stative verb *feel*, e.g. *I’m feeling tired* as opposed to the simple form *I feel tired*; in this case, “the dynamic character of the progressive makes it particularly suitable for use in descriptive and in emotional contexts” (ibid: 39).

The extension of the progressive to stative situations has generated a long discussion and an abundant number of studies have dealt with it, sometimes

adopting a diachronic perspective. The choice of a diachronic perspective when investigating the extension of progressive to stative context is not by chance. It seems to be a relatively recent development in linguistic research, and numerous studies have documented a noticeable increase in the use of the progressive with stative predicates during the 19th and 20th centuries (Smutterberg 2005; Kranich 2010; Rautionaho & Fuchs 2021). The main explanation for this is that progressives often refer to dynamic situations, which are typically temporary (cf. Ljung 1980: 28). Therefore, even stative situations expressed with a progressive construction tend to share the feature of temporariness, aligning them with the typical dynamic events. As also Leech et al. (2009) point out, verbs that are intrinsically stative can occur in the progressive when they portray temporary states. With the famous McDonalds' slogan "*I'm loving it*", Granath & Wherrity (2014: 12) also discuss the use of the verb *love* in the progressive construction conveying "heightened agentivity and greater vividness". Many scholars have agreed that the extension of the progressive construction to stative situations could be seen as evidence of the construction's movement along the grammaticalization cline, evolving from a progressive aspect to a more general imperfective aspect (cf. Bybee & Dahl 1989: 56–57; Heine 1994: 279–280). As a result, more and more studies have led to the apparently increasing acceptance of the compatibility of the progressive aspect with stative verbs which was previously seen as a semantic mismatch.

The third use of the progressive involves "**incompletion**" or lack of necessary completion (cf. e.g. Kruisinga 1922; Jespersen 1931; Leech 2004) but, as Leech points out (Leech 2004: 16) this is not the basic meaning of the progressive but it is a meaning inherent in the progressive form but contributed by certain predicates:

(17a) *The dog was drowning in the sea*

(17b) *The dog drowned in the sea*

(18a) *I was reading from 10 p.m. to 11 p.m.*

(18b) *I read from 10 p.m. to 11 p.m.*

In sentence (17b), it is evident that the dog has died and that the action is complete, whereas in (17a), there is uncertainty about whether the dog truly drowned or was rescued. Similarly, in sentence (18b), the reading began at 10 p.m. and concluded at 11 p.m., while in (18a), the reading might have taken place both before 10 p.m. and after 11 p.m. Moreover, with predicates denoting an activity or process with a natural endpoint, also called telic predicates (Comrie 1976: 44) or accomplishments in Vendler's classification (Vendler 1976: 10), the progressive does carry a sense of incompleteness but with non-telic predicates this is never necessary so. For example, the non-telic predicate in *John was walking* can be easily changed into a telic one as in *John was walking to the park* and the meaning of the progressive changes correspondingly (cf. Leech 2004). "Thus, if in *John was walking to the park*, John was suddenly interrupted, he clearly has not walked to the park – i.e. there certainly is a sense of incompleteness - but if the same thing were to happen to him in *John was walking*, there is no sense of incompleteness here: whatever happens to him, it is still true that he *has walked*" (ibid: 20). But while it is true that the progressive generally express incompleteness, pseudo-performatives like in *I'm telling you that I love you* "call into question whether incompleteness can be the essential meaning of the progressive aspect" (ibid.).

The fourth meaning of the progressive aspect has been called "**progressive of the frame**". In order to explain the concept of frame, we can cite Jespersen (1931) who does not see progressive as expressing a characteristic of events such as duration, incompleteness or dynamicity that we already

discussed. Rather, he sees progressive as indicating a “frame” for another event or situation: He adds that “the essential thing is that the action or state denoted by the expanded tense [i.e. the progressive aspect] is thought of as a temporal frame encompassing something else which as often as not is to be understood from the whole situation” (ibid: 180). According to this perspective, the progressive aspect indicates that an action is happening continuously during the specific context in question. This contextual moment often overlaps with other events that occur at the same time. The progressive, in this sense, serves to create a background for other actions that describe notable changes in the world (Timberlake 2007: 287).

If Binnick identifies in the four major meanings of the English progressive aspect the most relevant theories have shaped the discussion, Kranich (2013: 4) classifies the analysis of the meanings of the present-day English progressive aspect into two types: a first one, which refers to the prototypical aspectual function of the progressive aspect (e.g. Comrie 1976; Smith 1997) and a second one that allows for a number of different meanings (e.g., Quirk et al. 1985; Huddleston & Pullum 2002; Leech 2004), that for several years were just seen as minor functions explained at the bottom of the page in little footnotes.

Concerning the first one, i.e. the prototypical aspectual function, it is based on the idea that the English progressive aspect expresses an aspectual meaning. This tradition has been lately formalized by Comrie in 1976 which suggests that both the imperfective and progressive aspects share the characteristic that the proposition refers to a situation without specifying its endpoints (cf. Section 3.1). However, unlike general imperfective aspect markers, progressive aspect markers are typically reserved for dynamic situations. The most popular explanation for the aspectual argumentation relies, in fact, on dynamism or on duration (including the general property of

“duration” and “action in process”). To support this perspective, the tradition contrasts the progressive aspect with the simple aspect, as seen in examples (19a-b):

(19a) *Olga made some tea when I came home.*

(19b) *Olga was making some tea when I came home.*

In (19b), the progressive construction *to be + Ving* emphasizes that the situation of Olga making tea was ongoing at the time the second event, the speaker’s arrival, took place. In contrast, (19a) presents the event as a completed whole, so the speaker's arrival is understood to have happened before the tea-making process (and can be pragmatically inferred as its cause). The distinction between these two interpretations is best understood as an aspectual difference, rather than one based on duration, as in both cases the tea-making event is understood to have a limited duration (cf. also Kranich 2013: 5).

As far as the second type is concerned, there are scholars who started to investigate the range of the other progressive related readings which were just seen as idiosyncrasies from its prototypical aspectual meaning. It was in fact disputed that the aspectual notion of the progressive construction *to be + Ving* did not adequately capture all the meanings of the English progressive aspect (ibid: 3). Apart from the prototypical aspectual meaning, other authors have offered in the course of the years new interpretations and meanings that English progressive aspect can convey, which may be contextual or pragmatic in nature (cf. Binnick 1991: 289; Kranich 2013). Kranich groups these meanings into the category called “**subjective functions**” in which she discusses this more subjective nature of the progressive using several examples. In the sentence “*Michael is always taking cigarette breaks*”, the progressive construction conveys the speaker’s attitude toward the action,

suggesting disapproval of the habitual activity. This attitude is absent in the simple form “*Michael always takes cigarette breaks*”. In the first example, the use of the progressive indicates that the speaker views the behavior negatively, implying a judgment about the frequency or annoyance of the action (Leech 2004). “Uses of the progressive are often motivated by the speaker’s evaluation of the situation as somehow “remarkable”, dramatic, or worthy of vivid description” (Kranich 2013: 25): she calls this function as “**interpretative**”. With regard to the examples above, Kranich also observes a certain degree of specialization of *progressive + always* as predominantly expressing negative speaker-attitude (Kranich 2010: 213–217). Another example of the English interpretative progressive comes also from the authors Huddleston & Pullum (2002: 165):

(20) *I can only add that when Paul Gascoigne says he will not be happy until he stops playing football, he is talking rot.* (examples taken from FLOB, A 09:81f)

In (20) Huddleston & Pullum explain that there is no strictly aspectual distinction between the use of the neutral or non-progressive form in the first clause and the progressive form in the second. Instead, the progressive in *talking* serves a metalinguistic function, offering commentary or interpretation on the original statement introduced by *says*. This usage emphasizes the speaker's attitude or adds an evaluative layer to the utterance rather than marking a temporal or aspectual shift. Again, Kranich (2010) supports the subjective interpretation of the progressive in this passage:

The interpretative use of the progressive also fulfills a rather specific function: it marks a proposition as reflecting the speaker’s subjective interpretation of a circumstance which was either described more neutrally earlier or which is retrievable from the communicative context. This use also has emerged as a well-defined function only in recent times, the 19th century being the crucial period for its establishment (Kranich 2010: 222).

Another meaning which is part of the category of the subjective functions concerns “**intensity**”. “A beginning such as *In 1797, while he was helping, his pioneer neighbours build a bridge* presents a situation laden with potential. It does not look like a good prophecy. And in fact, in this instance, it turned out that *Joseph Palmer fell and was killed, with all his dreams unrealized.*” (Timberlake 2007: 288). The “disruptive effect of intervening circumstances” (Hirtle 1967: 89) has often been compared to the cinematic technique of slowing down a scene, “likening the progressive to a film (the non-progressive being more like a photograph) in which the prolonging of the action enables it more readily to become the focus of our particular interest and observation” (Collins 2008: 227). Moreover, Jespersen states that “the use of the expanded tenses often gives a certain emotional colouring to a sentence” (Jespersen 1931: 180) or Hatcher (1951: 203) emphasizes the subject’s involvement saying that “the subject is busy or engrossed by his activity”.

In the category of the subjunctive functions of the progressive aspect Kranich includes other two uses that we should necessarily cite and that have been also described by other authors for example in Leech (2004: 33–34), i.e. the so called “**futurate**” and “**habitual**” meanings. Regarding the term “futurate”, Kranich (2010) suggests that it is more accurately described as “near future,” since the progressive tense often conveys a situation that is either planned or already in progress, such as when preparatory actions are taking place.

There are no clear objective criteria as to how near in the future the envisaged event must be situated to make use of the progressive appropriate. But the decisive factor appears to be the subjective conceptualization of the event as near by the speaker (Kranich 2010: 226).

Let us compare the present tense in *John leaves tomorrow* (that can be used in a futurate sense) with the progressive counterpart *John is leaving tomorrow*: here, according to Kranich, the main difference lies in the

perception of the relatively nearer future of the progressive compared to the present tense. But according to other authors like Scheffer (1975: 94) the difference lies in the sense of a “fixed program” in the simple present while in the progressive we could express the intent of doing something.

The habitual use of the progressive aspect corresponds to the single habitual use that we can also observe in Simple Past and Present. Leech makes an example of a sentence like *I'm taking dancing lessons this winter* (Leech 2004: 33). In this case,

the Progressive concept of limited duration is applied not to the individual events that make up the series, but to the series as a whole. The meaning is “HABIT IN EXISTENCE OVER A LIMITED PERIOD”- the period in question being generally specified by an adverbial expression, as in the example above. On the other hand, there may be no adverbial as in “*I am taking dancing lessons*”. It is the temporariness of the habit that is important (ibid: 28).

It is relevant to stress that all the new functions and uses of progressive aspect mostly result from studying it in its actual use: until this moment, even if quite detailed and informative description have been made, scholars had compared grammars of languages as abstract, decontextualized structural systems (Mair 2012: 817). This shift towards a documentation of changes based on what speakers actually use is somehow a result of what Renouf (2002: 29) refers to as “modern diachronic corpus linguistics” trend, which reflects a broader move within linguistic research toward grounding diachronic analyses in empirical data derived from large, annotated collections of naturally occurring language collected in corpora (Römer 2005: 21).

Not surprisingly, the English progressive has been an important topic of study for several scholars that had the possibility to give empirically based assumptions about this topic considering different aspects. The corpus-driven *Empirical Grammar of the English Verb System* published by Mindt in 2000 followed an analytic method in listing the nine most frequent

meanings of the progressive aspect in order of frequency of occurrence (Mindt 2000: 248):

- 1) Incompletion
- 2) Temporariness
- 3) Habit
- 4) Highlighting
- 5) Emotion
- 6) Politeness
- 7) Prediction
- 8) Intention
- 9) Matter-of-course

All nine meanings partially reflect what we have said before about the spectrum of all the meanings of the English progressive aspect identified in literature, but it also accompanies information about verbs that are frequently used with the progressive construction *to be + Ving* and the lexical-grammatical contexts in which they are found. Information about language items that tend to co-occur with the progressive construction has been in fact one of the main interests for other studies as well which dealt with the co-occurrences (or collocations) of individual items with each verb form. Another relevant and comprehensive empirical work about English progressive aspect has been Römer's study (2005) on spoken-English corpora who gave the first systematic account of typical items appearing in the context of progressives, comprising temporal adverbials, subjects, objects, prepositions and others in different text genres. Relevant for the present study is also Fuchs & Werner's (2018a) comprehensive overview on the acquisition of tense and aspect in Second Language Acquisition, in

which several theories, factors and aspects about the progressive is also presented from a language learning perspective.

Another point of interest in corpus-based studies that have focused on the English progressive aspect has been its increase in frequency over the course of the years. It is the case of Mair & Hundt's study (1995) for the first time using four matched corpora, they stated that progressives have become more frequent over the past thirty years. This study showed that progressive construction *to be + Ving* is rapidly developing over contemporary British English, and this tendency is also confirmed by Smitherberg (2005) and Leech et al. (2009) investigations. Leech et al. (200) prove evidence of change occurring in verb paradigms and different uses and meanings of the progressive, as well as in different genre categories and registers. For the investigation, the authors focus on the two major varieties of English, American English and British English, using frequency data from the Brown family and other corpora, showing since the beginning a significant expansion of the progressive in both varieties and specifying that the patterns of development are subject to the variables considered in the study. For instance, registers that are speech-based or speech-like and relatively informal show a much higher incidence of progressives than typical printed genres (Leech et al. 2009: 125): in phone calls, face-to-face conversations and broadcasts discussions (registers that are conducted in "real-time" or that could be highly interactive in character) progressive could either describe situations as they occur (and in this case mostly using the present progressive (active) construction) or it could describe a past event (and in this case past tense speech-reporting progressive is employed to create a typical narrative style by the speaker). In spoken registers the use of progressive has generally risen by more than 45% and the authors explain it as a "symptom of

colloquialization”, proposing that the observed grammatical growth is linked to social changes in language use.

3.3 A constructionist approach to the English progressive

In the previous section we have discussed the English progressive aspect with its main formal realization in the construction *to be + Ving* and the different meanings that literature has identified for it. Of course, as a grammatical obligatory category, this construction has been the most used and studied when talking about the English progressive. However, it is relevant to point out that it is not only the construction *to be + Ving* itself that carries the progressive meaning, but that the context in which it occurs plays a big role. It means that if certain contextual elements regularly co-occur with this construction, these elements can be indications of the type of meaning with which the construction is. The constructionist framework is absolutely helpful to understand this.

One of the core pillars of constructionist framework is that there is no strict dividing line between grammar and lexis. Constructions are regarded by Goldberg (1995: 4) “as units of form that inherently carry meaning”. *Meaning* should be “understood in a broad sense, comprising lexical, semantic, pragmatic, discourse-functional, and social aspects” (Ungerer & Hartmann 2023: 5), while *form* usually includes phonological, syntactic, and morphological information. The form and the meaning of the whole construction make up a unit recognizable for its distinctive properties. Moreover, with the criterion of frequency (Goldberg 2006: 5), Goldberg allows for a wide view of constructions that covers not only frequent and core patterns to be treated as constructions, but also less-frequent patterns.

The way in which speakers’ grammatical knowledge is structured and represented in the form of constructions follows mechanisms of *schematicity*. There are several levels of schematicity, since any linguistic unit might have several schemas or levels of abstraction:

Grammatical constructions are reasonably viewed as complex categories and represented in the form of schematic networks. A speaker's knowledge of [a complex] construction includes not only a high-level schema, but also subschemas, specific expressions, and categorizing relationships that associate these various structures (Langacker 1987: 410).

By applying this notion to the English progressive construction *to be + Ving*, we might have at the highest-level schema a complex category for progressive aspectuality that sees in the progressive construction *to be + Ving* the most common formal and grammaticalized expression of it. This construction may be generalized as:

(21) *(NOUN) + to be + V-ing*

which can be linguistically realized as in the example (22):

(22) *Olga is walking.*

From this foundational schema, we could imagine different levels of abstraction, such as:

(23) *(NOUN)PERSON + to be + V-ing*

(24) *(NOUN)PERSON + to be + VACTIVITY-ing*

(25) *(NOUN)PERSON + (PRESENT)to be + VACTIVITY-ing*

(26) *(NOUN)PERSON + (PRESENT)to be + VMOTION -ing*

In the following schemas, each one provides a different degree of specificity, with the first example (23) restricting the subject to human entities *(NOUN)(PERSON)*, while (24) further narrows the verb to activity verbs *(VACTIVITY)*, or (25) specifies the present tense *(PRESENT)to be*, and (26) the type of verb *(VMOTION)*, i.e. a motion verb).

If we modify the starting example, for instance, as in (27):

(27) *The cat was walking on the street.*

we can construct a similar hierarchical set of schemas:

(28) (NOUN)ANIMAL + *to be* + *V-ing*

(29) (NOUN)ANIMAL + *to be* + *VACCOMPLISHMENT-ing*

(30) (NOUN)ANIMAL + (PAST)*to be*+ *VACCOMPLISHMENT-ing*

(31) (NOUN)ANIMAL + (PAST)*to be*+ *VUTTERANCE-ing*

These schemas illustrate incorporate notions such as the animate subject (28), accomplishment verbs (29), past tense marking (30), and utterance-related actions (31). Given the substantial differences among these schemas, further refinement might involve additional parameters like animacy (e.g., defining the subject as an animate entity) or semantic features such as dynamicity (e.g. *VDYNAMIC*), as follows:

(32) *ANIMATE SUBJECT* + *BE* + *V-ing*

(33) *ANIMATE SUBJECT* + *BE* + *VPROCESS-ing*

(34) *ANIMATE SUBJECT* + *BETENSE*+ *VPROCESS-ing*

(35) *ANIMATE SUBJECT* + *BETENSE*+ *VDYNAMIC-ing*

This is to demonstrate that a constructional schema may take towards higher and higher levels of schematization. Beside the *to be* + *Ving* construction and the different levels of schematization we may imagine for this construction, scholars from the Berkley FrameNet project (Fillmore et al. 2003; Fillmore & Baker 2010) have systematically collected syntactic and semantic patterns for the schematic frame “Activity_ongoing”, the one associated to the English progressive. *Activity_ongoing* is defined as “an agent performing the portion of an activity in which there is dynamic stability”², and it seems to encode the prototypical temporal-aspectual meaning associated to the English construction *to be* + *Ving*. However,

² <https://framenet.icsi.berkeley.edu/frameIndex>

among the constructions specified, the authors also include other constructions comprising “*carry on +V*”, “*continue +V*”, “*keep on/up + V*”, “*keep +V*”, “*maintain +V*”, and “*proceed +V*”, thus indicating the possibility of including other constructional realizations within the same schematic frame.

Some scholars (De Wit & Brisard 2014; De Wit et al. 2020) have reflected on what could be the most schematic meaning for the English progressive that can explain the fact that the property of progressivity can be linguistically realized using different constructions. Moreover, they also investigated how such constructions are able to encode prototypical temporal-aspectual meanings, but also other extended meanings that do not concern temporal development, like the subjective ones that we have discussed in the previous section. In doing so, they have challenged the traditional interpretation of progressive aspect as primarily indicating the internal development of event (reflected in the expressions of “ongoingness” or “duration”), by elaborating a more schematic representation of the progressive that justifies why a construction like *to be + Ving* can be accounted beyond its temporal-aspectual semantics. The first criterion to develop such schematic representation has inevitably been the context in which the construction occurs. In line with Langacker (1987: 304–306), De Wit & Brisard (2014) and De Wit et al. (2020) consider the elements in the linguistic context of the *to be + Ving* construction as a reliable indication of the relevance of a particular meaning element. As we said at the beginning of this section, this is because all the elements around the construction may elaborate schematic meanings of the construction itself, and these elements should be compatible with the construction itself.

Building on the analysis of the English present progressive construction, De Wit & Brisard (2014) and more recently De Wit et al. (2020), argued that the

progressive forms a semantic network of interrelated constructions with the notion of “epistemic contingency” at the most schematic level of meaning.

Semantic networks like this usually do not solely consist of horizontal extension relations and involve schemas capturing commonalities across usage types. Concretely, applied to the progressive, this entails that the schematic meaning of epistemic contingency gives rise to more specific temporal and non-temporal usage types (De Wit et al. 2020: 509).

The fact that progressive marking is used to refer to incidental or in a way non-canonical situations, seems an inherent semantic property of the progressive, and it is this property that forms the basis for the meaning of “epistemic contingency” that De Wit & Brisard formulated. In their view, this quality is both expressed by the English temporal-aspectual uses of the progressive construction referring to ongoing situations, but also to other non-temporal uses. Among non-temporal uses, there is what they call “extravagant use”, according to which speakers use the progressive to qualify and report the situation in a way that is not obvious (contingent). It is this characteristic meaning of contingency that provides the expression of extravagance, as in (36):

(36) *I'm advising you to take this seriously and use full precautions*
(example taken from De Wit et al. 2020: 503)

In 2014, De Wit & Brisard introduce a comprehensive analysis of the semantics of the English present progressive represented in Figure 9.

ENGLISH PRESENT PROGRESSIVE SEMANTICS

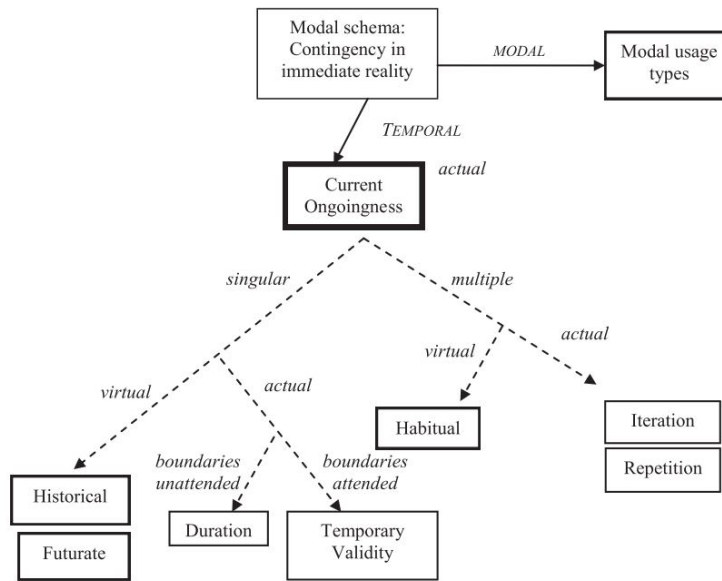


Figure 9: A semantic network for the English present progressive (taken from De Wit & Brisard (2014: 87))

Figure 9 shows a semantic map of the different meanings of the English present progressive and how they are related to one another via a number of conceptual branching principles: “temporal versus non-temporal”, “actual versus virtual”, “boundaries attended versus boundaries unattended” and “singular versus multiple” (De Wit & Brisard 2014). This semantic network illustrates how the authors aim to integrate the various uses of the polysemous construction *be + Ving* into a unified framework. The central schema, “contingency in immediate reality”, serves as the core meaning of the construction, which leads to multiple variations within both the temporal and modal domains. Temporal and modal usage types build upon and expand the core schema in interaction with specific contextual factors. A continuous arrow indicates an elaboration of the schema, while an interrupted arrow signifies an extension. The network also highlights the relative frequencies of different usage types (with bolder boxes representing more entrenched usages). The authors highlight that the primary meaning associated with the present progressive is that of an ongoing action happening at the moment, which they consider the prototype due to its high frequency and its default

status in neutral contexts. This central temporal sense further divides into categories related to repeated events referred to as “multiple”, and single events, which extend the concept of ongoingness in different ways, labeled “singular.” Another key division, “actual versus virtual,” applies to both types of events and helps distinguish uses such as the “historical present,” “futate,” and “habitual” from instances where the event is genuinely occurring at the speech time. Additionally, singular (non-virtual) events can influence the core temporal meaning by either highlighting the boundaries of the situation or leaving those boundaries unmarked.

To summarize, we have seen that a constructionist and cognitive-semantic approach to the progressive construction *to be + Ving* in English involves understanding its meaning not only through the construction itself but also through the context in which it occurs. Compared to the previous accounts of the different meanings of the construction, this approach considers the interplay between form and meaning and emphasizes the fact that constructions like this consist of form-meaning pairs that may not be strictly predictable from their component parts. We have also seen that some recent accounts in this direction have tried to formulate a schematization of this construction, at different levels of abstraction, to capture various meanings, from more prototypical to secondary ones. For example, the cognitive-semantic account by De Wit & Brisard (2014) explains the relationships between the different meanings of the construction considering contextual elements surrounding it. The most abstract level of schematization of “epistemic contingency” could be the concept able to explain the various instantiations of the English progressive in both aspect-temporal domain and other domains. Finally, other scholars from the Berkley FrameNet group (Fillmore et al. 2003) have extended the range of constructions associated to the English progressive, shedding light on the possibility of having different

realizations of the schema indicating an activity ongoing, which is also the prototypical temporal-aspectual meaning of progressive aspectuality. In this regard, the next section will deepen this aspect, arguing for a unified framework of progressive aspectuality including all the possible range of constructions that English (and other languages as well) have to express this concept.

3.4 Towards a cognitive-semantic notion of *progressive aspectuality*

When approaching the topic of progressive in the introduction, we have already anticipated a distinction between a semantic-cognitive notion of *progressive aspectuality* and its formal expression, i.e. the *progressive aspect*. Mair (2012: 803) summarizes the distinction stating that “it should be distinguished between a semantic-cognitive notion of aspect called aspectuality, which is universal and transportable across languages, and the corresponding formal expression for this notion, i.e. aspect, that is found in various languages and is an obligatory or optional grammatical category usually marked on lexical verbs or verb phrases”. This means that aspectuality should be understood as a general and universal concept across languages and that could be expressed through different formal realisations.

We have seen in the previous sections that English has a specialized and obligatory construction for progressive aspect, i.e. *to be + Ving* construction, that is used as the default construction to express progressive aspectuality. This is also the case for other languages like Italian that has an analogous construction *stare + gerund*. However, there are other languages that do not possess a morphologically marked category for the progressive aspect, but that might express progressive aspectuality in different ways. A widely cited case is German, which represents an interesting case of a typical language that does not possess a specialized grammaticalized construction to express this concept, therefore being usually considered a language lacking aspect. In fact, German is a language that is usually (and erroneously) identified as a non-aspectual language because it lacks a morphologically marked aspect in obligatory contexts. In contrast, lexical devices such as those in (37a), periphrastic constructions like in (37b), as well as the addition of extra

information in the sentence as seen in example (37c), can be used to convey progressive aspectuality.

(37a) *Leo aß ein Schokocroissant auf.*

‘Olga ate a chocolate croissant.’

(37b) *Leo war dabei, ein Schokocroissant zu essen.*

‘Olga was eating a chocolate croissant.’

(37c) *Leo aß ein Schokocroissant, als Julia sie anlächelte.*

‘Olga was eating a chocolate croissant when Julia smiled at her.’³

Similar to German, other languages also use different elements to convey progressive aspectuality and these “can be found on all organizational levels of language, from the typically lexical to the typically grammatical: components of verb meanings, verb arguments, tenses, adverbs, negations, word order, etc.” (Dessi-Schmid 2019: 15). Dessi-Schmid (2019) argues that aspectual information should be imagined as “conceptual building blocks” packaged both grammatically or lexically in different linguistic material, and not only in verb predicates.

Aspectual interpretation of a state of affairs results from a much more complex interaction of several elements or sub-components in the state of affairs understood as a frame. Even the elements that do not directly convey any aspectual information interact with those that do, thereby influencing the overall interpretation of the state of affairs. (Dessi-Schmid 2019: 89)

Given the diversity of languages, it should be noted that it is still not completely clear whether there is a set of specific elements or components that are equally applicable to all languages to express progressive aspectuality. Freed (1976) states that:

the interplay of linguistic items that carry different aspectual meanings is not straightforward.

We restrict ourselves to considering the interrelations of the aspectual operator verbs and

³ Examples taken from Dessi-Schmid (2019: 11).

their complements⁴. This means taking into consideration 1) the inherent lexical (or literal) meaning of the aspectual and complement verbs along with their aspectual interpretation, 2) the different aspectual types of verbal expressions found in complements (accomplishments, achievements, activities, etc), 3) the syntactic form of the complement and 4) the be-prog operator as it is related to the V-ing complement form. (Freed 1976: 16)

Moreover, Binnick states that “inappropriate application of concepts from one language to another may render them contentless, while an insufficient application of universal categories renders language-specific categories meaningless” (Binnick 1991: 147). One of the difficulties is in fact that there is a myriad of devices which mark such distinctions. “Aspect is a parameter which is realized differently across languages” (Smith 1997: 3) and the grammatical category of progressive aspect could be of course a simplification of how progressive aspectuality as a cognitive category could be expressed. In fact, the progressive aspect as a morphological category is slightly rare in the world’s languages and it seems to be grammaticalized in over 40% of them⁵. Often the strongly grammaticalized and conventional forms are the basis for the comparison across languages (Mair 2012: 811). Blansitt (1975), Comrie (1976) and Dahl (1985) have made typological comparisons among languages in order to identify the most significant devices to convey the concept of progressive aspectuality through different morphological categories. It seems that in the languages of the world, the progressive shows an affinity to periphrastic constructions. Bertinetto et al. (2000) distinguish inflectional progressive marking (A-B) and four types of periphrastic/analytical constructions (C-F):

- A) Affixal progressives
- B) Complex verb phrases as progressive signals
- C) Verb phrases with a copula as auxiliary
- D) Verb phrases with a motion or postural verb as auxiliary

⁴ Operator verbs such as *start*, *stop*, *continue* with complements like *running*, *to run*.

⁵ Data from the *World Atlas of Language Structure* in which the perfective-imperfective distinction is present in 101 of the 222 languages sampled ("Feature 65: perfective/imperfective aspect", by Östen Dahl and Viveka Velupillai, <http://wals.info/feature/65>)

- E) Verb phrases with a pro-predicate (do-type) as auxiliary
 - F) Verb phrases with a special progressive auxiliary verb
- (Bertinetto et al. 2000: 50, based on Blansitt 1975)

Bertinetto et al. (2000) explain this categorization in this way:

As is well known, PROG constructions include, in one way or another, a locative morpheme. This may consist for instance of an auxiliary verb indicating existence or position (as in virtually every European PROG device), of an explicit marker of locativity (like the inessive case in Finnish PROG), or of a combination of more than one such morphemes (as again in Finnish PROG, which combines both of the above features). However, although the morphological structure of these constructions is based on a locative morpheme of some kind, the degree to which this meaning component persists in each construction varies from case to case. (Bertinetto et al. 2000: 532)

Considering the potential inventories of functional devices that can express aspectual meaning involves recognizing progressive aspectuality through forms that are not strongly grammaticalized or are unconventional, yet still available within a language's resources. Once again, German serves as an example here. We have previously said that German is usually described as a language that lacks a morphologically marked progressive aspect: in general, Standard German leaves progressive implicit or expresses it optionally by lexical means. In answering the question “*Was macht sie?*” (‘what is she doing?’) we usually hear:

(38) *Sie arbeitet*

‘She works/is working’

But even if German is usually described as a morphologically not-marked language with respect to progressive aspect, examples (37a-b-c) have shown that other devices could be employed. Moreover, there exist some weakly grammaticalized ways of conveying the concept of progressive aspectuality. It is the case of some informal regional speeches in which we may hear the periphrastic construction:

(39) *Sie ist am/beim Arbeiten*

‘She is on/at working.’

The problem with this German periphrastic construction for aspectologists is the difficulty to include it in the category of progressive aspect: because constructions like (39) are considered typical of a certain informal register (van Pottelberge 2004) and are seen as having a lower degree of grammaticalization, they are usually not included or dismissed as regional expressions of non-standard speech (see e.g. Ebert 2000). However, research conducted since the late 1990s has revealed that certain expressions and constructions, such as the *am*-progressive, have become well established in various regions of Germany, Austria, and Switzerland.

According to Mair (2012: 804) this “degree of grammaticalization” is in any case a scalar concept and it actually represents a difficult criterium for inclusion. Another borderline case in German arises when the progressive aspectuality is marked by adverbs or particles: to answer the previous question “*Was macht sie?*”, in addition to (38) and (39), we may also hear (40).

(40) *Sie arbeitet gerade*

‘She is working right now’

For Mair, the German example in (40) poses a challenge to being identified as an expression of progressive aspectuality. Grammatically, *gerade* is a temporal adverb meaning ‘right now’, though it is also homophonous with an adverb of manner meaning ‘straight’. However, Dahl (1985: 90) includes *gerade + Verb* as an expression of progressive aspectuality in German. For Mair (2012: 805), while the verb-adverb combination is optional and relatively common, it does not fully function as a grammaticalized verbal category.

Another example is the *postural verb + infinitive* construction in Dutch, which has been interpreted as expressing progressive aspect (Bertinetto et al. 2000: 518). By comparison, the structurally similar English constructions (e.g., ‘I sat reading the paper’) are rarely categorized in the same way. This is because English, unlike Dutch, already possesses a fully grammaticalized progressive aspect marker, making such constructions unnecessary (Mair 2012: 811). Similarly, the status of aspectual verbs such as *start* and *stop* take on secondary meanings in progressive constructions, for example in *I started reading*, *I kept reading* and *I stopped reading*, and are also relevant in discussions of progressive aspectuality in English. These constructions show some degree of grammaticalization, with aspectual verbs functioning as aspectual semi-auxiliaries that shape the interpretation of the activity (ibid.: 812). Biber et al. (1999: 746) also refer to constructions like *keep + Ving* as "a kind of progressive marker, emphasizing that the action described in the -ing clause is continuous or recurrent". Let us consider also these examples in Italian:

(41) *Olga sta raccontando storie strane da tre settimane.*

‘Olga has been telling strange stories for three weeks.’

(42) *Olga comincia a leggere e a scrivere.*

‘Olga is starting to read and write.’

The construction in example (41) is often viewed as a highly grammaticalized periphrasis, specifically of the type *stare + gerund*, in contrast to example (42). In this construction that has a high degree of grammaticalization, the verb *stare* loses most of its original lexical meaning of ‘to be’ or ‘to exist’ when combined with the gerund. As a result, it is seen as a grammaticalized periphrasis, where the auxiliary verb operates in a strictly grammatical function rather than conveying its full lexical sense.

Instead, the periphrasis of the type *cominciare a + infinitive* (42) has a smaller degree of grammaticality but a higher of lexicality because it still exhibits traces of the lexical meaning of the verb *cominciare*, “even though it appears here in the function of auxiliary” (cf. Dessì-Schmid 2019: 35).

A consideration that many scholars have made at this point is if really makes sense to find a generally agreed pattern based on typological comparisons among the languages of the world. Binnick is very skeptical:

In the absence of a generally agreed-upon meaning assignable to the progressive, equation of forms across languages could at best be only speculative, or serve as a shorthand way of asserting certain similarities of meaning or use between languages. The question is whether there is any commonality of meaning to progressives, or lacking such, what the similarities might be. (Binnick 1991: 283)

When faced with this crossroads, it was important for me to decide which approach to consider in the present study for an investigation about progressive. Since we are dealing with English, which is the target language in focus in this investigation, it was inevitable to start from the grammaticalized morphological category of the progressive that English has for encoding the concept of progressive aspectuality, i.e. the periphrastic construction *to be + Ving*. At the same time, as shown for other languages, together with the construction *to be + Ving*, aspectual distinctions could also be expressed by other means (from typically lexical to typically grammatical) and for this reason are worth considering. The primary reason lies in the fact that, in accordance with cognitively and functionally oriented frameworks, various linguistic forms, including both lexical and grammatical elements, are seen as symbolic tools. From the perspective of Cognitive Semantics, humans also inhabit a world that is similarly structured symbolically: from this standpoint, linguistic creativity stems from the general human propensity, also present in other cognitive areas, to symbolize. In other words, humans tend to create symbols and categories,

which can be combined or represented in distinct patterns across languages, following specific rules to generate typical sentences or discourse structures. This is greatly explained by Tomasello (1995) as follows:

[...] the Cognitive/Functional view sees language universals as resulting from human cognitive and social universals and the way languages have evolved. All groups of human beings have certain experiences they wish to communicate to others and have evolved the ability to use conventional symbols to do so. All groups of human beings have the ability to categorize these symbols and form combinations of them, and to extract schematic patterns of those combinations involving hierarchical organization. All groups of human beings engage in certain forms of social interaction and attention directing. All groups of human beings have the same vocal-auditory channel, which requires them to communicate their experiences by expressing symbols linearly, one at a time. Given these 'constraints', all groups of human beings have at their disposal some combination of four and only four linguistic devices for communicating experience: individual symbols (lexical items), markers on symbols (grammatical morphology), ordering patterns of symbols (word order), and prosodic variations of speech (e.g., stress, intonation) [...]. Different languages have evolved different ways of using these four linguistic devices in the service of specific communicative functions specific to the culture, and the evolution of particular languages shows a very interesting interplay between the 'choices' that are made. (Tomasello 1995: 150)

Therefore, for the present study, progressive aspectuality will be investigated in order to include all the various means for the expression of this construct in the languages that are involved in this study. We should view these means as linguistic tools that speakers have developed within their respective languages to combine content and expressions, and which they select depending on the specific communicative context. This view is what I will adopt in analyzing the linguistic representation of the conceptual content of progressive aspectuality and in dealing with the processes and patterns through which structures are organized. This inevitably involves analyzing progressive constructions and the nature of the semantic relationships between its components as complex syntactic constructions that expresses a single semantic unit. This also means analyzing how each part contributes to the overall meaning of the construction and how the combination of these parts generates the final interpretation. These elements may either directly

communicate aspectual meanings or influence them indirectly, and they can appear at different levels of organization. Dessì-Schmid (2019) summarizes the following ones:

- **the verb** is traditionally the central focus in aspect research. From a semantic-functional perspective, the verb plays a crucial role in conveying aspectual information. However, considering only the verb's stem and isolating it from its broader context only offers partial insight into its potential. The verb's central role is actually defined by its valence within the sentence, as it interacts with its participants and the surrounding context. Thus, a complete analysis of aspectuality goes beyond just the verb and incorporates its relationships with its arguments and the overall sentence structure. The need to account for the combinations between the verb and its arguments, a view strongly argued by Verkuyl starting from the 1970s, highlights how this interaction creates a unique aspectual configuration. This configuration provides information about how the verb combines with other elements, adding to the meaning of the predicate and the sentence. These interactions contribute to temporal structuring and connections with other components like determiners and quantifiers.

- Additional aspectual elements are conveyed by **morphological or morphosyntactic markers**, including modifications to the verb stem, derivational or inflectional markers, and periphrastic constructions. These elements also interact with other morphosyntactic markers that do not directly relate to aspect, such as tense or mood markers.

- **Adverbials** can either directly express aspectual information or evoke it, influencing the overall aspectual meaning.

- **Quantification and negation** have an impact on the entire aspectual situation, not just in relation to the arguments of the sentence.

- **Word order** plays a significant role in how aspectual and non-aspectual elements combine, affecting their interpretation.

Table 3 briefly summarizes the above-mentioned elements:

Forms and structures of possible expressions of aspectual information	verb (stem)
	(verb) arguments
	morphological marking (inflectional and derivational)
	morphosyntactic marking (verbal periphrases)
	adverbial determination
	...
Forms and structures which interact with aspectual information	(verb) arguments and nodes connected to the arguments
	morphological marking (e.g., temporal, modal, ...)
	adverbial determination
	quantifiers
	negation
	word order
	...

Table 3. Formal elements of aspectuality (taken from Dessì-Schmid 2019: 100)

3.5 Learning the progressive

3.5.1 Form- versus function-based approaches to learner's language: a necessary prelude

According to Bardovi-Harlig (2002b) the development of research on the systems of temporal and aspectual expression highlighted in the first chapter of this work mirrors the development of research in learners' language acquisition. Early research on tense-aspect acquisition focused on accuracy orders across learners' systems (i.e. how verbal morphology in learners developed towards more accurate forms in determined sequence) while in the 1980s, however, interest shifted towards the semantics of tense-aspect systems (i.e. how meaning is expressed, rather than the distribution of grammatical forms) (ibid.).

The difference between these two different paths comes no surprise, and follows the evolution of the debate about aspectuality explained in Sections 3.1-3.4. As we have seen, the discussion about aspectuality has evolved from primary issues concerning the organization of the categorical aspectual domain, particularly the interrelation between lexical aspect and grammatical aspect as two separate dimensions (a bidimensional approach) towards a unidimensional view which disregards a categorical division between these two dimensions and, instead, it proposes a single conceptual dimension of aspect recognized in the category of aspectuality.

Issues of that concern the acquisition of aspect and aspectuality by L2/Ln learners reflect the same division into two main strands of inquiry. Bardovi-Harlig (2002b) when reviewing previous studies of Tense and Aspect in Second Language Acquisition, distinguishes between the form-oriented approaches and the meaning-oriented approaches (Figure 10).

Research on Second-Language Temporal Systems
(Interlanguage Analyses)

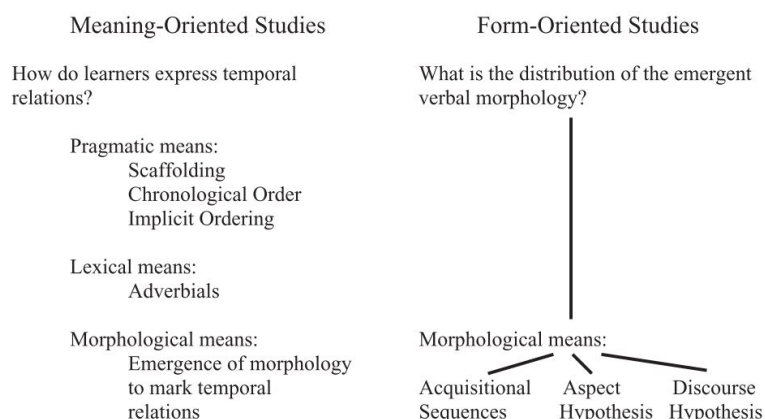


Figure 10: Overview of studies of temporal expression in second language acquisition (taken from Bardovi-Harlig 2002a)

The meaning-oriented approaches focus on how semantic concepts are expressed using various linguistic tools, while the form-oriented approaches examine the distribution of verbal morphology to understand the underlying semantic system of interlanguage (ibid.). More specifically, the form-oriented approaches have investigated three main areas: (a) the influence of lexical aspect, with the consequent acquisitional sequences (b) and (c) the influence of discourse structure. As far as (a) and (b) are concerned, the influence of lexical aspect on language acquisition led to an important theory of tense and aspect acquisition, namely the Aspect Hypothesis (AH; Andersen & Shirai 1996). The AH was formulated as a semantic and cognitive universal theory that accounted for both L1 and L2 acquisition and for a large number of languages (for a complete review on AH, see Bardovi-Harlig & Comajoan-Colomé 2020). The main claim of AH is that the lexical aspect of a verb predicate orients the acquisitional sequences of grammatical aspect (cf. Section 3.5.2 for an extended discussion on AH). As far as (c) is concerned, the Discourse Hypothesis (DH) (Bardovi-Harlig 1995) states that it is the discourse structure (foreground and background) and how learners

build texture in narratives that plays an important role in how tense-aspect morphology emerges.

The meaning-oriented approaches explore all methods of expressing tense and aspect, encompassing pragmatic devices (like chronological order), lexical elements (such as temporal adverbials), and verbal morphology. This approach involves studying a variety of linguistic tools that span across different grammatical categories and combine both grammatical and pragmatic devices. Despite some exceptions (Klein & Perdue 1992; Dietrich et al. 1995; Smith 1997) and compared to the form-oriented approaches, very few studies have adopted such approaches, and for this reason, the present study aims at contributing to this strand. However, I would like to emphasize that neither approach is inherently superior to the other; instead, they are grounded in different epistemological assumptions, which naturally lead to distinct methodologies and findings. To make an example, the meaning-oriented approach used by Bardovi-Harlig (2000) for the investigation of the “past context” focuses on the identification of the morphological forms to express pastness, traces how learners’ usage develops, how the forms align with specific categories and so on. In contrast, a purely form-focused perspective might seek to systematically identify all established past tense forms within the language and evaluate whether these forms are appropriately used in typical past-referring scenarios, emphasizing structural correctness over functional intent. Due to the inherent variability of language, particularly in learner speech, and the flexible nature of language use, the sets of contexts studied through these different methods will only partially overlap. In essence, they do not produce identical data but rather offer complementary insights from different perspectives, both contributing valuable pieces to the overall understanding. Ultimately, the choice of approach hinges on the specific research questions. In this context, the

primary focus is on how learners express the concept of progressive aspectuality in their language use.

Drawing on Bardovi-Harlig's distinction, the following sections follow the same structure, in which the most prominent theories within the form-based approaches to the acquisition of progressive aspect will be presented in Section 3.5.2 and the (very few) meaning-oriented approaches in Section 3.5.3.

3.5.2 Form-based approaches in the study of progressive aspect

Form-based approaches, as explained in the previous section, have mostly focused on the emergent verbal morphology by language learners of English from different language backgrounds. They have done so using different methods and approaches that have led to the formulation of relevant theories which have been tested in various studies. If we restrict our scope to the progressive, studies specifically addressed to second language acquisition have shown that learners of English often exhibit a tendency to overuse the progressive -ing morpheme, and initially treat all instances of *Ving* as part of a single, unified construction. Early research by Andersen (1984) and Goldschneider & DeKeyser (2005) shed light on how learners' interpretations of such constructions evolve and suggests that certain linguistic principles influence this overuse. At the heart of this process is the role of salience in determining the order in which learners acquire grammatical morphemes, particularly the *-ing* suffix and the auxiliary verb *BE* that together form the progressive construction. In this regard, the "one to one principle", proposed by Andersen (1984), plays a central role in understanding how learners initially engage with the progressive. This principle suggests that early interlanguage systems tend to map a specific meaning to a consistent, invariant form. In the case of the progressive, learners may first associate the meaning of continuous or ongoing action exclusively with the form *-ing*, without yet distinguishing between the auxiliary *BE* and the participle. Andersen notes that this alignment of meaning to form is often one of the first steps in language development. As learners progress, the system becomes more complex, and previously independent forms (such as the auxiliary) begin to interact, leading to revisions in the learner's language use (Andersen 1984: 79). Over time,

learners refine their understanding, integrating both the auxiliary and the *-ing* morpheme into a single, accurate construction.

Goldschneider & DeKeyser's (2005) study of functor acquisition provides instead a deeper exploration into the stages and factors that influence the acquisition of grammatical morphemes, especially those that play a role in forming progressive constructions. They identify key determinants that explain why some functors (like *-ing*) are acquired earlier than others (like the auxiliary *BE*). These determinants include (a) perceptual salience, (b) semantic complexity, (c) morphophonological regularity, (d) frequency of exposure to the functor. In the case of the progressive construction, the suffix *-ing* is often acquired earlier than the auxiliary. Perceptual salience (a), focuses on how easily learners perceive a structure. A more perceptible morpheme is generally acquired earlier. *-ing* scores highly on this scale because it is a distinct form consisting of two phonemes, including a vowel that is consistent across environments, as well as a nasal consonant, which gives it high sonority. This makes it easier for learners to notice it and learn. On the other hand, the auxiliary *BE*, often contracted in speech, is less perceptually salient, particularly in casual or spoken language. The contrast in perceptual salience explains why *-ing* tends to be acquired before *BE*.

Semantic complexity (b) refers to the number of meanings a form conveys. The more meanings attached to a morpheme, the harder it is for learners to acquire it. The *-ing* suffix in the progressive construction expresses two specific meanings: continuity or ongoing action. In contrast, the auxiliary *BE* carries a broader range of meanings, as it must reflect person, number, and tense. This added semantic complexity makes the auxiliary a more difficult morpheme for learners to master compared to *-ing*.

Morphophonological regularity (c) deals with how consistent a morpheme is across different phonological environments. A form that remains largely

unchanged is easier to learn. The *-ing* morpheme is relatively regular, with very few variations in its form. In contrast, the auxiliary *BE* is highly irregular, with multiple allomorphs depending on tense, aspect, and modality. This irregularity complicates the acquisition of the auxiliary, making *-ing* an easier target for early acquisition.

Frequency of exposure (d) to a morpheme also plays a role in its acquisition. Highly frequent forms are more likely to be acquired earlier. While both *-ing* and *BE* appear frequently in the input, the frequency of *-ing* is particularly salient. It is used in a variety of contexts and can combine with any verb in the language, whereas the auxiliary *BE* is restricted to specific syntactic contexts (such as questions, negations, and verb phrase structures). Learners tend to first acquire the *-ing* suffix because it is more perceptually salient, less complex semantically, and more phonologically regular. They may initially overuse this form in the progressive construction, omitting or misusing the auxiliary *BE*. Such overuse leads to what has been called “partial mastery of the progressive construction”. Learners may combine the *-ing* morpheme with a verb stem, forming an incomplete construction that still conveys the intended meaning of ongoing action.

Another strand of research has mostly dealt with lexical semantics and the acquisition of Tense-Aspect morphology, leading to the “the most influential hypothesis in second language acquisition (SLA) research regarding Tense and Aspect” (Bardovi-Harling & Comajoan 2020), i.e. Aspect Hypothesis (AH). AH (Andersen & Shirai 1994) builds on three main constructs that are now quite familiar to the reader: tense, grammatical aspect, and lexical aspect (cf. Section 3.1). Based on several empirical studies⁶, AH suggests that, in the early stages of acquiring tense-aspect morphology, the use of

⁶ For SLA Bardovi-Harlig (2000: 196) also emphasizes the pioneering work of Andersen (1984), as well as Kumpf (1984) and Flashner (1989).

progressive morphology will be influenced by lexical aspect categories. The AH connects this idea to Vendler's (1967) classification of lexical aspect (cf. Section 3.1), which includes states, activities, accomplishments, and achievements. This link allows the hypothesis to be tested by examining the relationship between specific aspectual classes and corresponding grammatical aspects (cf. Bardovi-Harlig & Comajoan 2020: 1141). Concerning the progressive, Shirai & Andersen (1995: 745) predict that "in languages that have progressive aspect, children first use progressive marking mostly with activity verbs, then extending it to accomplishment and achievement verbs". In addition, "children do not incorrectly overextend progressive markings to stative verbs" (ibid.). Evidence of this prediction primarily comes from languages where the progressive is marked by specific morphology, such as English or Japanese, compared to languages where the progressive is expressed using a general imperfective, like in Romance languages. In a longitudinal study of second-language learners of English, Bardovi-Harlig (2012) found that the use of progressive morphology was predominantly linked to activities, and then extended to iterative or repeated readings within the same category, thus following the predictions of the AH. However, Muñoz & Gilabert (2011) argued that their findings presented counterevidence, as they found that progressive forms were used more frequently with accomplishments than activities, contrary to the AH's predictions. They attributed this discrepancy to a task effect.

Concerning the second prediction of AH, i.e. that progressive is not overextended to the category of states, several studies have shown contradictory results to this specific prediction. For example, Bardovi-Harlig & Bergström (1996) in their early study showed that the progressive was not overextended to statives, while Dose-Heidelmeyer & Götz (2016) reported non-prototypical uses of statives. Of these studies, there is however a major

focus on proficient second language learners' use of the progressive with statives (see e.g. Housen 2002a, 2002b; Rocca 2002; Römer 2005; van Rooy 2006; Ortega 2009; Dose-Heidelmayer & Götz 2016; Díez-Bedmar 2021) and less on beginning or intermediate learners' use of progressive with statives (see e.g. Meriläinen et al. 2017; Fuchs & Werner 2018b; Zeng et al. 2023). The only study featuring multilingual learners and testing some of the predictions of AH among other aspects is Lorenz's dissertation (2019) exploring cross-linguistic influence in L3 acquisition of tense and aspect (cf. also Section 4.4).

Generally speaking, the predictions as described by the AH have been criticized in several studies because the role of other explanatory factors have been observed to be influential for the acquisition of tense and aspect (for a summary, see Comajoan 2013). In fact, while these studies depict a general pattern that actually follows AH's predictions (for example, the fact that progressive morphology is mainly used with activities has been confirmed by several studies), its development is influenced by various factors like the learner's first language, language-specific patterns, U-shaped behavior, instructional practices, input frequency, and learner characteristics. Among other criticisms, it has been pointed out that a lot of studies which have tested AH have predominantly focused on advanced learners, and not on beginners (Vallerossa et al. 2021). These results led Ryu et al. (2015) to conclude:

The real issue is perhaps not whether the Aspect Hypothesis holds in all situations, but under what conditions [...]. Considering this, it would be wise to treat the descriptive generalization of the Aspect Hypothesis as a 'universal tendency,' not as an 'absolute universal'. (Ryu et al. 2015: 816)

Beside the popularity of AH, there are also other theories and hypotheses that should be mentioned which have accounted for other factors impacting aspectual learning. For example, one of the hypotheses formulated by

Salaberry (2008) stated that beginners initially rely on a default form, modeled on the tempo-aspectual system of their L1 (“Default Past Tense Hypothesis”) (Salaberry 2008). At initial developmental stages, in fact, learners “transfer whatever inflectional or periphrastic markers of aspectual meaning they have” (ibid: 213). Various studies have examined Salaberry’s (2008) hypothesis that learners’ background languages’ tempo-aspectual representations may influence the acquisition of aspectual distinctions in a second language, as exemplified by research such as Diaubalick & Guijarro-Fuentes (2019). Some of these contributions emphasize the significance of typological proximity between the learners’ L1 and the target language, as well as the impact of other L2s in the process of acquiring an L3. By comparing groups of learners studying the same target language but with different L1 backgrounds, such as L1 German versus L1 English learners of French (McManus 2011, 2015), and L1 Dutch versus L1 English learners of Spanish (González & Quintana Hernández 2018), these studies have demonstrated that typologically similar L1s can facilitate the acquisition process. Likewise, transfer of knowledge from acquired L2s to an L3 may also play a role. Research on multilingual speakers has highlighted the importance of the learners’ level of aspectual knowledge in L2 English (Eibensteiner 2019) as well as the influence of additional typologically similar languages in the learning process for L3 acquisition (Diaubalick et al. 2020; Foote 2009; Vallerossa et al. 2021). Other variables such as the influence of input on tense-aspect acquisition have also been investigated in Andersen (1990). Andersen (1990) advanced the “Distributional Bias Hypothesis,” which posits that the language input learners receive contains inherent statistical patterns and regularities in how words and grammatical structures are distributed. These distributional patterns are not random; instead, they reflect the frequency and contexts in which certain linguistic elements appear. All these empirical studies, while showing contradictory

results, have provided evidence on the fact that transfer is a multi-directional phenomenon and might involve all the languages present in a speaker's repertoire, depending on how different factors interact with each other. According to Falk & Bardel (2010), this variability can be partially attributed to the diverse research methodologies employed, which differ in terms of participant groups, languages studied, linguistic features analyzed, and the tools used for data collection.

Ultimately, in studies focusing on form-based methods, researchers have identified a connection between learners' use of verbal morphology and the structuring of the narrative (von Stutterheim & Klein 1989; Bardovi-Harlig 1992). This relationship has led to the development of the so-called "Discourse Hypothesis" (DH). DH predicts that "learners use emerging verbal morphology to distinguish foreground from background in narratives" (Bardovi-Harlig 1994a: 43). Background information likely concerns events that do not necessarily unfold alongside the story, that are likely durative, repetitive or habitual; and that are often ongoing (therefore compatible with the progressive). The background, in contrast to the foreground which primarily moves the timeline forward, serves multiple roles in structuring temporality (Bardovi-Harlig 2013: 232): it may describe something that happened before the main event (placed earlier on the timeline), predict something that will occur after (placed later on the timeline), or indicate simultaneous occurrences (happening at the same moment or interval). In addition to these temporal roles, the background is also responsible for setting the context or "orientation" (Bardovi-Harlig 1995) which often includes descriptive details. Thus, the DH introduces a new factor in the study of the acquisition of the Tense-Aspect system. It is not just lexical aspect that might orient learners toward the choice of the perfective or imperfective, but the other factor at play is narrative grounding. Bardovi-

Harlig (2012) sums up the differences and the similarities between the two approaches:

The DH predicts that all foregrounded predicates will attract perfective past. The AH predicts telic predicates will receive perfective morphology, regardless of grounding, but the DH suggests that foreground telics are more likely too. The hypotheses make the same predictions for achievements and accomplishments in the foreground (they will attract the perfective past) and activities and states in the background (they are unlikely to attract the perfective), and they make different predictions for telic predicates in the background and atelic predicates in the foreground. In practicality, of the atelics only activities occur with frequency in both foreground and background. In the narratives of less proficient learners, activities clearly show perfective morphology only in the foreground, and in more proficient learners in background as well. (Bardovi-Harlig 2012: 6)

However, the DH “has not been expanded beyond narration to a full range of discourse contexts and thus would not apply to the tense-aspect asymmetry if sentences were not embedded in extended narrative” (Bardovi-Harlig 1992: 5).

3.5.3 Bridging the gap: the need for more meaning-oriented approaches

Meaning-oriented approaches to the acquisition of aspectual content by learners are unfortunately not so very common (Bardovi-Harlig 2014: 60). Several reasons account for this. A primary reason is that most research has historically prioritized formal aspects, with learner productions evaluated primarily based on their accuracy relative to the expectations of the target language (cf. *ibid*: 61). Additionally, research has predominantly focused on verbal aspect, which has limited exploration of the way in which aspectual content can be expressed by learners. Following Klein (2009b), the temporal-aspectual content can be encoded linguistically through a variety of devices comprising six main ones: tense, grammatical aspect, lexical aspect, temporal adverbials, temporal particles, and discourse principles. This framework can be applied to learners' language use, and to other concepts beside progressive aspectuality, in focus in this dissertation. For example, studies that have investigated the concept of futurity (Bardovi-Harlig 2004, 2005; Howard 2012; Solon & Kanwit 2014) show that it can be expressed by a range of linguistic devices. For example, expression of futurity by learners of English includes temporal adverbials, modals such as *will*, the *going-to* construction, and lexical future markers (future-oriented verbs), such as *want to* or *need to* (Bardovi-Harlig 2005).

Progressive aspectuality as acquired by learners is a concept which has been rarely investigated from a meaning-oriented approach. In 2002, Bardovi-Harlig raised the issue not only of the need for more studies about progressive aspectuality, but also the need for adopting more meaning-oriented approaches in research:

One concept that should be investigated in depth is the progressive. It is worth noting that, although progressive marking has gotten reasonable attention from the form-oriented approaches, no equivalent study has been done from the concept approach. (Bardovi-Harlig 2002b: 416).

A comprehensive investigation of progressive aspectuality should start by exploring how language learners convey the concept as a broad semantic category. This includes not only morphologically marked forms such as the English *to be + Ving* construction, but also other linguistic cues that express the same idea. In line with functional approaches, the semantic-focused perspective on progressive aspectuality should adopt a multilayered analysis encompassing lexical elements, morphological features, syntactic structures, discourse context, and pragmatic factors. Essentially, this approach should consider all the expressive tools employed by learners to communicate progressive aspectuality. Also, as we have previously discussed, progressive aspectuality has a broad spectrum of meanings: therefore, it can start by investigating the core meaning of “action-in-progress”, but also other meanings such as habituality or durativity that have been identified in the literature. An exemplar study that could be taken as a good example even if it does not focus on progressive aspectuality is Bardovi-Harlig (1994b), who focused on her study on the concept of reverse-order reports (“RORs”), i.e. how learners presented events in a non-chronological and non-sequential order related to the original source. The data came from a longitudinal production study that followed learners for seven years from four different language backgrounds. The author focused on verbs in past-time contexts and coded them according to their verbal morphology, but not only; all adverbials, relative clauses, complements and other markers of past-time conception have been considered and identified. Bardovi-Harlig (1994b) shows that the expression of RORs by learners is actually realized through the acquisition of pluperfect or past tense markers of other means, with relevant patterns over time.

Among the most recent literature I found on the topic, there are some exceptions that can be reported here. One of these is Meriläinen (2018) whose study has taken as evidence learner corpus data across different varieties of English, including native, second-language, and foreign-language contexts. Meriläinen has investigated the different meanings of the progressive construction *to be + Ving* using spoken data, by systematically analyzing its extended semantic functions. The findings indicate that cross-linguistic influence significantly shapes the use of the progressive construction in both second-language and learner Englishes. Notably, habitual and stative extensions of the progressive were more prevalent in varieties influenced by L1 languages that feature verbal aspect marking. These conclusions support earlier research by Gachelin (1997) and Paulasto (2014), which identified influence from the dominant language as a key factor in the development of contact-induced variations in progressive aspect usage. Moreover, the results of this study show that learners more exposed to a rich learning environment are more inclined of using a broader range of meanings beside the core meaning of “action-in-progress” expressed by the progressive construction. However, the study does not take into account other features that might express the concept of progressive aspectuality, but it just focuses on the construction *to be + Ving*. Another exception is Laitinen & Levin’s (2016) research that explores the *always*-type progressive, a relatively recent extension of the progressive aspect that conveys non-aspectual meanings (e.g., *You’re always complaining*). Their findings indicate that this particular usage is notably frequent in English spoken in non-instructional contexts in Finland and Sweden.

Among meaning-oriented studies, there is also an earlier strand of research belonging to 90s, and particularly driven by Bardovi-Harlig and Klein, that has instead focused on the pragmatic and lexical devices used to express

temporal-aspectual content in learner varieties. These investigations (von Steutterheim & Klein 1987; Bardovi-Harlig 1999, 2000) concur on the types of linguistic strategies learners tend to utilize and the sequence in which they adopt them. Initially, learners predominantly depend on chronological sequencing, arranging events according to the order in which they happened. As they progress, they begin to incorporate more adverbial expressions (such as "yesterday" or "after") and connective words (like "and" or "so") to link events. Eventually, they move toward using verbal morphology to convey temporal relationships. This developmental pattern is commonly known as the "three-stage" acquisition process (Bardovi-Harlig 2000).

In conclusion, the few existing meaning-oriented studies have demonstrated the richness and variability of learner expression of progressive aspectuality but remain scarce, fragmented, or limited in scope. As a result, there is a significant gap in our understanding of how learners develop and use progressive aspectuality as a cognitive-semantic category across contexts, forms, and functions. This gap is precisely what the present study aims to address.

3.6 Connecting the dots

In chapters 2 and 3, various research stances within the discipline of multiple language acquisition have complemented the investigation and treatment of the English progressive, which also presents different and often debated views on how to look at this phenomenon. Specifically, both chapters have highlighted different perspectives, theories and models when dealing with, on the one hand, the investigation of the mechanisms underlying language learning, and on the other hand, how a linguistic topic like the progressive can be approached from different research paradigms. On the basis of the most prominent theories about aspect, we have distinguished a notion of aspect from a general content category of aspectuality. We have focused our attention on the theoretical debate around such distinction, while focusing on the progressive (aspect vs aspectuality) in relation to English. We have seen that the content category of progressive aspectuality is not restricted to grammaticalized forms, but its realization takes place on different linguistic levels. The starting point is therefore different from what the traditional literature about aspect makes as a basis for cross-linguistic comparisons, and this allow us to look at progressive aspectuality as a multi-level phenomenon in a new light.

We have also connected the two chapters by presenting the existing literature about the progressive in language learners, both from a form-based and meaning-oriented perspective. From a form-based perspective, we have seen that progressive aspectuality has been mostly investigated in its grammaticalized realization of the *to be + Ving* English progressive construction by learners. We have also seen that this construction typically shows certain patterns of occurrence with specific classes of verbs and this relationship much depends on verbs' inherent lexical semantics, or what we

call lexical aspect. In this regard, we have discussed some of the influential theories like the Aspect Hypothesis, that predicts that learners use of the progressive aspect is influenced by the semantics of the verb predicate, or the Discourse Hypothesis, which predicts that learners could be influenced by the way in which discourse is structured between the levels of background and foreground and the way in which events are told from a story telling perspective. Progressive and imperfective are more concerned with the background of the story, rather than with the foreground.

From a meaning-oriented perspective, progressive aspectuality has been less investigated in language learners. This is probably due to the fact that the meaning of progressive is fairly easy to establish, and this is even more so in language learners. Examining the *to be + Ving* construction reveals that it generally signifies an ongoing situation. However, its interaction with other aspectual features does not always conform straightforwardly to this basic interpretation of meaning. In some contexts, the construction may be influenced or modified by additional aspectual markers, leading to variations in meaning that go beyond the simple notion of an activity in progress. There are in fact other possible meanings that have been identified, for example subjective or durative interpretations of the construction, which go beyond the prototypical meaning of ongoingness. Consequently, the *to be + Ving* construction should be viewed as part of a comprehensive aspectual system, in which multiple elements collectively shape its meaning. Rather than functioning in isolation, the construction interacts with various grammatical and lexical elements such as tense, lexical aspect, adverbials, and other contextual markers, that all play a role in determining the aspectual interpretation. However, very little is known about how the interplay of different linguistic elements in language learners convey progressive aspectuality and which meaning is associated with it, with all its different

realizations marked on other lexical or morphological features, rather than simply on grammaticalized aspectual construction like *to be + Ving*. If we take this as a starting point, it is not a surprise that holistic models of language acquisition explained in Chapter 2 could fit better with this purpose.

Form-based studies on the progressive have argued that multiple factors are at play in L2/Ln learners' productions, from the language input they receive to the typological distance of the languages at play. We might ask ourselves how learners' emergent understanding of the semantic concept of progressive aspectuality as whole and the way in which they express and use it depends on different factors as well.

With these premises in mind, the following research questions have been formulated:

- (1) How do learners of English express the content category of progressive aspectuality?
- (2) How do learners' prior linguistic systems interact with the newly emerging system of the English when expressing progressive aspectuality?
- (3) How does this emerging system change depending on learners' language background, the exposure to the English they receive at school, and the year of instruction?

The three research questions and the main hypothesis will be elaborated on in the following sections and addressed in the final discussion (Section 7).

4. Methodology

4.1 Research design

The present project is a *corpus-based study* designed to investigate multilingual learners' use and expression of progressive aspectuality in English by constructions that functionally and formally express this concept. For these characteristics, the study adheres to *constructionist* approaches to explain how learners' knowledge of progressive aspectuality is organized in its actual use, observable by learner corpus data. Learner corpus data, in fact, not only offer a window on the approximate knowledge and expression of progressive aspectuality from different speakers from a theoretical point of view, but also provides empirical evidence of its actual use and realization. Moreover, Learner Corpus Research (LCR) as a *usage-based* discipline is also able to provide a reliable quantitative methodology for data analysis following methodological recommendations and common practices in the field (Paquot & Plonsky 2017).

The project also embraces a *sociolinguistic* dimension, reflecting on the participants' language backgrounds involved in this study (and who generated the learner data collection) and the linguistic landscape of South Tyrol in which data have been collected. South Tyrol is a region in Northern Italy noted for its rich linguistic diversity and ongoing discourses on multilingualism intersecting the societal, institutional, and individual level. By looking at participants as individuals using their languages for different communicative purposes and contexts (with a specific focus on the school context), it is also possible to consider the ways in which learners of English are differently exposed to this language (and to other languages as well) within a socially grounded framework.

To contextualize the investigation, the methodological chapter begins with an overview of South Tyrol's sociolinguistic environment (Section 4.2), to set the stage for subsequent sections on the specifics of learner data collection and analysis (Sections 4.3 and 4.4). The chapter further details the methodologies employed for data extraction, for annotation conducted on the texts, and the characteristics of the final dataset that has been analysed (Section 4.5).

4.2 Living apart in the same room: the case of South Tyrol

South Tyrol is an Italian region located northern Italy on the border with Austria. It is also because of its geographical position and some peculiar historical events, that South Tyrol is a territory that has been characterized by a past of ethnic tensions (Carlà & Mitterhofer 2019), and still now it is considered “a contested region” (Grote & Obermair 2017: 15). The reasons why such a territory is contested is probably for its paradoxes on how society has been shaped and managed by governments over the course of time, and, as a consequence, how evident are certain ideological discourses around South Tyrolean society. One of the biggest areas in which such paradoxes are evident concern language policies and, more generally, the way in which language can really be a determinant for separation. Sometimes it is heard that South Tyrol should be considered and admired for being “a peace model for success when dealing with minority conflict” (Magliana 2000: 119) and that it might serve as a possible model for multilingualism for several eastern European countries (Benedikter 2015). However, being both a citizen and a researcher living and investigating this territory, I might argue that this is not always the case. To understand why, it could be helpful to come back to the history of this region and to the consequences of certain political decisions made over the years.

Originally, South Tyrol and the Trentino province made up part of the southwestern region of Austrian Tyrol (Cole & Wolf 1999: 1). Following the dissolution of the Austro-Hungarian Empire at the end of World War I, Italian military forces began occupying the territory now known as South Tyrol in 1918 (Steininger 2003: 4). As a result, South Tyrol and Trentino became the northernmost regions of Italy, while the remaining parts of Tyrol remained within Austria. At that time, the German-speaking community in

South Tyrol did not receive autonomy or protections for their minority rights, and the annexation of South Tyrol occurred in 1920 “without a referendum and against the wishes of [the] German-speaking population” (Alber 2021: 174). In October 1922, the Fascist party leader Benito Mussolini established a Fascist dictatorship from 1922 to 1943. Under the Fascist regime, efforts to italianize South Tyrol were intensified through various measures. One notable example is the Tolomei campaign, named after the geographer Ettore Tolomei, which aimed to assimilate the German-speaking population starting from the Italianization of geographical names. Additional policies targeted the use and dissemination of the German languages within the region, culminating in an official ban in 1922 on the use of German as a teaching language in South Tyrolean schools, with violations punishable by law (Visser 2017: 7). The primary goal of the Fascist regime was “to stress the centralization and homogenization of language” (Levy 1996: 10) by eradicating the German language and culture. In addition, a significant influx of Italian-speaking migrants were pushed by the regime to occupy these territories, with the counter effect in the residing German speaking population to developing a stronger sense of their own identity and minority status (Kager 1998). Feiler (1997: 11) explains it saying that “the pressure to which the [German speakers] were suddenly subjected had an identity-creating effect, leading to dissociation rather than integration”.

This also led, after the War, to the establishment of the (still existing) Südtiroler Volkspartei (SVP) or “South Tyrolean People’s Party”, created “as an ethnic unity party for German- and Ladin-speaking South Tyroleans” (Pallaver 2017: 228), with the main aim of reintegrating South Tyrol with Austria and “to help the South Tyrolean people exercise their right to self-determination” (Steininger 2003: 76). Despite numerous political efforts, achieving the status of autonomy in South Tyrol faced significant challenges

and negotiations between Austria and Italy, until the implementation of the first Autonomy Statute in 1948, covering the entire Trentino-Alto Adige region, not just South Tyrol. The Second Autonomy Statute, enacted in 1972, introduced two key changes: firstly, it granted equal rights to the region's three main linguistic communities, i.e. German, Italian, and Ladin speakers. Secondly, it transferred legislative authority to South Tyrol, allowing the region to govern key sectors such as education, commerce, tourism, agriculture, public works, and industrial development. Additionally, it established the "quota system" designed to promote fair representation and employment ratios among the German and Italian linguistic groups (Lantschner & Poggeschi 2008). Even though the quota system can be seen as "the most visible and more immediate consequence of the institutionalized separation between the German, Italian and Ladin linguistic groups" (Palermo 2006: 325, cited in Lantschner & Poggeschi 2008: 228–229), in practice it is viewed "as a system of power-sharing between the three language communities, aimed at enhancing their peaceful coexistence" (ibid: 224).

To determine the distribution of the three official language groups in South Tyrol, all residents are required to declare their linguistic affiliation based on a national census conducted every ten years (with the last one conducted in 2024). This process involves two types of "declarations of linguistic affiliation": an anonymous declaration and a personal declaration (Larin & Röggl 2019: 1023). The anonymous declaration is compulsory and used to establish the number of speakers for each language group, forming the basis for public funding and resource allocation according to linguistic strength (Alber 2021). The personal declaration, which is instead voluntary, but "must be made by anyone who applies for any position subject to linguistic group reservation or proportionality rules" (Larin & Röggl 2019: 1024).

Individuals who find it difficult to identify with one of the three official groups, e.g. German, Italian, or Ladin, are not recognized under the quota system for non-standard identities, leading to exclusion from certain facilities and provisions. Those who do not align with the official groups can declare themselves as “other”, however they must affiliate with one of the three groups to participate in related processes affected by which such decision (ibid.). This requirement raises questions about the acknowledgment of multilingual individuals and speakers of *other* languages beside the three officially recognized ones, especially with increasing intermarriage and immigration, as their linguistic identities are actually not fully recognized.

It is not a surprise that the linguistic demarcation is probably the most important aspect to grasp the dynamics of this place after all these governmental decisions. More specifically, understanding the local concepts of the South Tyrolean life in relation to languages can also help to reflect on the tension between being a multilingual region in which different languages coexist, and the monolingual management of multilingualism. For example, according to the Autonomy Statute, three main language communities are recognized, with German speakers making up approximately 69.4% of the population, Italian speakers the second largest group at 26.1%, and Ladin speakers the smallest group constituting about 4.5%, mainly in the Dolomites of Val Badia and Val Gardena (South Tyrol Information 2022; Larin & Röggl 2019; ASTAT 2018). Such information are regularly updated by the national census and published via different institutional channels⁷.

There are different aspects that can be captured that make it clear that the three language communities are also divided in their cultural and social life. For example, media outlets and news programs are organized along ethnic

⁷ <https://home.province.bz.it/en/autonomy>

lines, with the two main newspapers, *Alto Adige* and *Dolomiten*, produced specifically for their respective language groups (Pallaver 2017: 237). Also, the geographic distribution of the two largest language communities further underscores this separation: German speakers predominantly reside in rural areas, while Italian speakers mainly live in urban centers such as Bozen-Bolzano, Meran-Merano, and Leifers-Laives (Larin & Röggl 2019: 1034). Official tourism sources indicate that 98% of Italian speakers live in cities, whereas 72% of German speakers inhabit the countryside (South Tyrol Information 2022). This distribution “is the result of policies and forced immigration, aimed at aimed at “Italianization” of the province, imposed on South Tyrol under the Fascist regime” (Voltmer 2007: 202). For example, Bozen-Bolzano, the provincial capital, has the highest proportion of Italian speakers (73.8%), with distinct linguistic districts: Italian speakers are mainly in designated city areas, while German speakers tend to live in peripheral neighborhoods (Kaplan 1999: 50). Scholars like Carlà & Mitterhofer (2019) and Wand (2023) argue that South Tyrol’s consociational model has led to the coexistence of the language groups in separate living spaces, effectively causing the communities to “live apart in the same room,” reflecting an ethnically segregated environment cultivated over time.

Another and relevant aspect for the present study concerns the education system, which also mirrors a societal division between three separate schooling systems aligned with their respective language communities (including the Ladin-speaking community) and with a certain degree of autonomy in the determination of the school curricula. Over the past century, the education system in South Tyrol has undergone significant changes due to shifts in governmental control, from Fascist rule to Nazi occupation. During the Fascist era (1923–1943), German-language education was officially banned, prompting the local German-speaking population to

establish clandestine "catacomb schools" hidden from Italian authorities. Meanwhile, Fascist officials sought to impose Italian-language education. During the Nazi occupation, German-language schools were reinstated and the right to German-language education was definitively secured in 1946. This highlights the importance for the German-speaking community to maintain its own school system to preserve its cultural identity and protect its heritage. After 1946, separate educational policies led to the creation of a dual school system for German- and Italian-speaking students, ensuring that elementary and secondary education were conducted in each community's respective language (Baur & Medda-Windischer 2008: 235). Both systems were also required to include instruction in the official second language, even though they were initially intended to promote predominantly monolingual education. In 1972, the education system was restructured again, resulting in a tripartite schooling model that catered to the three linguistic groups of German, Italian, and Ladin. Currently, German- and Italian-speaking students attend separate school systems, with classes primarily conducted in German or Italian, respectively. The other language becomes the second language acquired starting from primary school, while English the successively foreign language added to school curricula⁸. The Ladin education system emerged as a third component to address the needs of the Ladin minority. Unlike the separate schooling model adopted for German- and Italian-speaking students, Ladin schools implemented a parity model, in which instruction is equally divided between German and Italian, Ladin is used as language of instruction in preschool and kindergarten, and also "used as [a] teaching aid in [Ladin-speaking] elementary and secondary

⁸ It should be noted that the instruction of English and the number of hours in which students are instructed at school, differ from the Italian and German school curricula. English instruction occurs in the first grade of primary school for Italian schools, with a total of 51 hours, while for German schools it starts in grade four and with a total of 136 hours. For more information, please refer to the Provincial guidelines established by the Italian schoolboard: https://www.provincia.bz.it/formazione-lingue/scuola-italiana/downloads/407114_Indicazioni_provinciali_I_ciclo.pdf and the German schoolboard: https://assets-eu-01.kc-usercontent.com/26bf2097-6663-0117-02e1-6cf39b4d6c12/0f2f6ada-3df2-4652-8670-e21b4e4d5084/Rahmenrichtlinien_Grundschule_Mittelschule_dt_2021%20.pdf

schools” (Peterlini 1997: 198). Today all three schooling systems operate independently, each having its own school boards.

The "free choice" policy in education grants parents the right to enroll their children in any school of their preference (Wand 2023), thereby promoting parental autonomy and fostering a diverse educational landscape. However, despite the freedom parents have in selecting schools, this policy does not guarantee automatic admission for all students. In many cases, schools retain the right to refuse enrollment based on certain criteria, most notably the student’s linguistic ability. Specifically, students may be denied admission if their proficiency in the language of instruction is perceived to be inadequate to effectively participate in regular classes (Baur & Medda-Windischer 2008). This practice raises important questions about equal access to education, as it can disproportionately impact children from multilingual backgrounds or those who are still developing their proficiency in the school’s language of instruction. If students are refused admission on these grounds, parents have the right to challenge the school's decision to the Administrative Court (Wand 2023). “This option in education allows parents from both spectrum to opt for monolingual or bilingual learning, in that parents from one language group can enroll their children in a school that uses the other official language” (Wand 2023: 132), while having this language as main language of instruction. As one might think, there are public debates about the different school types in South Tyrol, usually dominated and connected to different sentiments and perceptions among the population. For example, that “historically German-speaking schools have had a reputation for closing their doors to those who are not mother tongue German-speakers” (Wand 2023: 132) and “it is only in recent years that the German-speaking school system has become more flexible towards accepting non-German-speaking students” (ibid.), as also declared by the

former South Tyrolean President, Luis Durnwalder in 2001 (cf. Peterlini 2013: 237).

From this sketched picture, I hope I gave the reader the idea about why South Tyrol seem to be a paradoxical area of segregated into intersecting, subdivided and monolingual language enclaves. It is important to note, however, that this does not apply to everyone in the region. In the educational sector, for instance, teachers aim to offer students opportunities by introducing them to multilingual programs (such as “CLIL”). Many parents also express a desire for multilingual schooling options alongside the current system, viewing them as an additional pathway for language acquisition that could help their children become more multilingual. Also, several projects conducted (and many projects still ongoing) at the Institute for Applied Linguistics at Eurac Research promote linguistic diversity and plurilingualism as resources that need to be developed and used within the educational system to ensure that all children receive the same opportunities and chances for the future. One of these projects is explained briefly in the following section, as part of the data collected within the project conflated in a learner corpus project that provides the data foundation for the present study.

4.3 The “One school, many languages” project

The project “One school, many languages” (Stopfner & Zanasi 2021) was conducted between 2015 and 2018 by a team of researchers of the Institute for Applied Linguistics at Eurac Research (Bolzano, Italy). The main aim of the project was to investigate how linguistic repertoires and multilingual competences in South Tyrolean schools can be assessed, valued, and promoted. From this project, a series of work packages dealing with different aspects of multilingualism have been developed, ranging from teaching material and teacher training to in-class workshops and interactive tools for parents and families (Engel & Stopfner 2019). The study also combined a wide range of methods, instruments and data in order to provide a holistic picture of the individual as well as institutional prerequisites assumed to play a role in the development of plurilingual competences (cf. Stopfner 2021).

One of the main foci of the project concerned investigating the plurilingual competences of 170 students in eight middle schools at different times between 2015 and 2018. The students were accompanied individually throughout the entire three years of middle school to actually follow the developmental path of plurilingual competences by eliciting written tasks in the three languages taught at school (Italian, German and English) in each year.

Two genre-specific written tasks have been submitted to the participants, namely an opinion text and a picture story text, given that all secondary-school students should be familiar with these tasks types (cf. Glaznieks et al. 2022). The participants in the study had a time limit of twenty minutes to complete the tasks, with no restrictions on word count or page length, and without additional help.

To provide an example of the picture story task designed for the English⁹, in year 1 participants were asked to write a narrative based on a picture story by the E.O. Plauen series *Father and Son* (*Der Schmöker, Der gelöschte Vater, Die gute Gelegenheit*) (Figure 11). The task prompt was formulated in English as follows: “A picture story. What has happened here? Look at the pictures and write the story! Try to write something for every picture.”

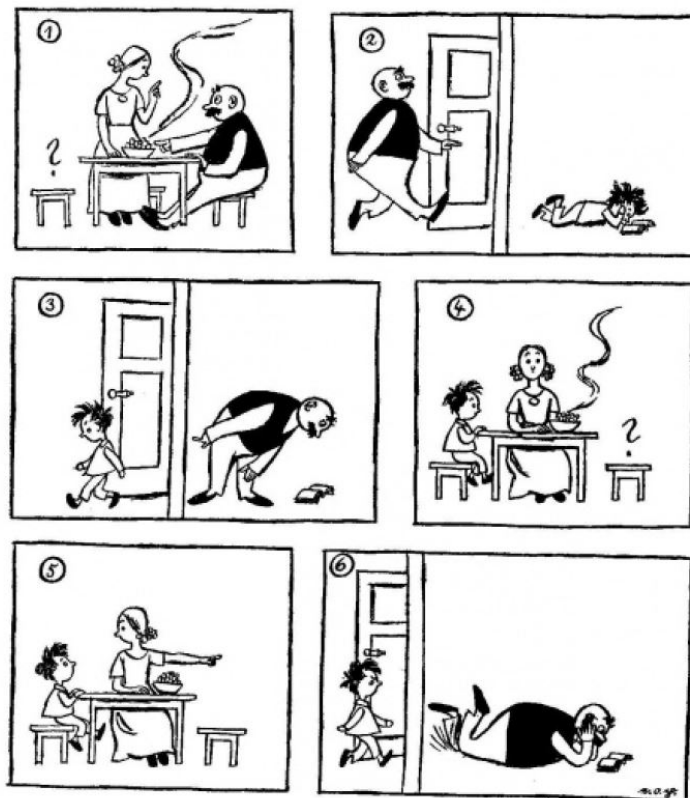


Figure 11: "Der Schmöker" by E. O. Plauen

Four classes in German-speaking secondary schools and four classes in Italian-speaking secondary schools took part in the study, to avoid any distortions to the respective institutionalized language practices. The texts collected within the project successively conflated into a learner corpus collection that, following principles of corpus design and creation, gave birth

⁹ For a full description of the tasks, see Glaznieks et al. 2022, and the Eurac Research Learner Corpus portal PORTA <https://www.porta.eurac.edu/lci/leonide/>.

to an openly available¹⁰ corpus collection called “Leonide” (*Longitudinal trilingual corpus of young learners of Italian, German and English*) (Glaznieks et al. 2022) (cf. Section 4.4).

It is quite important to stress that, as it has been already explained, originally the project's goal was not to create a corpus but to investigate multilingual practices and competences in the South Tyrolean educational system. This shift towards the creation of a linguistic resource like Leonide introduces on the one hand unique characteristics of the corpus, but on the other also challenges and limitations.

The learner corpus data collected in Leonide, as it will be explained in Section 4.4, is particularly interesting because it stems from a project endeavor profoundly dedicated to fostering multilingual practices among participants. This commitment undoubtedly influenced the research environment, encouraging students to produce texts in a setting where plurilingualism was actively promoted, thereby legitimating its exploration beyond linguistic boundaries. This dynamic is reflected also in students' texts, further underscoring the project's philosophical underpinnings and its contribution to multilingual acquisition theory.

However, it is also important to acknowledge certain challenges and limitations associated with the corpus collection, which are known to be challenges in corpus linguistics as well. For instance, the lack of publicly available metadata on the proficiency levels in the three languages studied restricts the comparability of this corpus with others that employ proficiency testing based on the “Common European Framework of Reference for Languages” (CEFR) (see for example *EFCAMDAT*; Geertzen et al. 2013).

¹⁰ The data has been made available to the scientific community by offering both a search interface using the corpus query software ANNIS: <https://commul.eurac.edu/annis/leonide> and additional documentation can be found in the Eurac Research Learner Corpus Portal PORTA: <https://www.porta.eurac.edu/>.

Additionally, the process of corpus design needed a more systematic approach for example to creating metadata on students' linguistic backgrounds, a process which currently simplifies the diversity and complexity of language repertoires, potentially detracting from the project's original objectives. This aspect will be explored in greater depth in Section 4.4.2.

The forthcoming section details the general characteristics of Leonide and frames it within the field of Learner Corpus Research by comparing it with other multilingual corpus collections. It follows Leonide's main characteristics with respect to the English data and metadata collection used within the present project.

4.4 When Learner Corpus Research meets Multilingualism: Leonide

A corpus is generally understood as a systematically compiled collection of digital texts, encompassing both written and spoken material which are typically transcribed and stored in separate files for analytical purposes (cf. Wulff 2017). Learner corpora, as a specialized type of corpus, consist of language produced by individuals acquiring a foreign language. More precisely, they include texts that reflect learner language use in settings that are as naturalistic as possible, capturing the linguistic output of learners in various contexts (cf. Granger 2008).

Traditionally, research into learner language has been closely tied to Second Language Acquisition (SLA) studies and the specialization on corpus creation based on learner productions has given rise to the field of Learner Corpus Research (LCR), that could be classified as an “offshoot of corpus linguistics” (Granger et al. 2015). Until then, Corpus Linguistics had traditionally focused on native language data, demonstrating its effectiveness in linguistic analysis (McEnery & Hardie 2012). LCR expanded these methodologies to non-native language use, providing access to extensive collections of learner data and enabling large-scale studies with more generalizable insights.

Within corpus linguistics, an essential principle is the use of authentic language, understood as language produced for genuine communicative purposes rather than for research purposes alone (Gilquin & Granger 2015). However, in the case of learner corpora, strict adherence to this principle is challenging, as much of the language produced by learners arises in instructional settings rather than spontaneous real-world interactions. As a result, authenticity criteria are often adjusted for learner corpus studies, with written essays being a predominant data source since they reflect a common

classroom activity (Granger et al. 2015). Other text types, such as picture description tasks, offer a more controlled yet still semi-spontaneous representation of learner output, as they require learners to produce language freely while adhering to given prompts (Gilquin & Granger 2015). Although spoken learner corpora do exist, they remain significantly less prevalent than their written counterparts.

There are also other observations that many scholars have pointed out to the field. Many scholars have noted, for example, that the majority of research tends to focus on advanced learners, while studies involving novice or less proficient students are relatively scarce (*ibid.*). This tendency is closely linked to the reliance on essays, a task that demands a certain level of linguistic proficiency. This is one of the main reasons why the current study aims to enrich observations made about more advanced learners, relying instead on lower-secondary school students. In fact, the participants whose texts have been included in Leonide collection involve approximately 170 students attending eight classes of lower-secondary schools in South Tyrol. Additionally, the students' writings include not only essays of the argumentative or opinion genre but also picture description tasks, which are somewhat more structured. The picture description exercises offer a more controlled environment, where students are expected to describe specific scenes depicted in images using relatively consistent vocabulary. Conversely, the opinion texts address simpler topics that students are capable of discussing, even in shorter texts, though they afford less control over the vocabulary used. The researchers that have built the corpus already accounted for the wide variation in the corpus with respect to text length (*cf.* Glaznieks et al. 2022: 105) but, as it has been already said, the written tasks were not designed in principle for the sake of corpus creation.

Another criticism of LCR is its predominant focus on English as a foreign language, although the inclusion of other target languages has been steadily growing (Granger et al. 2015). Considering English's status as a global lingua franca, this emphasis is understandable. Moreover, as it has become evident, the current study also reflects this bias, since it concentrates on English as an additional language and utilizes a learner corpus comprising English learners. Most existing corpora, however, predominantly consist of second language learners (Gilquin & Granger 2015: 419) and there are relatively few corpora that specifically include multilingual learners (Wulff 2017: 751), therefore the present study aims to address this gap. In fact, despite the expanding interest in multilingualism within LCR and the multilingual turn in social sciences (cf. Section 2.3.1), a notable paucity of corpora featuring learners of multiple languages persists. Wulff's observation in 2017 highlighted the absence of dedicated corpora for learners of a third language (L3) or additional languages, with few exceptions like the *ASU* Corpus (Hammarberg 2010a) and Hammarberg & Williams' early work on L3 Swedish learning (Hammarberg & Williams 2009). This scarcity remains evident nowadays, with only few notable corpora focusing on L3 or Ln acquisition, including *CATE* (Lu et al. 2019), Lisson & Ballier (2018), *ELEACTAR* (Kruse 2018), *TRAWL* (Dirdal et al. 2017), *SWIKO* (Karges et al., 2019) and Lorenz's dissertation (2019) exploring cross-linguistic influence in L3 acquisition of tense and aspect (cf. also Wulff 2023 for a recent discussion). To the best of my knowledge, these are the only existing corpora that deal with additional language acquisition and that are in certain aspects comparable to Leonide. In line with the tasks designed for each of the three languages that students learn at school, Leonide is a multilingual corpus in a way that, a) it has been designed following a tripartite organization according to the target language specified for each written tasks, namely Italian, German and English, and b) includes learners of more

target languages in which each subcomponent of the corpus represents the target language learned at school and in which English (the subcomponent considered in the present project) represents the additional language acquired by students beside German and Italian.

There is however also some confusion about what a multilingual corpus actually is, since the term “multilingual” encompasses diverse meanings. A multilingual corpus might be for example conceived as a collection of texts in two or more languages put together in a principled way for different purposes. In the realm of learner corpora, multilingual learner corpora can also be considered the ones which illuminate differences between source texts and translations in a target language conducted by learners of this language (the so-called “learner translation corpora”) (cf. Ferraresi & Bernardini 2023). These corpora serve as a structured way to analyze how bilingual intuition manifests in learners’ translation efforts, as reflected through the pairing of source and target language segments within the texts. Because they encompass multiple languages and capture the translation behavior of learners, they are considered part of the category of multilingual learner corpora. Multilingual learner corpora are also, for instance, the *LeaP* corpus (Learning Prosody in a Foreign Language) containing spoken data from learners of English and German, alongside native speakers of these languages for comparative analysis (Gut 2012), or the *GeWiss* corpus that functions as a parallel corpus, incorporating spoken academic language data from native and non-native speakers of German, English and Polish collected in three different academic contexts (German, British and Polish academic context) (Fandrych et al. 2012).

A learner corpus like Leonide can be considered multilingual from a different and innovative perspective, as it contains learners’ texts written in three different languages by the same individuals. This makes it a versatile

tool suitable for various types of studies within the field of multilingualism. For example, it can be used to evaluate learners' proficiency across different languages by analyzing texts written by the same speaker, or it can be used as an empirical basis for studying transfer and cross-linguistic phenomena occurring across the three languages documented (Osborne 2015).

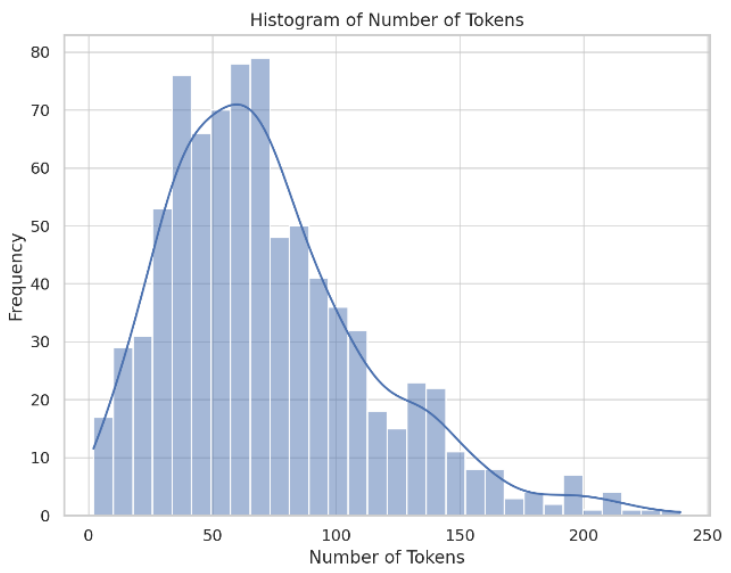
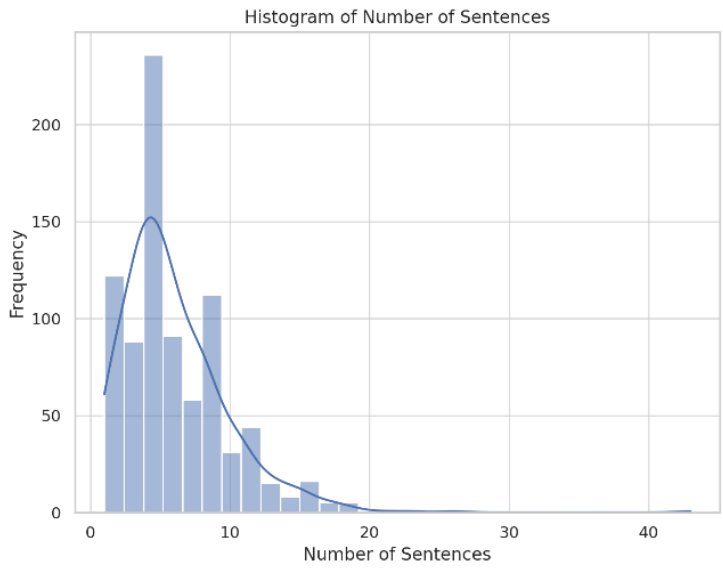
A final consideration in LCR is the role of metadata, i.e. contextual information about both the texts and the learners themselves (McEnery & Hardie 2012). Metadata such as learners' linguistic backgrounds, gender, or educational history enrich analytical possibilities, enabling comparisons across different learner groups (Gilquin & Granger 2015). One of the core metadata used in LCR is the "learner L1" metadata (cf. Paquot et al. 2023) and is usually used to compare different groups of learners having in common the same language background (synthetically systematized in the form of L1 metadata), or it helps to distinguishing learner groups from the reference groups (e.g., *FALKO*, Lüdeling et al. 2008; *LAS2*, Ivaska 2014). This way of categorizing and comparing speakers based on this metadata (as discussed and tested using Leonide participants' metadata in Lopopolo et al. 2025), raises significant theoretical, methodological, empirical problems. In Section 4.4.2, I will dedicate a more elaborated argumentation on this topic, by also explaining the operationalization and the procedures conducted for Leonide metadata concerning speakers' language backgrounds.

4.4.1 Leonide English subcorpus data

As already mentioned, Leonide consists of three different subcorpora divided per target language (Italian, German and English) but in the present investigation we are interested in English as additional language acquired, therefore we will only focus on this subcomponent to explain its main characteristics. The full corpus contains on the whole ca. 236.900 tokens coming from 2.512 texts, while the English subcorpus is composed by ca. 69.700 tokens and 835 texts. There are slightly more texts in year 2 (146 opinion texts and 143 picture stories) compared to year 1 (136 opinion texts and 135 picture stories) and year 3 (140 opinion texts and 135 picture stories). The main reason for this is due to students' presence on the days of the data collection.¹¹

For a general overview on the English data, I have calculated for each individual target text the number of tokens, the number of sentences and the average sentence length. The distributional patterns show great variability for all these aspects, as can be seen in Figure 12.

¹¹The following information refers to the target version of the corpus: corpus compilers have provided an original version of the texts as it was originally written by students and a target version that corresponds to the orthographic correct spelling of the word the learner probably intended to write. For reasons of accuracy in the calculation procedures, I report here the main characteristics of the target texts to only provide a general overview on the data to the reader. However, for the analysis of students' productions and the interests of this investigation, I relied on the original version of the texts.



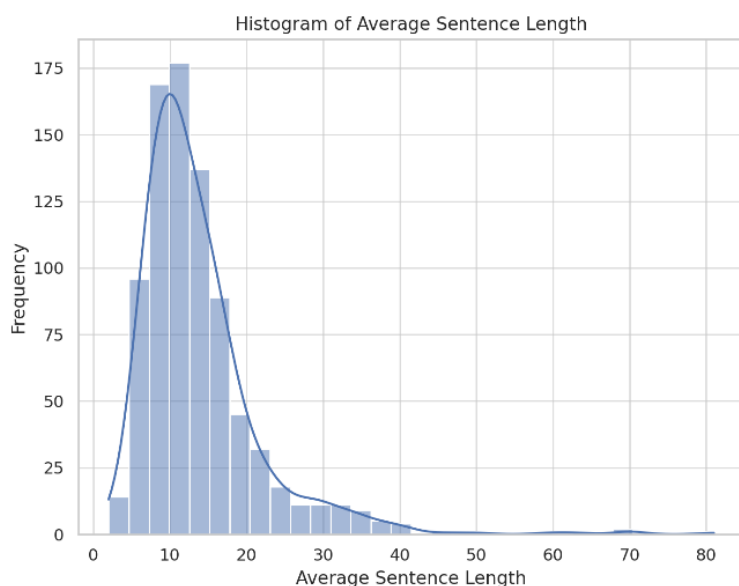


Figure 12. Distribution of number of tokens, number of sentences and average sentence length of Leonide English target data

On average each text of the English subcorpus has 72 tokens, however the range of tokens per text is quite wide: the shortest text consists of only 2 tokens, the longest of 239 tokens (cf. Glaznieks et al. 2022). The average for sentence length is 13, with the shortest text consisting of 2 sentences on average and the longest with 81. The mean for number of sentences is of 6 (standard deviation 3,89), the median is 5, with some texts having as few as one sentence and others up to 43 per text. The IQR of 5 indicates that the middle 50% of the texts vary between 3 to 8 sentences.

Since the main focus of this investigation is on progressive aspectuality, it is useful to also show some information about the use of verbs in students' texts. In Figure 13 it is represented the verb count per text, the average of verbs per text, and the verb type-token ratio with respect to the total number of lemmas occurring in each text.

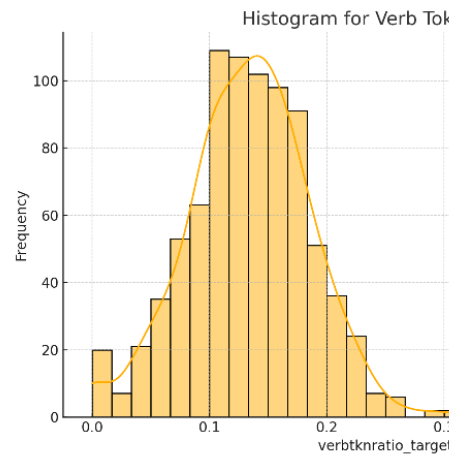
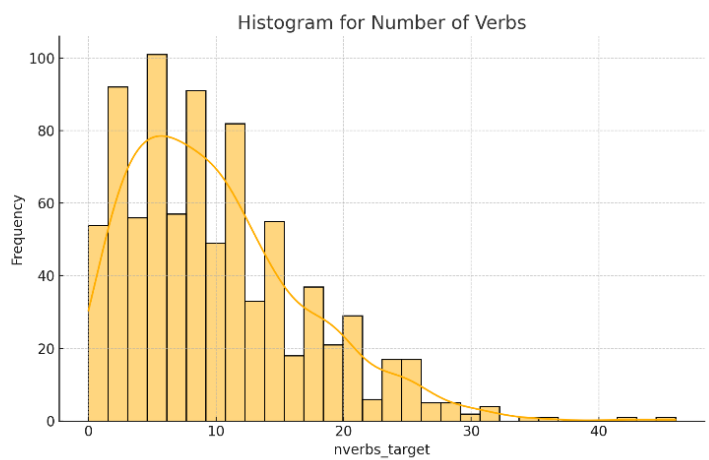
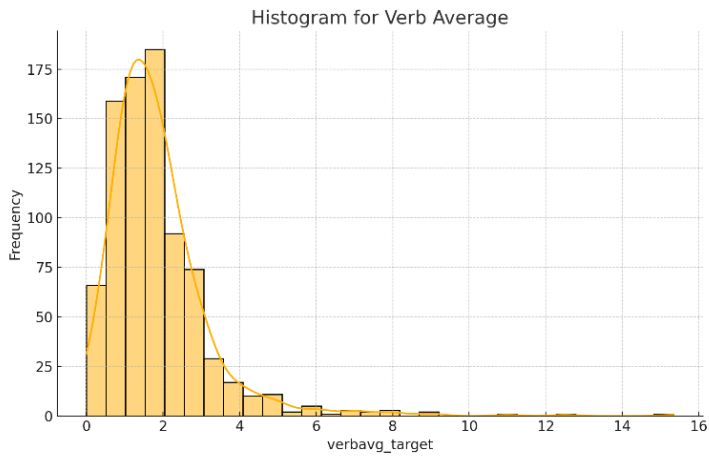


Figure 13. Distribution of number of verbs per text, verb average and verb-token ratio per text

The distribution of the number of verbs across the texts is right-skewed, with most documents having fewer verbs. The median (24 verbs) is less than the mean (25.4 verbs), confirming the skewness. The interquartile range is 14, indicating moderate variability. The distribution of verb averages is relatively symmetrical around the mean (2.8), with the median (2.8) closely matching the mean. The data follows a normal distribution pattern,

indicating consistent verb usage per document. The interquartile range is 1.2, showing lower variability. The verb token ratio also displays a right-skewed distribution, with a mean (0.12) and median (0.12) indicating a general tendency towards lower ratios.

For a deeper understanding on the data, every user can refer to the freely available corpus query software *ANNIS*¹² for specific query searches or it is also possible to download the full corpus from the research data repository¹³ to extend this general overview to other aspects of the data. The corpus search interface and the corpus downloads are all available via the *Learner Corpus Portal PORTA*¹⁴ where additional documentation about Leonide can also be found. Among the different corpus information provided, there are also many annotations on corpus data that have been conducted manually by the core team of Leonide and are also freely available to corpus users, ranging from the structure of the text (lines, paragraphs and pages), orthographic errors tagging (i.e. the orthographic correct spelling of the word), the use of discursive elements like emoticons or symbols, data anonymization and so on. Automatic processes were also applied to all texts in the corpus, including sentence splitting, tokenization, lemmatization, and part-of-speech tagging (cf. Glaznieks et al. 2022 for a full overview). For the English subcomponent, it was done using the *Stanford Core NLP* toolkit¹⁵. For the purposes of this investigation, I have however conducted manual annotations based on a tailored architecture scheme that has been developed according to my research aims. The annotation procedures and the data extraction are explained in Section 4.5.

¹² <https://commul.eurac.edu/annis/leonide>

¹³ <http://hdl.handle.net/20.500.12124/25>

¹⁴ <https://www.porta.eurac.edu/>

¹⁵ stanford-corenlp 3.9.2 (<https://stanfordnlp.github.io/CoreNLP/history.html>)

4.4.2 Conceiving Leonide speakers' language backgrounds metadata as Dominant Language Constellations

It is now already clear that the target population to which the main research questions of the original project (cf. Section 4.3) have been addressed consists of lower-secondary school students living and attending schools in South Tyrol. The selection of schools was made in collaboration with the cooperating school boards, taking into account the sociolinguistic context. This involved pairing schools that use German as the language of instruction with those that use Italian, and within each group, selecting schools located in predominantly Italian-speaking areas alongside those in predominantly German-speaking areas.

There are 163 students whose writings are included in the Leonide collection, comprising 76 females and 87 males. Of these, 82 students attended schools where German was the language of instruction, while 81 studied in Italian-language schools. The majority of these students were between 11 and 12 years old at the onset of data collection in the original study, with only a small part (9 out of 163, approximately 5%) being slightly older.

Beside the official language of instruction students receive at school, much information about students' language background has been gathered during the original project, comprising the language practices students have at school with their peers and outside school, and their experiences with languages (for example, their attitudes towards the three languages acquired at school). The instruments used to elicit such information were questionnaires given at the beginning and end of the project, formulated in either Italian or German. The questionnaire in year one focused specifically on students' language repertoire by asking which languages they use with

whom and how often¹⁶. The questions were formulated as follows: “*My mother/father speaks with me...*” and three pre-specified potential answers were provided to tick when applicable: *Italian*, *German* and *English*. Four additional lines were given for any other language that might be needed to answer the question.

The questionnaire in year three, instead, has questions related more to students’ language habits, such as “*How often do you read books in the following languages?*” with the three pre-specified languages of the study (Italian, German and English) and the same 4-point Likert scale for frequency.

Leonide’s corpus compilers picked up only some of the questionnaire items to provide a set of metadata about students’ language background, among which two core metadata can be found in the corpus interface, namely a metadata called *author_L1* and another one called *school_language*. The metadata *author_L1* refers to the language(s) that students use with their parents (mother and father), in which the three pre-specified languages were integrated into the values of *IT* (for Italian), *DE* (for German), *EN* (for English) if students declared to *always* use one of these languages with parents. Due to anonymization reasons, the other languages declared by the students as family languages always used in this context converged into the category “*OTHER*”. This means that the questionnaire contains specific information about other languages beside the three pre-established used by students with their parents, but that this information has been merged into a unique category called *OTHER*. Table 4 provides an overview of the possible combinations of these categories that appear as values of the two metadata *author_L1* and *school_language*.

¹⁶ The frequency of use was expressed in the questionnaire using a 4-point Likert scale (1-never, 2-sometimes, 3-often, 4-always).

Metadata	n	%
author_L1		
DE	41	25.2
DE-IT	17	10.4
DE-IT-OTHER	2	1.2
DE-OTHER	3	1.8
EN-OTHER	1	0.6
IT	46	28.2
IT-EN	2	1.2
IT-EN-OTHER	1	0.6
IT-EN-OTHER-OTHER	1	0.6
IT-OTHER	9	5.5
OTHER	39	23.9
OTHER-OTHER	1	0.6
TOTAL	163	100
school_language		
DE	82	50.3
IT	81	49.7
TOTAL	163	100

Table 4. The metadata *author_L1* and *school_language* in Leonide

The values encoded, as argued in Glaznieks et al. (2022: 104), show two macro groups of students for *author_L1*, namely a monolingual group of students using only one language with their parents (comprising *monolingual German* (41), *monolingual Italian* (46), *monolingual Other* (39)) and a plurilingual group of students (36) comprising students having multiple combinations of more than one language used with their parents. The metadata *school_language* provides instead two macro groups (Italian and German) corresponding to the two schools' main languages of instruction.

Especially the categorization of students' language groups based on the metadata *author_L1* between monolingual vs plurilingual students raises significant problems:

- **Definition of Monolingualism:** The characterization of students as monolingual based on their use of a single language at home overlooks the language practices of the speakers in other contexts. In fact, this classification fails to capture the interactions that students have in various linguistic contexts, including school and social settings. By labeling students who primarily use one language with their parents as monolingual, we ignore their likely engagement with multiple languages in different contexts of their daily lives. Moreover, the context of family can be broadly interpreted to include interactions with siblings and other relatives, where students may use additional languages. This is particularly relevant in families where parents or one of them speaks a heritage language; while children may primarily use this heritage language with one or both parents, they might also engage in the languages to which they are exposed to in their living environment. This oversimplification can obscure the rich, plurilingual identities of the participants and diminish the representativeness of the data. This issue has been acknowledged by many scholars, for example Wei (2015: 195) notes that “despite the commonplace occurrence of multilingual practices in our everyday life, there is a pervasive belief in society, bilingual and monolingual alike, that languages are best kept separate, discrete and pure”. In their recent contribution, Rothman et al. (2022: 321) state that “given the context of our science and societies in 2022, it is worth bringing to the fore the problematizing of this practice”.
- **The traditions of the LCR community vs holistic models of language acquisition:** despite the wealth of metadata about learners’ language background that learner corpora projects are able to provide and that also Leonide carefully provides and document, the tendency of the field is still to classify languages within a framework that may

not fully capture and incorporate the idea of languages as integrated and interconnected resources. Recent developments in social sciences, particularly those informed by models of multilingualism like Complex Dynamic Systems Theory (CDST), the Dominant Language Constellation (DLC), and Diasystematic Construction Grammar (DCxG), emphasize the integrated nature of linguistic repertoires. These models challenge the traditional discrete categorization of languages and advocate for viewing language use as a dynamic and interconnected system (cf. Section 2.3). It is probably pertinent to question and problematize the practice of classifying languages in ways that may not align with the complex reality (and necessities) of our societies. Efforts to bridge this gap should probably involve a reevaluation of language classification systems within LCR, moving towards frameworks that might better reflect the interconnected nature of language systems as integrated ones. This shift should not just be seen as a theoretical refinement, but it has practical implications in the way in which we would like to portray speakers' language backgrounds in LCR. By adhering to a rigid metadata structure that separates languages into distinct categories, the metadata provided in Leonide risks perpetuating notions of linguistic separateness and of languages as "linguistic solitudes" (Cummins 2007). This approach is far from holistic models that sees languages as interwoven networks in which languages are used for different communicative purposes. The corpus metadata provided in Leonide should, therefore, evolve to reflect these theoretical advances, portraying languages as part of a cohesive multilingual system rather than isolated entities.

- **Comparability with other corpora:** The encoding of the *learner LI* metadata as discussed in Lopopolo et al. (2025) presents fundamental challenges that concerns the whole field of LCR. In this article, a

review of most frequently used learner corpora by the LCR community shows that not only many learner corpus compilation projects do not document L1 at all or do not consistently do it, but they interpret it variably, ranging from the language of early exposure to the predominant language of communication in the family context. While Leonide's specific categorization of L1 is based on the use that participants make with their parents (mother and father) and is made explicit in the corpus documentation, it could turn out to be problematic when comparing Leonide to other corpora where L1 encapsulates other concepts. Such discrepancies can lead to misleading conclusions about language usage, potentially skewing comparative linguistic research.

For these reasons, Leonide speakers' language backgrounds in the present study have been conceived in a different way. The metadata created for Leonide and the questionnaires gathered during the "One School, Many Languages" project have propelled my interest in employing a different conception of language background that might have better represented students as participants embedded in the linguistic reality of South Tyrol. To address the issues just discussed, the holistic model of Dominant Language Constellation (DLC; Aronin 2006; 2017) (cf. also Section 2.3.4) has provided the theoretical foundation to portray speaker's most expedient languages in the configuration of a dominant language constellation. This approach has been defined as currently "the only model of multilingualism that has an explicit practice-based orientation" (Storto et al. 2023: 152) and, as it has been argued by Letica Krevelj (2017), a very useful model for both qualitative and quantitative studies. The approach works actually as a methodology because it enables shifting the focus from the investigation of

separate languages to the exploration of their constellations (Aronin & Jessner 2014: 64).

The idea of dominant language constellations has been reproduced using a clustering technique which considers students' information of language use in different contexts as a basis to create prototypical clusters of students sharing similar language use. As described in Lopopolo et al. (2025), the *Two Step Cluster Analysis* technique has been used for “its suitability in handling complex datasets and multiple variables” with the aim of identifying clusters of students, according to their responses to the questionnaires.

Considering the metadata that were at disposal from the project “One School, Many Languages”, students' DLCs have been modeled on the basis of three contexts of use of the languages declared in the questionnaire, namely the *family* context, the *school* context and the context of *friends*. The questionnaire statements considered as data input for creating the DLCs are listed in Table 5:

Context of language practice	Questionnaire statements
Family	a. My mother speaks with me ...
	b. My father speaks with me ...
	c. My siblings speak with me....
Friends	d. My friends speak with me...
School	e. Which kindergarten did you attend? ¹⁷
	f. Which primary school did you attend?
	g. Which lower-secondary school do you attend?

Table 5. The contexts of language practice and the questionnaire items considered

In the analysis, the previous *author_L1* metadata (based on the language(s) spoken with parents) (a, b), has been expanded to include responses about

¹⁷ All three questions in the context of schooling intended to ask for the language of instruction.

siblings as well (c). This decision was influenced by the observation that, especially within family settings, students use different languages with their parents and their siblings. Therefore, as language dynamics within a family can vary depending on the specific relationships between family members, information about siblings have been included as part of the family context.

For the context of friends, only a specific questionnaire item (d) related to the frequency of language use with the students' friends was considered. The school context presented a distinct criterion. Students were asked to indicate, in response to the questionnaire statements (e, f, g), whether they attended a German, Italian, or a kindergarten, primary or lower-secondary school with another language of instruction. To comprehensively understand the dominant language(s) in which students were instructed at the time of data collection, the responses from all school grades have been merged into a single variable. This involved reshaping the responses to the questionnaire statements into a unified one, derived from the median of the three school grades (kindergarten, primary and lower-secondary school).

The Two Step Cluster Analysis was conducted to identify distinct clusters within Leonide students on the basis of their responses to the questionnaire items considered (Table 5), and to the frequency of use of the languages measured on a 4-point Likert scale ranging from 1-never, 2-sometimes, 3-often to 4-always.

The analysis involved several iterative steps across different clustering solutions: first, it was ensured that the likelihood distance measure among the variables considered in the cluster model were independent and that each categorical variable was assumed to have a multinomial distribution. Secondly, in order to determine the number of clusters, different clustering criteria have been tested, i.e. by either automatically determining the optimal number of clusters or fixing the number of clusters. Moreover, the Two Step

Cluster Analysis requires that the silhouette measure of cohesion and separation is expected to be at or above the required level of 0.0 (highest being 1.0). A score above 0.0 would ensure that the within-cluster distance and the between-cluster distance is valid among the different variables as there is some variation between variables. The silhouette measure of cohesion and separation for our final model showcased a fair separation distance between clusters (0.3) (cf. Lopopolo et al. 2025).

Table 6 shows the result of the analysis with four main clusters across Leonide students (n=163), each characterized by distinct language usage patterns (the three predetermined languages Italian, German, English and any other language declared beside the predetermined ones), in the contexts considered (family, friends and school) and the relative importance of the predictor (scale of predictor importance is set from 0 (least important) to 1 (most important)).

Cluster name	Dominant German	Dominant Italian	Dominant Heritage Language + Italian	Dominant Italian + German
Cluster size	52 (31.9%)	45 (27.6 %)	37 (22.7 %)	29 (17.8%)
Context family				
German	always (100%) (1)	never (48.6%) (1)	never (70.4%) (1)	often (78.9%) (1)
Italian	never (64.3 %) (0.56)	always (88.6%) (0.56)	sometimes (44.4%) (0.56)	always (78.9%) (0.56)
English	never (85.7%) (0.06)	never (85.7%) (0.06)	never (74.1%) (0.06)	never 47.4% (0.06)
Other	never (90.5%) (0.06)	never (74.3%) (0.36)	always (74.1%) (0.36)	never 47.4% (0.36)
Context friends				
Italian	never (54.8%) (0.38)	always (100%) (0.38)	always (77.8%) (0.38)	always (84.2%) (0.38)
German	always (95.2%) (0.44)	never (42.9%) (0.44)	never (44.4%) (0.44)	always (63.2%) (0.44)
English	never (88.1%) (0.05)	never (68.6%) (0.05)	never (55.6%) (0.05)	never (63.2%) (0.05)
Context school	German as language of instruction (100%) (0.43)	Italian as language of instruction (100%) (0.43)	Italian as language of instruction (40.7%) (0.43)	German as language of instruction (68.4%) (0.43)

Table 6. Participants' clusters in Leonide (taken from Lopopolo et al. 2025: 10)

From this analysis, it is possible to interpret the four different clusters making the following observations:

Cluster *Dominant German* (31.9%): the exclusive use of German in the context of family has the highest predictor importance (1) to determine the belonging to this cluster, with 100% of the students declaring that they always use German at home. The same applies for the school context, in which 100% of the students declared to have attended all the school grades with German as language of instruction; similarly in the context of friends, 95.2% of the students declared that they always use German in this context. The languages Italian, English and other have a lower predicting importance power to determine the cluster belonging when they are never used in all the contexts.

Cluster *Dominant Italian* (27.6%): the exclusion of German in the context of family has the highest predictor importance (1) to determine the belonging to this cluster, with 100% of the students declaring that they never use German at home. The same applies for the context friends, with a high predictive power (0.44) in case of the students who declared to never use German in this context. Instead, 88.6% of the students declared to use always Italian at home and 100% of them to use always Italian with their friends. 100% of the students attended school grades with Italian as language of instruction. The languages English and 'other' have a lower predicting importance power to determine the cluster belonging when they are never used in all the contexts.

Cluster *Dominant Heritage Language + Italian* (22.7%): 74.1% of the students always use other languages beside German, Italian and English in the context of family; 70.4% of them never use German in the context family and 44.4% prefer using Italian within this context. This might explain the fact that there is a homogenous group of students belonging to this cluster that mostly attended the school grades in Italian as language of instruction (40.7%), which results in a high predictor importance (0.44), while the rest

of them attended schools in German or any other language of instruction outside South Tyrol. Within the context of friends, there is a more mixed use of the languages, with a clear tendency to always use Italian in most of their interactions (77.8%), and a rare use of German (44.4% of students indicated they never use it) and English (68.6% never use it).

Cluster *Dominant Italian + German* (17.8%): shows the same percentage (78.9%) using always Italian and often German in the family context. The presence of both languages is observable in the context of friends, with the majority of students declaring they always use German (63.2%) and Italian (84.2%) in their interactions with peers. Most students belonging to this cluster declared to have received German as language of instruction in all school grades (68.4%).

Having explored the distinctive characteristics of each cluster, our focus now shifts to a comparison from the initial categorization based on the metadata *author_L1* and the reconfiguration of speakers within the four main clusters, considering their language usages in the three contexts at issue. Figure 14 shows the dynamic pathways that students take between these two alternatives.

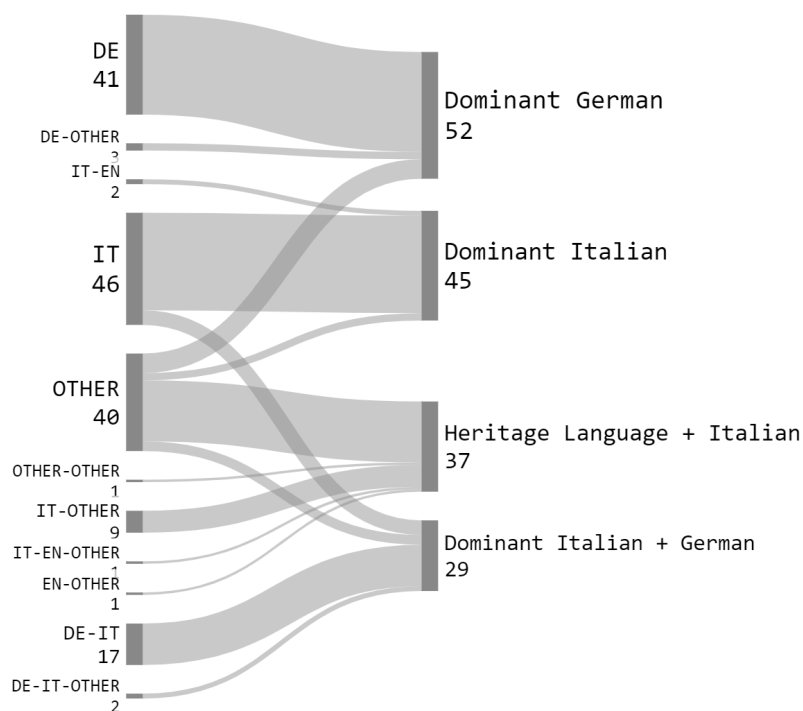


Figure 14. Comparison between the *author_L1* metadata in Leonide and the new cluster configurations (taken from Lopopolo et al. 2025: 11)

The clustering analysis effectively consolidated all smaller categories of the Leonide *author_L1* variable into four distinct groups. For example, the categories labeled *OTHER-OTHER*, *IT-EN-OTHER*, and *EN-OTHER* were grouped together within the *Heritage Language + Italian* cluster. Regarding the larger *author_L1* groups, most students who reported using exclusively Italian (*IT*) or German (*DE*) with their parents were categorized into clusters dominated by either Italian ($n=40$) or German ($n=41$). The bilingual group previously identified as *DE-IT* in *author_L1* ($n=17$) was entirely recategorized into a combined *Dominant Italian + German* cluster. Interestingly, when considering their actual daily language use, these students showed similar profiles to those with *author_L1* designations of *DE-IT-OTHER*, as well as some labeled *OTHER* or *IT*, indicating that they also included students who were essentially classified as monolingual. These

students were integrated into the new bilingual-dominant cluster comprising 29 individuals. The group classified as *OTHER* initially consisted of students using other languages than German, Italian, or English in the family context. While a significant number of these students ($n=25$) were assigned to the *Heritage Language + Italian* cluster, others were dispersed across various clusters, including *Dominant German* ($n=8$), *Dominant Italian* ($n=3$), and *Dominant Italian + German* ($n=4$).

The clusters that have operationalized the concept of dominant language constellations enable to reflect on the sociolinguistic landscape of the South Tyrolean environment. On the one hand, despite its equation as a model of multilingualism, the prevalence of dominant monolingual language practices in the two official languages (either in Italian or German) gives support to the separation of the two ethnic groups that is also pretty evident in the language practices of Leonide participants (cf. Section 4.2). Conversely, the newly formed clusters more accurately capture the linguistic behaviors of multilingual speakers within a multilingual society. This is evidenced by the significant number of students who were previously classified as monolingual but now occupy the two predominant bilingual clusters. Additionally, analysis of different usage contexts reveals that students initially grouped under *OTHER*—based on their heritage languages spoken at home—primarily use the dominant languages of the environment, Italian and German (or both), in their everyday interactions with peers and within the school environment. Over time, these languages can become their primary means of communication, rendering them indistinguishable from what is typically described in the literature as native monolingual speakers. This insight supports what has been challenged by other scholars about heritage language speakers (Wiese et al. 2022; Rothman et al. 2022), in the sense that they should be considered part of the native language continuum

(Wiese et al. 2022). However, a limitation persists within this cluster in the fact that, for anonymization reasons and for data protection, it is not possible to expand the linguistic diversity making these languages actually visible. In this sense, I am responsible for the limitation of having lesser commonly spoken languages and some languages historically perceived as less prestigious with a hidden meaningful representation within students' repertoires.

4.5 Annotation procedures

4.5.1 Phase one: exploratory data annotation

At the outset of the project, a data-driven approach was adopted to understand what students' productions actually contained, in order to retrieve all relevant data about progressive aspectuality. After a first qualitative look at students' texts, I decided to opt for manual annotations to capture detailed information that automated methods might have missed. This decision was essential for several reasons. First, it is known that learner language often contains deviations, repetitions, or orthographic errors that automated systems may have overlooked. For example, automated queries like a regular expression for extracting all *to be + Ving* occurrences produced 292 occurrences but was not able to capture all relevant instances in which students might have misused such construction (e.g. cases in which students leave out the auxiliary). Manual annotations filled these gaps, especially in cases where the data contained unexpected linguistic realization of progressive aspectuality. Second, the project aims at investigating how multilingual constructions interact across different language systems, therefore we could have expected cases in which lexical innovations or words from other languages occurred in the English data. Manual annotations ensured that all the relevant data from English texts were accurately captured, including also interactions with other languages. Third, given the exploratory nature of this phase, manual annotations allowed for flexibility and adaptation as new patterns and phenomena emerged during the annotation procedures. Moreover, manually annotating in this phase was instrumental to get insights from the data and to make refinements on the relevant information according to the research aims.

In this first phase, all Leonide English texts have been manually annotated (835 texts, approximately 69,700 tokens) and had as main objective the annotation of all verb predicates present in the texts (11,080 predicates, 14,975 tokens). This approach was crucial because, beyond the morphologically marked aspectual construction of the English *to be + Ving*, I was uncertain about the full range of constructions or strategies students might have developed to convey progressive aspectuality. For this first phase, an architecture scheme was developed and served as a basis for the annotation procedures conducted in *EXMARaLDA* (Schmidt 2001). Since *EXMARaLDA* does not allow the user to fix the architecture scheme when opening a new file, a Python script was developed to create a template of the architecture scheme ready to be annotated.¹⁸

Following Lüdeling & Hirschmann's recommendations on annotations procedures of learner corpus data (2015: 141), it is possible to interpret a learner's original text formulating a target form or target hypothesis that results in a reconstruction of the correct utterance in a specific grammatical context. Grammatical correctness may not even be the only reformulation possible when creating a target hypothesis: for example, appropriateness could also be relevant when looking at words that may be inappropriate for a specific register. In this case, we could have a target hypothesis that might look different from the one that is constructed for clear grammar errors. For this reason, it is possible to introduce several target hypotheses that explicitly reconstruct a learner's original text according to the purpose of each target hypothesis layer. Examples of learner corpora with consistent and well-documented target hypotheses are the *Falko corpus* (Reznicek et al. 2012) and the *MERLIN corpus* (Wisniewski et al. 2013).

¹⁸ https://github.com/olopopolo/exb_tools

The architecture developed is inspired by the work done in Falko’s annotation scheme (Reznicek et al. 2013) and it was adapted to the research purpose of the present study with some significant changes. The architecture scheme consists of a total of 13 layers of annotation (Figure 15).

	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
TXT	So,	while	she	was	running	she	felt	that	somebody	were	looking	her.	So,	she	stopped	here
Verb_Target Hypothesis 0				was	running	felt				was	looking				stopped	
Verb_Target Hypothesis 1				was	running	felt				was	looking				stopped	
Verb_THDiff				THO	THO		THO			CHA	THO				THO	
Verb_Deviation type 1										AUX						
Verb_Deviation type 2																
Verb_Transfer																
Verb_Tense				P			P			P						P
Verb_Complex forms																
Verb_Aspect Original				PR			NPR			PR						NPR
Verb_Aspect Target				PR			NPR			PR						NPR
Nonfinite verb form																
Verb_Modality																
Verb_Semantics				ACT			MEN			MEN						ASP

Figure 15. A snapshot of the multilayer architecture scheme in EXMARaLDA

It is possible to note two main levels of target hypotheses, the first one correcting stylistic problems, such as lexis and pragmatics (*Verb_Target Hypothesis 0*), and the second one dealing with grammatical correctness (*Verb_Target Hypothesis 1*). All the annotations that were performed by annotators in the following layers are based on the second type of target hypothesis (*Verb_Target Hypothesis 1*). More specifically, this target hypothesis (in Reznicek et al. 2012, also referred to as “minimal Target Hypothesis”, German: *minimale Zielhypothese*) attempts to minimize the number of deviations from the original utterance. In order to do so, it accepts limiting itself primarily to deviations at formal and structural levels (orthography, morphology, syntax) and adheres to English morphosyntax and orthography principles.

After determining the target hypothesis, all the deviations from the target level were annotated in the subsequent *Verb_THDiff* layer, allowing a targeted search for any changes in the learner data. In Figure 15, we can

observe that when the target layer corresponds to the original text (as in the example “[...] *she was running*” in Figure 15), the *THO* tag was assigned to the *Verb_THDiff* layer to indicate that the target formulation matches with the original text and that no change occurred (*THO* stands for *Target Hypothesis* equal to the *Original*). On the contrary, the *CHA* tag signals all changes or reformulations in the original text, as in the example of *somebody were looking her* (Leonide, EN_pic_3_77Y28A11_127) (Figure 15). In this layer, any token that was deleted, inserted, moved or cancelled is indicated.

For any deviating and changed tokens in the target hypothesis, Falko’s classification of verb deviations (German: *Verbfehlertypen*, Reznicek et al. 2012: 64) was employed with minor adjustments, using the two annotation layers *Verb_Deviation type_1* and *Verb_Deviation type_2*. The reason for having two layers for deviation types was that a token could be assigned one or more categories, such as a morphological and an orthographic deviation. Therefore, having two layers of annotation made it possible for annotators to assign both categories in such cases.

Specialized annotation layers were added for the specific purpose of the project:

- an annotation layer for transfers (*Verb_Transfer*) was specifically designed to tag all the cases of transfer-related phenomena. The categories were determined using Ringbom’s (1987) central distinction of lexical transfer between formal and semantic transfer and Neuser’s (2017: 18) taxonomy of different types of transfer.
- dedicated layers of annotation concerned both tense and aspect concepts. For Tense, the layer *Verb_Tense* dealt with the opposition of Past (*P*) and Non-past (*NP*) Tense opposition, as argued in Comrie’s (1976) classification of verb tenses. As far as Aspect is concerned, two layers of annotations were created to compare uses of progressive

occurrences (PR) in the original text (*Verb_Aspect Original*) with uses in which a progressive was expected in the target hypothesis (*Verb_Aspect Target*)

- three layers devoted to morphosyntactic features of verbs focused on modality (*Verb_Modality*) using the tags for modal verbs (*MD*) and semi-auxiliaries (*SA*), on finite complex verb forms (*Verb_Complex Forms*) and nonfinite verb forms (*Nonfinite verb form*) as well.
- one layer for *Verb_Semantics* conceived for the annotation of each verb predicate from a semantic standpoint, following the seven-class taxonomy of semantic domains developed by Biber et al. (1999: 360). Biber et al.'s taxonomy provides a categorisation of verbs into seven semantic domains according to their semantic properties (ibid.) (cf. also Section 3.1)

The choice of such a complex annotation scheme immediately raised issues related to reliability. If “reliability is a prerequisite for demonstrating the validity of the coding scheme, that is, to show that the coding scheme captures the “truth” of the phenomenon being studied” (Artstein & Poesio 2008: 557), it is easily conceivable that the first step to assess reliability was testing how consistent the architecture scheme was for human annotators.

The annotation process of large text samples was performed by three annotators beside me, to ensure less subjective evaluations of the verbal features under investigation. The annotators were involved in different reliability tests conducted between 2021 and 2022, and all decisions made conformed to several of Krippendorff's (2004) recommendations on the reliability of annotated data, comprising the description of the criteria for the selection of raters with certain characteristics to be involved in the annotation procedures, the clarity of the instructions in the rating

guidelines, as well as the familiarity of the raters with the task and their training, and the independent work modalities of the raters. Annotators based their annotations on common specially made instruments, such as coding guidelines and a coding scheme developed by the main researcher that I aimed at carefully testing from the beginning. These instruments were, in fact, subject to monitoring during the piloting phase, which led to tool enhancement and adjustments over the course of the annotation procedure.

The very first pilot test involved two coders (Coder 1 and Coder 2): Coder 1, who was also the main investigator and creator of the architecture scheme, and Coder 2, exposed to English from birth, with a solid background in Linguistics and a moderate familiarity with annotation procedures. The simplest measure of agreement between two coders was employed, i.e. by calculating the overall percentage of agreement of the cases on which both coders agreed. This percentage results from the number of items on which the coders agree divided by the total number of items. In the pilot test, Coder 1 and Coder 2 reached agreement on 63% of cases. Next, instead of raw percentages, a more robust measure that considers not only agreement, but also chance agreement to estimate inter-rater reliability was employed, i.e. Cohen's Kappa (κ).

The κ average score between the two coders reached 0.74, thus suggesting “substantial agreement” (Landis & Koch 1977). Nevertheless, it was important to identify the main areas of disagreement between the two coders. Therefore, kappa scores were calculated for each annotation layer. Layers showing the lowest agreement concerned the most challenging categories to annotate, which were transfer phenomena (*Verb_Transfer*, $\kappa = 0.43$) and semantics (*Verb_Semantics*, $\kappa = 0.67$). In contrast to many other surface categories, categories such as verb

semantics and transfer phenomena proved to be more prone to subjective evaluation and/or interpretation (cf. Lüdeling & Hirschmann 2015), and were therefore susceptible to coder disagreement.

The pilot annotation test was initially conducted singularly to avoid any influence between coders (the so-called “observer effect”, Belur et al. 2021). Next, coders abandoned the independent work modality for the purpose of discussing together the weak points that they had encountered while using the guidelines to annotate learners’ texts. This contributed significantly to enhancing clarity in task instructions for the annotators, leading to fine-tuning the guidelines with explicit examples of problematic cases.

During a more extensive annotation phase, the annotations were inspected with different aims and results, for example to trace the consistency of annotations made by individual annotators on the same data on separate occasions (“intra-rater reliability”). In this annotation test, I have assessed the intra-annotator reliability of the annotations performed by a novice rater (Coder 3). Coder 3 did not have any previous experience in annotation and, after a training phase, was required to annotate a large sample of texts from the corpus, i.e. 204 texts, corresponding to 25% of LEONIDE collection, on the same sample of texts at different points in time. The results obtained showed high consistency of the annotations of the novice rater over time (κ score of 0.91, suggesting an almost perfect agreement). However, when the inter-annotator agreement between the novice coder and Coder 1 was computed, it showed very low agreement for a supposedly non problematic single layer. A further analysis employing confusion matrices revealed that the novice coder had committed systematic interpretation errors of infinitive verbal forms throughout the whole task, and annotations were manually checked and corrected accordingly. All these procedures and the series of tests

conducted have been documented and reported extensively in Lopopolo & Zanda (2025).

The annotations have been imported into the Eurac Research ANNIS interface for internal use only.¹⁹The first phase of annotation yielded relevant information about progressive occurrences in the whole corpus presented in Lopopolo (2022). We can summarize the main information:

- 743 occurrences tagged as progressive (*PR*) in the layer *Verb_Aspect Original*. These comprise all instances in which students expressed progressivity, no matter its formal and functional realization.
- 698 occurrences tagged as progressive (*PR*) in the layer *Verb_Aspect Target*. These comprise all instances of mandatory target contexts in which students were supposed to express progressivity.
- 667 occurrences of progressives matching the layers *Verb_Aspect Original* and *Verb_Aspect Target*. They comprise all occurrences in which students expressed progressivity in required and appropriate contexts, no matter its formal and functional realization.
- A total of 383 changes (layer *THDiff layer*), in the progressive occurrences (*PR*) found in the *Verb_Aspect Original* layer, comprising: *change (CHA)* (192), *insertion (INS)* (200), *moved (MOVT)* (6), *split (SPLIT)* (1), *deletion (DEL)* (1).
- A total of 308 deviations in the progressive occurrences (layer *Verb Deviation type*) in the original texts, comprising *aspectuality (ASP)* (76), *orthography (ORTH)* (28), *auxiliary (AUX)* (204). Examples are provided for each deviation:

¹⁹ I am extremely grateful for the help received from the team at the Humboldt University of Berlin for having converted my annotations into ANNIS format.

- *aspectuality (ASP)*: “Then I watch television or **using** Snapchat, Whatsapp, instagram or youtube <3 .” (Leonide EN_op_2_57X34A09_103)
- *orthography (ORTH)*: “the father comes in the room Joe **whas** reading a book” (EN_pic_1_57X34A20_18)
- *auxiliary (AUX)*: “The two brothers **going** to the forest” (EN_pic_2_57Y25A09_75)
“Her father **are** reading her book” (EN_pic_1_57Y25A22_20)
- 17 occurrences for transfers (layer *Verb_Transfer*) in the progressive occurrences found in the layer *Verb_Aspect Original*: i.e. *code-switchings*, (CSW) (6), *foreignisings* (FOR) (9), *calques* (CAL) (2). Examples from the texts are provided:
 - *Foreignising (FOR)*: “Maria and Johannes **ginging** on the camping platz.”(EN_pic_2_57X33A06_81)
 - *Code-switching (CSW)*: “poliz gli fa una domanda il perchè **stava correndo**” (EN_pic_3_57Y25A16_120)
 - *Calque (CAL)*: “The next day in the papers **were standing** : “In a wood was a dangerous Biber! A very dangerous Biber!” (EN_pic_2_57X34A04_73)
- 743 occurrences tagged as progressive (PR) in the *Verb_Aspect Original* layer occurred in the following verb semantic classes (layer *Verb_Semantics*): *activities* (ACT) (416), *mental* (MEN) (169), *communication* (COM) (79), *existence* (EXI) (45), *aspectual* (ASP) (15), *causative* (CAU) (10), *occurrence* (OCC) (9).

4.5.2 Phase two: re-coding and creating the dataset

In the second phase, all occurrences tagged as conveying progressive aspectuality in both the original and target layers in the first phase of annotation have been extracted and re-processed. The final dataset has been created in a spreadsheet and contains each occurrence with its original spelling in one column, and all values for other independent variables entered into the matrix. These variables include information about students' background (for example, the school main language of instruction they receive), linguistic variables concerning the context of each occurrence (for example the construction type conveying progressive aspectuality used by student) and information about the texts themselves (for example the year in which a text was produced). The variables are explained in detail below. Excel is used for the variable coding, whereas the statistical analyses have been conducted using Python, R or SPSS, depending on the type of analysis.

Linguistic variables

- **original text** (column *txt*): in order to have a comprehensive understanding of the surrounding context, each occurrence of progressive aspectuality has been considered in the complete syntactic unit in which occurs. In the column *txt*, in fact, it has been reported the full sentence for each occurrence from the original text to provide the necessary context to code the respective meaning.
- **formally realized construction** (column *construction_type*): the lower-level constructions that were found to convey progressive aspectuality in the original data.
- **constructional schema** (column *construction_schema*): the higher-level construction schema from which construction types are

instantiated. They have been reconstructed on a theoretical basis, i.e. they do not occur as occurrences in the data, but they are what instantiate formally realized construction. For example, the English *to be + Ving* represents a lower-level constructions of the construction schema $V_{Aux}+V$.

- **auxiliary** (column $V_auxiliary$): the auxiliary used within the construction (whether present)
- **lemma** (column V_lemma): the lemma in which a construction occurs. For the construction *I am reading*, the V_lemma column will report “read”.
- **meaning of progressive aspectuality** (column *meaning*): each meaning type was coded on the basis of the contextual cues found in the surrounding linguistic context of the original text following De Wit & Brisard’s account for the English progressive (2014). All clear indications of a temporal scope/relevance found in each occurrence like adverbials of time or adverbial clauses, have been considered as contextual elements that contribute to create certain meanings (cf. Langacker 1987: 304–306). For example, in the meaning of ongoingness fall all the occurrences of cases in which it is clear that students express or aim at expressing this function, no matter the formal realization. Therefore, these occurrences have also been coded as expressing the meaning of ongoingness and included in this meaning type, while tracing at a formal level in the column *construction type* the fact that they are not target-like constructions and present non-target-like characteristics.

In many cases, it is not easy to state with certainty whether students actually wanted to express a specific function. As already noted, learners may struggle with both form and function at the early stages of development and unexpected formal realizations of the

constructions in question may occur. Still, learner usage should not be dismissed on the grounds that it does not conform to standard analyses, but following Bardovi-Harlig's (1998) method, I use expected, or probable, function and context as the two guiding criteria.

- **adverbials** (columns *adverbial_nounphrases*, *adverbial_prepositionalphrases*, *adverbial_subordinateclauses*, column *adv_function*): clear temporal indications of adverbial phrases and clauses have been coded in separate columns considering their original forms and the function they encode. It is assumed that elements like adverbials in the context may elaborate schematic elements present in the meaning of a certain construction, but it is rare to find studies about progressive aspectuality that seriously take into account this aspect. For example, De Wit & Brisard (2014) mention the presence of certain adverbials in some of the meanings of the progressive aspectuality but discuss them only qualitatively, without a systematized account. In my investigation I have documented the presence of adverbials (absent in the first phase of annotations) by adopting Klein's taxonomy of adverbials (cf. Klein 2009b: 64–65) for their forms and functions²⁰. Forms:

- **Simple temporal adverbials:** (e.g. *now*, *then*, *soon*, *often*, *seldom*, *just*.)
- **Morphologically compound adverbials:** (e.g. *today*, *afterwards*, *sometimes*, *slowly*.)
- **Syntactically compound adverbials.** This is the richest class, with three main constructions:
 - **Bare noun phrases:** (e.g. *last fall*, *all day long*)

²⁰ The examples of the adverbials presented below are provided by Klein's taxonomy (2009b) and serve the purpose of clarifying the methodology and the classification system employed.

- **Prepositional (or postpositional) phrases:** (e.g. *three hours ago, three hours before, in the past, for seven years, at any moment.*)
- **Subordinate clauses:** (e.g. *before he arrived, while I was in China, whenever she called me.*)

Functions:

- **Temporal adverbials of position:** they express a relation such as before, after or simultaneous between two time spans (e.g. *now, yesterday, next year*);
 - **Temporal adverbials of duration:** (e.g. *for two hours*);
 - **Temporal adverbials of frequency:** (e.g. *often, sometimes, rarely*);
- **Other:** their precise function is not easy to pin down. Examples are adverbials of contrast like *again* that indicate that there was a certain property sometime in the past that overlaps with the time of a situation described.
- **tense** (column *V_tense*): present or past tense.
- **Negation** (column *V_negation*): present or not present.
- **subject** (column *V_subject*): the subject of the action.
- **semantic domain** (column *V_Biber_semantic_domain*): conceived for the annotation of each lemma from a semantic standpoint following the seven-class taxonomy of semantic domains developed by Biber et al. (1999: 360).

Extralinguistic variables:

- **Text_id:** the id assigned to the text.
- **Task_type:** the type of task performed by the student, with two possible values (e.g. *opinion text* and *picture story*) (cf. Section 4.6).

- ***Task_year***: the year of data collection in which the text was produced by the student (year 1, year 2 and year 3) (cf. Section 4.3).

Student-related variables:

- ***Student_id***: the id assigned to the student.
- ***Student_DLC***: the dominant language constellation of each student determined by the cluster analysis conducted on the basis of students' questionnaires (cf. Section 4.5).
- ***Student_school_language***: the main language in which students are instructed at the moment of data collection (that is also the main official language of the school, therefore we only have two possible values (e.g. *Italian* and *German*) as they are the two school institutions involved in the study) (cf. Section 4.3).
- ***Student_school_classid***: the id of the class the students attended at the moment of the data collection.

4.6 Research objectives and hypotheses

Before we continue with the data analysis, this final section deals with the research objectives and the hypothesized outcome. We have one main objective which can be subdivided into a number of research targets, reflected in the research questions formulated in Section 3.6. With the help of Leonide, we want to identify how learners of English as additional language convey the concept of progressive aspectuality, which strategies do they use and how this concept is represented in their multilingual linguistic knowledge. The target population is composed by lower-secondary school students living in the multilingual province of South Tyrol, in which students are differently exposed to other languages coexisting in this environment, i.e. German and Italian, and taught at school. Moreover, the presence of other languages beside the three languages taught at school can be present in students' repertoires. We aim at supporting, enriching or correcting the findings of previous studies about the English progressive conducted on learners (as discussed in Section 3.5). The following research questions have been postulated in Section 3.6:

- (1) How do learners of English express the content category of progressive aspectuality?
- (2) How do learners' prior linguistic systems interact with the newly emerging system of the English when expressing progressive aspectuality?
- (3) How does this emerging system change depending on learners' language background, the exposure to the English they receive at school, and the year of instruction?

The research questions will be approached from a usage-based perspective that combines Learner Corpus Research and Construction Grammar's principles with research on Multilingualism. Based on this, we can formulate a number of predictions:

- (1) How do learners of English express the content category of progressive aspectuality?
 - a. Given that progressive aspectuality has been considered in its cognitive-semantic notion that can be expressed on different levels of language, we can hypothesize that learners as well display different linguistic strategies symbolically represented in the form of constructions to express this notion. This means taking into consideration 1) how the form of such constructions is observable in the corpus, i.e. how constructions are formally realized at a lower level; 2) the different aspectual types of the constructions in terms of their meanings; 3) the inherent lexical meaning of the verbs found in the constructions as well as other linguistic elements that contribute to their aspectual interpretation; 4) their corresponding higher-level constructional schema in process of gradual categorization and stabilization.
 - b. Constructions as they appear in the corpus might have a different degree of entrenchment, until they are firmly established as meaningful constructions. The way in which the form and the meaning of the constructions appear in the corpus might not always match the target-like counterpart. Therefore, we can expect constructions that need to be processed in future times resulting in non-target like occurrences in the dataset.

- c. We have seen that progressive aspectuality as a broad semantic concept comprises several meaning types depending on how the event is conceptualized by the speakers. Previous studies have shown that progressive aspectuality, as a general content category, includes the information pertaining to the internal temporal structuring of a state of affairs, comprising a core meaning of ongoingness and peripheral additional connotations in meaning. We might expect learners of English at this acquisitional stage conveying progressive aspectuality in its core meaning of ongoingness and being less sensitive to additional meanings.
- (2) How do learners' prior linguistic systems interact with the newly emerging system of the English when expressing progressive aspectuality?
- a. We might hypothesize a multilingual constructicon composed of constructions modeled on the basis of learners' knowledge of progressive aspectuality. Such network should be characterized by links between constructions present in learners' mental constructicon determined on the basis of shared or not shared properties.
 - b. If we conceptualize learners' linguistic knowledge as an integrated system of constructions, we might also hypothesize cases of cross-linguistic influence resulting from similarities and differences between the target language and the languages previously acquired (Odlin 1989). Learners might be sensitive to the typological idiosyncrasies of the languages present in their cognitive systems and the way in which each language linguistically expresses such concept. Thus, the typology of the

languages involved and students' underlying language backgrounds may account for the possible influence on students' encoding of progressive aspectuality, and thus supporting theories such as "Typological similarity" (Rothman 2011) and "Linguistic proximity" (Westergaard et al. 2017). These theories argue that not overall typological similarity, but linguistic similarity on a property-by-property basis, determines cross-linguistic influence in additional language acquisition.

(3) How does this emerging system change depending on learners' language background, the exposure to the English they receive at school, and the year of instruction?

- a. We might expect to find a considerable amount of individual variation among students. Hence, it is unlikely to find homogeneous learner groups that defines exactly the same outcome in English. However, with the help of additional personal metadata and by focusing on general properties of students' productions and overall trends, we might expect to discover both differences and similarities between students sharing common language profiles. Yet, despite this heterogeneity, we will be able to identify whether students having the same language profiles (operationalized in terms of dominant language constellations) share the same linguistic knowledge of progressive aspectuality.
- b. We can hypothesize that students model their multilingual constructicon on the basis of their pre-existing constructions that match or not match the newly emerging ones of the English. Specifically, different scenarios might occur: we can

hypothesize that students having German as their dominant language rely more on constructions modeled on the basis of the German than the Italian. This means that students might prefer common constructions between German and English. The same for students having Italian as their dominant language that might frequently use constructions in English that share characteristics with Italian construction. Moreover, we can expect students having Italian as their dominant language relying more on constructions encoding verbal periphrases than German dominant students, as there is a lot of conceptual and formal overlap between Italian and English than German and English. We can also expect students having German as their dominant language relying on the pre-existing knowledge of the Italian verbal periphrases to use such constructions in English (“L2 Status Factor”, cf. Bardel & Falk 2007).

- c. Apart from students’ language backgrounds, we also assume further variables to play a role. For example, students attending schools with German as the main language of instruction might behave differently from the Italian counterpart depending on the type of instruction they received and the fact that they are lately exposed to English at school, compared to the Italian school system.
- d. As the emergence of such a construction is affected by constant adaptation and enactment of language-using patterns, we might observe increased usage of stable constructions over time as the instructions received in English increase in the last year of lower-secondary school. This might give support to CDST (Larsen-Freeman 2005) on the basis of the longitudinal characteristic of Leonide data.

In the following chapter, we will finally come to the analysis of the English learner corpus.

5. Building a construction family for progressive aspectuality

In Section 3.4, it was explained the distinction between progressive aspectuality, considered as a semantic notion, and progressive aspect with its grammaticalized realization in the construction *to be + Ving* for English. It should be also clear now that if we want to investigate a semantic notion of progressive aspectuality it is not only the progressive aspect as a grammaticalized feature that we should focus on. For example, the construction *continue+Ving* is also relevant in the context of progressive aspectuality since it focuses on the duration of a process that is extended over a prolonged period of time, and the same applies for other constructions such as the construction *keep+Ving* that expresses an analogous function. All of these constructions are characterised by specific and complex co- and contextual configurations in which they occur, as well as differences in meaning.

The way in which students of English might express the notion of progressive aspectuality can exhibit not only different strategies and more or less entrenched constructions, but also different conceptions of it. On the basis of Leonide data, it is possible to empirically investigate how the concept of progressive aspectuality is formally expressed by different constructions by students that, in the end, should compose a complex network of constructions or a so-called “construction family”.

The construction family analyzed here is primarily onomasiologically motivated, in contrast to previous works in Construction Grammar, such as those focusing on the “perfect” (e.g. Michaelis 1994) or the “resultative” (e.g. Goldberg & Jackendoff 2004), which have mostly explored formal relationships and similarities, emphasizing semasiological aspects. Onomasiology starts with concepts and examines the various linguistic

expressions that can represent these concepts, whereas semasiology begins with forms and investigates the meanings that can be attributed to these forms. Consequently, while formal relationships and similarities are typically examined semasiologically, the analysis of functional relationships between constructions is considered an onomasiological approach.

As will be shown in the following sections, the results will be presented adopting an onomasiological starting point, namely starting from the concept of progressive aspectuality and its differences in meaning. It will be shown that students mostly rely on a prototypical meaning that has the function of expressing the “ongoingness” of the speech event, but that other peripheral meanings that do not concern specifically temporal-aspectual descriptions of the speech event are also present. These are meanings where certain constructions are recruited to construe situations by highlighting the author’s perception on the event (cf. Anthonissen et al. 2016; Petré 2017; De Wit et al. 2020), and highlights a pragmatic and interpersonal component of certain progressive constructions. After a semantic network of different meanings will be shaped in the following sections, the meaning types will be combined with the form side of the constructions as entrenched and symbolic connections of form and meaning.

A final consideration concerns the fact that there are many ways of analyzing construction families, but the most popular one in the field of Construction Grammar seems to be network modelling (Diessel 2019). Network models are well-suited for analyzing grammar from a usage-based approach, as “grammar is a probabilistic system in which categories and constructions are constantly updated, restructured, and reorganized under the influence of language use” (ibid: 10). In this respect, this is also particularly interesting for learner language as a system in which linguistic structures are emerging and constantly shaped by new experiences with language and its use.

Another motivation for analyzing learner language as a network is, of course, that the human brain and mind are commonly described as networks for Construction Grammar (Sporns 2012): in accordance with this view, the mental lexicon is often analyzed as a network of related concepts and this has only recently begun to be systematically analyzed in terms of association networks (Bybee 2010; Kapatsinski 2018; Diessel 2019; Schmid 2020).

5.1 The meaning types

As already mentioned, the dataset is composed by a total of 667 occurrences obtained from the Leonide texts. Each occurrence composing the dataset has been extracted on the basis of the annotation procedures conducted on all Leonide texts and explained in detail in Section 4. Each occurrence represents in the spreadsheet a single row and contains several information encoded in independent columns (cf. Section 4.5.2 for an overview on the dataset). In the present section, our main focus will be on the column *meaning*: in this column, each of the occurrences comprised in the dataset has been classified according to the meaning type it encodes. The classification of meaning types in the present study has followed the same methodology employed in De Wit & Brisard’s (2014) account for the English progressive (see Section 3.3). Figure 16 shows the raw frequencies and percentages of the different meaning types found in Leonide data.

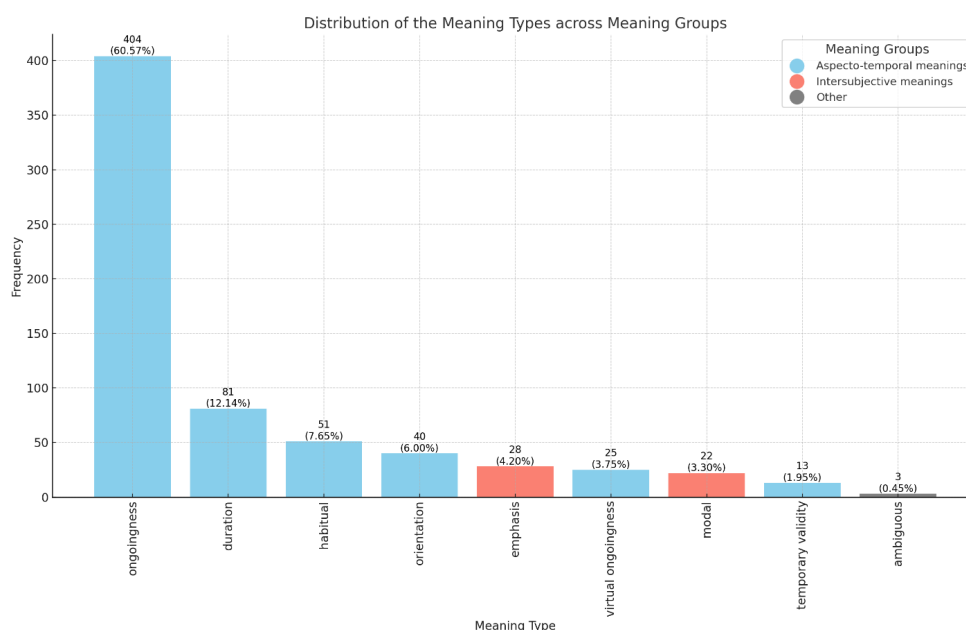


Figure 16. Raw frequencies and percentages of meaning types

We can observe a prevalence of the meaning type of “ongoingness” that, as also formulated by De Wit & Brisard (2014), seems to be the prototypical

meaning type of progressive. It is followed by the meaning type of “duration”, which extend the continuity of the event by focusing on its duration; “habitual” meaning which instead focuses on the routinization of certain events and the repetition of them; “orientation”, which serves to give the reader a background scene setting for the subsequent events. As we will see, this meaning type is mostly employed in narrative texts. It follows “virtual ongoingness”, a subtype of ongoingness which mostly focuses on an internal (or virtual) perspective on the event in process; “emphasis” and “modal”, which are intersubjective uses of the progressive that serve purposes of emphasizing or expressing a personal stance with respect to certain events. Finally, with very few occurrences, the meaning types of “temporary validity”, expressing a repeated condition which is only temporary valid. Very few cases classified as “ambiguous” have been included in the dataset for their inclination towards a progressive interpretation, but that was not possible to include in any of the meaning types found.

The meaning types have been classified as belonging to one of the two macro areas found in their account for the English progressive in De Wit & Brisard (2014). As we can see from Figure 16, there are two macro areas to which the meaning types might belong to: on the one hand, the area of “aspectual-temporal meanings” (in blue) comprises the highest occurrences of the meaning types found in the corpus; on the other, the meaning types belonging to the “intersubjective” macro area (in green) shows the lowest number of frequencies. As will be explained in the Sections 5.1.1 and 5.1.2, the two macro-areas do differ according to their properties: on the one hand, aspectual-temporal meanings in their different meaning types mostly focus on temporal-aspectual descriptions of the speech event; on the other hand, inter-subjective meanings should be intended as expressing the interpersonal

component on the event. Among the aspectual-temporal meanings there is “ongoingness” ($n=404$, 60,57%) (Section 5.1.1.1) that shows the highest percentage of occurrence in the whole corpus and used to refer to events that are going on in the present or past. Possible extensions of ongoingness could be traced in the other meaning types encoded in the same macro area and found in the corpus, comprising a) the meaning type “virtual ongoingness” ($n=25$, 3,75%) (Section 5.1.1.5) encoding mostly the same meaning with the difference of having a virtual representation of an event; b) the meaning type “temporary validity” ($n=13$, 1,95%) (Section 5.1.1.6) and c) “duration” ($n=81$, 12,14%) (Section 5.1.1.2) in which the relative prominence conferred upon situational boundaries is made salient (in the case of temporary validity) or non-salient (in case of duration); d) the meaning type “habitual” ($n=51$, 7,65%) (Section 5.1.1.3) which is the counterpart of temporary validity in a way that it does not evoke a single event but multiple events that structure a denoted habit in time; e) “orientation” ($n=40$, 6%) that provides a scene setting and is specifically linked to narrative purposes (Section 5.1.1.4). Among the intersubjective meaning area there are two main meaning types we can distinguish, i.e. “modal” qualification of emotional overtones of irritation or indignation ($n=22$, 3,3%) (Section 5.1.2.1) and “emphasis” which emphasize the speaker perspective on a certain event ($n=28$, 4,2%) (Section 5.1.2.2).

The meaning types have been coded considering relevant indications in the surrounding context of each occurrence. One of the clear indications about the different meanings of progressive aspectuality is given by adverbials that characterise the position, duration and frequency of the entire situation described by the verbal construction, and have a certain effect on the entire meaning (cf. Klein 2009b: 64-65) (cf. Section 4.5.2 for a full categorization of adverbials’ functions).

Figure 17 visualizes the relationship between different meaning types and their contextual adverbial functions. This helps us to observe which adverbial functions are found in the surrounding context and are most commonly associated with each meaning type.

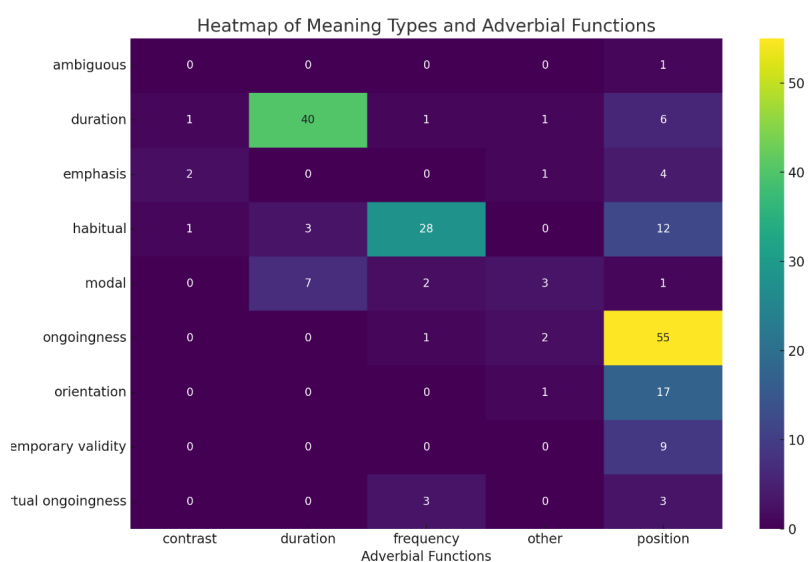


Figure 17. Frequencies of meaning types and adverbial functions

We can observe that temporal adverbials of position are prominently used with several meaning types, with “ongoingness” ($n=55$) and “orientation” ($n=17$) having the highest occurrences, indicating their importance in expressing clear specification about the temporal aspects of the event. As far as their form is concerned, they are mostly single words adverbials (e.g. “*then*”(EN_pic_2_57X32A08_71), “*now*” (EN_op_3_57Y28A06_135), but also adverbial noun phrases might occur (e.g. “*Once upon a time*” (EN_pic_2_57X31A05_83), “*Sunday in the morning*” (EN_pic_2_57X34A07_73), “*one day*” (EN_pic_2_57X32A17_71). This can be particularly observed for the meaning type of “orientation” in narrative texts, in which the adverbials noun phrases provide a clear scene setting for the narrative. Unsurprisingly, adverbials of temporal frequency

are mostly used for the “habitual” meaning type ($n=28$) expressed by adverbial noun phrases (e.g. “*every week*” (EN_op_3_57X34A15_131)). A final relevant observation concerns adverbials of duration that naturally combine with the meaning type of “duration”: in these cases, mostly prepositional phrases are used (e.g. “*for hours*” (EN_op_2_57Y27A04_78), “*for 6-8 hours*” (EN_op_2_57X32A12_72), but also noun phrases without a preposition (e.g. “*30 minutes*” (EN_pic_3_57Y25A20_120) or bare noun phrases (e.g. “*das ganze Tag*”, ‘the whole day’, (EN_pic_2_57X34A07_73)). Other adverbials concern for example the use of “*only*” (EN_op_2_57X34A01_103) or “*just*” (EN_op_3_57Y28A07_135) and mostly occur to express a modal meaning ($n=3$).

At this point, all the meaning types will be first discussed and described in more detail with examples from Leonide data (Section 5.1). The meaning types will be then connected forming a semantic network for progressive aspectuality providing the function side of the construction (Section 5.2). The form side will be instead discussed in the following section (Section 5.3) and finally assembled in a final network of constructions consisting of both form and meaning with shared properties determining their relations.

5.1.1 Aspecto-temporal meaning types

5.1.1.1 Ongoingness

In line with De Wit & Brisard's analysis (2014) for the English progressive, the meaning type "ongoingness" turned out to be the most frequent category and the core aspect-temporal meaning of progressive aspectuality used by Leonide participants (abs. freq. 401, rel. freq. 60,12%). Ongoingness should be conceptualized as a property of an ongoing situation emphasizing that the action is happening or was happening at a specific time. When in present tense, we refer to a situation in which there is the full and exact coincidence between the time of speaking and the time of the event being described. When in past tense, the action was going at a specific time in the past, so that there is no the full coincidence with the time of speaking, emphasizing that the action was in progress at a particular moment or during a specific period in the past. While the event is ongoing, its start and end points are not the focus, but instead it is the middle imperfective phase of an event that matters, i.e. without specifying the beginning or end, thus focusing on the process rather than the outcome.

Similar to De Wit & Brisard (2014), ongoingness should be viewed as a neutral category in relation to the other meaning types. All the other meaning types within the aspecto-temporal domain can be seen as extensions of this neutral category, with subtle variations in their functions. In this sense, no additional temporal or modal specifications are necessary to define the profiled situation for ongoingness.

In the following example (43), the emphasis is put on the here-and-now of the speaker when describing the activity of going with the bus:

(43) *Tom and Janat are going into a schooltrip they have to go into jungle in the mountains they are going with the bus* (Leonide, EN_pic_2_57X33A11_81)

The event involved is typically one that is not considered structural: the author of this text has just given us the information of the main characters of the story, Tom and Janat, who are in the process of going to the jungle and that they are using the bus to achieve their destination. Nothing more is being suggested in terms of categorizing the progressive construction *to be + Ving* as in some way exceptional, surprising and not by way of some kind of habit. It straightforwardly communicates an ongoing action without needing extra information about the time frame or conditions under which the action occurs. In the opening sentence "*Tom and Janat are going into a school trip*" we can instead already anticipate the "orientation" function which sets the stage for the subsequent actions as the story develops. As we will see in Section 5.1.1.4, orientation establishes the context for the narration, laying the groundwork for understanding the subsequent events. Therefore, it is treated as a subtype of ongoingness with an additional function. Consider now example (44):

(44) *But on this moment we are going out from the Jungle, we are very happy to see the home.* (Leonide, EN_pic_2_57X33A02_81)

In example (44), the act of going out from the jungle is relevant for the present moment and is even more emphasized by the adverbial phrase "*on this moment*" (that we might better conceive as "at this moment"), indicating a current action going on that aligns with the time of speaking.

The occurrences belonging to this category are mostly encoded by the progressive construction *to be + Ving*, but there are however other

constructions encoding the same meaning, for example the construction *perception* + *Ving*, like in example (45):

(45) *When I ran, I heard somebody screaming loud “STOP!” I didn’t think it was for me.* (Leonide, EN_pic_3_57X34A08_123)

In this case, the construction *perception* + *Ving* is able to focus on the ongoingness of the event highlighting the perception of the speaker, which acts both as author of the story and character. The personal perception is even emphasized in the following sentence “*I didn’t think it was for me*”, in which the author/character makes clear that the perception of hearing somebody that was screaming led to a personal supposition.

Within “ongoingness” also fall all the occurrences of formally incorrect cases but that express this meaning. Therefore, these occurrences have been coded in any case as having a meaning of ongoingness and included in this meaning type, while tracing at a formal level that they are not formally target-like (cf. Section 4.8). Consider examples (46), (47) and (48):

(46) *The mother will wate the boy. But **the boy reading** a book.* (Leonide, EN_pic_1_57X32A07_30)

(47) *But Daddy, don’t was so much hungry because **he reading** the Comic!* (Leonide, EN_pic_1_57X31A04_17)

(48) *The police is angry * the girls and they ask Why **she running**.* (Leonide, EN_pic_3_57Y26A20_122)

In all these sentences, we might say that these are all forms that motivate the choice to label them as non-target-like progressive constructions expressing ongoingness if we refer to the target construction *to be* + *Ving*, since in all the examples the auxiliary *to be* is missing, but a *Ving* participle is salient to express alone this function. Moreover, in terms of semantics, the activities of

reading and running indicate activities that probably at that moment were in the process of being conducted, letting us to think about the fact that the authors probably aimed at expressing the concept of ongoingness while the character of the story was in the process of conducting a certain activity.

5.1.1.2 Duration

The meaning of “duration” (abs. freq. 81, rel. freq. 12,14%) highlights the extent to which certain constructions have the power to stretch the actions over time on a certain duration. According to De Wit & Brisard (2014: 78) the duration meaning can be regarded as the most imperfectivized of all the meaning types of progressive aspectuality: “not only are the situational boundaries construed as highly non-salient, but the designated event is also made relatively homogeneous” (ibid.). This means that “the relative downplaying of the boundaries of a dynamic situation should result in a corresponding loss of dynamicity that may then manifest itself in terms of the designated event being construed as not leading to any endpoint and lacking momentum, unless something interrupts it” (ibid.).

Let us look at some examples from Leonide data. In (49), the author stresses the persistence of the same activity by the use of “*keep going*”:

(49) *The two relaise that they are lost they **keep going** at one point they found a camp* (Leonide, EN_pic_2_57X33A11_81)

In (49) the characters of the story are in a situation in which their action of going persists and continues in its duration by the construction *keep + Ving*. The realization of being lost in the wood using the simple present emphasizes the state of being and the fact that the two characters continue to proceed after having realized their condition. The use of the adverbial phrase “at one point” signals that something changes (the discovery of the camp) and that the broader timeline of moving and proceeding significantly changes the course of the narrative. This inherently indicates that the activity of proceeding and the duration of the action is interrupted by the simple past event and the telicity of the verb “to find”.

Another way of expressing the concept of duration and found in the data is to use other constructions that involve aspectual modifiers that shifts the focus from the occurrence of an event to its ongoing nature. A clear example is the aspectual verb “continue” that marks the verb phrase it modifies as progressive or durative, meaning the action or event is in progress and has not yet completed, like in example (50):

(50) *Well....uhmmm...it looks like a camping place..." says Anna..."Should we **continue walking**? Or...?" asks Cata."I think we should **continue walking**.." says Anna. (Leonide, EN_pic_2_57Y28A07_69)*

As also highlighted in the Section 5.1, a big role for expressing the meaning of duration is the one of durational adverbials. In half of these cases ($n=40$) independently of the verb phrase, a durational adverbial or adverbial phrase represents the main lexical means to express duration, like in example (51):

(51) *They walked **for two hours** and saw a table with some benzina. (Leonide, EN_pic_2_57X31A04_83)*

In this case it is the prepositional adverbial phrase “*for two hours*” which gives the indication of the duration of the action of walking (in simple past), implying that the subjects have been walking continuously, possibly for a long time, without any specific endpoint mentioned. It highlights that in some cases like (51), the progressive nature of an action is communicated mostly through adverbials rather than through morphological markers and that progressive aspectuality can be encoded in different syntactic components, not just through verb forms.

5.1.1.3 Habitual

Generally, in English, the simple present tense is typically used to express habitual actions because they are general-validity statements. However, progressive constructions can also be employed to express habitual actions, particularly when the speaker wishes to emphasize the regularity and continuity of the action within a specific time frame or under certain conditions. This usage often conveys a sense of personal involvement and its usage is less typical than simple present. De Wit & Brisard (2014), in this regard, define a habit as somehow “contingent”, which means that it may suggest a certain temporary routine that is specific to the current period of speaker’s life (cf. *ibid*: 81).

In Leonide data, it is sometimes the case (abs. freq. 51, rel. freq. 7,65%) that certain progressive constructions like the morphologically marked *to be + Ving* are employed by students to also express temporary routines, like in example (52):

(52) *Every week we’re doing a small presentation* (Leonide, EN_op_3_57X34A15_131)

In this case, the construction *to be+ Ving* in combination with the adverb noun phrase “*every week*” is pivotal for interpreting this construction as habitual. It sets a context of regularity and recurrence that frames the activity of doing a presentation within a school routine or during a specific school subject. *Every week we’re doing a small presentation* clearly communicates that this is not a description of a one-time event; rather, it describes a series of events that happen in a consistent pattern and also implies a scheduled or structured nature of this presentation within the lived experiences of the

participants, wherein the presentations are an expected, regular part of their weekly events.

Interestingly, there are cases in which the progressive constructions *to be + Ving* is repeatedly used to list a series of actions concerning learners' personal habits:

(53) *After school i m staing with my friend and i make dancing 2 (volte) at the week. i m listening to music, i read more books and i m cooking with my twins or with my mum (Leonide, EN_op_2_57Y27A05_78)*

As the learner recounts post-school activities, the use of the construction *to be + Ving* evident in the verb phrases “*I’m staying*”, “*I’m listening*” and “*I am cooking*” emphasizes that these activities occur as routines activities with a certain regularity after school. In “*I’m cooking with my twins or with my mum*” the habitual action is emphasized by the inclusion of people in the cooking activity and the social and recurring characteristic of the habit. The phrase “*I make dancing 2 (volte) at the week*”, though nonstandard, can be interpreted based on the context to mean that the author habitually engages in dancing with an indication of time (“twice a week”, i.e. the numeral 2 and the time marker “at the week” together indicating frequency). Although “make dancing” is not a typical construction in English and “*volte*” (“times”) appears to be a lexical transfer from Italian, we understand the intent to communicate a routinization of the activity. Beside the function of habit that all of these forms convey, what is also relevant is the fact that on a bigger portion of the text (i.e. beyond the first syntactic phrasal unit) the author of the text uses the same structure for almost all the activities listed. This reminded me issues in studies on the acquisition of aspect: the first one concerns the “Default Past Tense Hypothesis” proposed by Salaberry (2000), which showed that learners at the first stages of acquisition rely on a default past tense marker that neutralizes the perfective/imperfective distinction and

any other distinction concerning lexical aspect categories. In this case, we can hypothesize that the student overgeneralizes the progressive aspect as a default construction for almost all the activities listed in the same text. A second interpretation comes from the “Distributional Bias Hypothesis” (Andersen & Shirai 1996), suggesting that the observed distributional biases of tense-aspect morphology strictly depend on the input which learners receive. In this case, the hypothesis could be that the author appears to interpret a high frequency preference for the progressive aspect he/she actually finds in the input, as an absolute one-to-one form-meaning correspondence, according to a “One-to-One Principle”. Consider now example (54):

(54) *After school, I **going** at home and I make my lunch and after lunch I **going** with my friends in the citti* (Leonide, EN_op_2_57X31A10_68)

The intended meaning seems to portray a regular sequence of actions that the author performs after school, which includes going home, preparing lunch, and then going out with friends. We might hypothesize that the author attempts to use the progressive construction *to be + Ving* non-canonically (“*I going*” instead of “*I am going*”) to describe these habitual post-school activities (“*After school*” and “*after lunch*”). Despite the non-target like construction on a formal level, it is evident the speaker is trying to describe a series of events that occur regularly, likely every school day, and this habitual sequence is indicated by the context. Using a *Ving* (“going”) construction could imply that the speaker views these activities as part of a current routine that unfolds each time rather than a permanent fixture of their life, which the simple present implies instead. Analogously to (53), the author uses *Ving* within the same sentence and with the same lemma (e.g. “to go”), thus confirming the tendency of interlanguages to overgeneralize the same structures as recurring patterns.

5.1.1.4 Orientation

The meaning type of “orientation” (abs. freq. 40, rel. freq. 6 %) has not been identified within De Wit & Brisard’s (2014) account of the English progressive, but occurs as one of the meaning types found in Leonide data for a specific reason. The reason can be traced back to Bardovi-Harlig (1995), who conducted influential research focused on the narratives created by students learning English and who named “orientation” as one of the functions of progressive constructions occurring in the background of learners’ narratives. In her study, she examined how learners ordered the sequence of events of narrations, distinguishing between those presented in the main part of the story and those placed in the background. She proposed that the aspect of progressivity is typically found in the background sections when the primary events are featured in the foreground. The background elements generally serve to supplement or interpret the main events rather than narrate them directly. The background is thus functionally multifaceted because it serves various roles that support the foreground. It can look ahead, look back, offer evaluations, provide orientation, abstract, hypothesize, or even recount events in a different chronological order from the main event. As a result, it is not surprising that the background exhibits much greater morphological diversity compared to the foreground, a pattern observed in numerous studies (e.g., Bardovi-Harlig 1995, Reynolds 1994). What Bardovi-Harlig (1995) calls “orientation” of the background, which is also what it is understood here as “orientation”, refers to the scene setting that usually occurs at the beginning of a narrative and may exhibit a variety of constructions in the pluperfect, remote past, future-perfect, with a high occurrence of the progressive. In fact, the progressive aspect *to be + Ving* can show up in a precise function of orientation, i.e. by providing the scene

setting, a sort of background to the story narrated. Since in Leonide the picture story is one of the text types that learners were expected to produce, I found appropriate to consider this function and adding this type of meaning as another extension of temporal-aspectual meaning type of “ongoingness”, but with a clear purpose of storytelling triggered by the text type.

In Leonide, the function of orientation always occurs at the very beginning of a narrative text and sets the scene for the narration. Consider examples (55) and (56):

(55) *One day two sisters **was playing** in the garden.* (Leonide, EN_pic_2_57X32A17_71)

(56) *One day a girl **was running** to take the bus, but suddenly someone called her* (Leonide, EN_pic_3_57X32A09_121)

In both examples the construction *to be + Ving* and the temporal adverbial *one day* provide the background from which the story actually starts and is told to us by the author. Both illustrate the backgrounded progressive, as the ongoing action of the sisters playing in the garden and the girl running to catch the bus set the scene for what comes after. The interruption implied by “*but suddenly*” in example (56) suggests a shift in the narrative focus, potentially indicating a turning point or unexpected event. Consider these two examples:

(57) *(Leyla and Lena) **are going** in a forest. It was midnight.* (Leonide, EN_pic_2_57X32A08_71)

(58) *In a beautiful country **are leaving** three people.* (Leonide, EN_pic_1_57Y25A13_20)

In example (57) the use of *to be + Ving* construction indicates an ongoing action of the two characters of the story in which the following sentence *it*

was midnight provides additional context and adds a suspenseful atmosphere, beside a temporal reference. Instead, in example (58) we have a locative adverbial (“*In a beautiful country*”) which also provides context for where the action is taking place in a sort of picturesque way of defining the setting, adding richness to the narrative description.

5.1.1.5 Virtual ongoingness

“Virtual ongoingness” (abs. freq. 25, rel. freq. 3,75%) has been considered an extension of “ongoingness” (Subsection 5.1.1.1) in De Wit & Brisard (2014: 71) with some differences. In this category fall all occurrences that represent “a virtual representation of an event that is construed as coinciding with the time of speaking, and thus as part of the conceptualizer’s immediate reality” (ibid). In order to express this virtual representation, some progressive constructions are employed, with the effect of rendering livelier a mentally replay or an internal perspective of that particular moment. Example (59) illustrates the use of present-tense form of the construction *to be + Ving* in the narration of the picture story.

(59) *Then they find a table and chairs, **they think that someone is camping here**, in the middle of the forest.* (Leonide, EN_pic_2_57X32A13_71)

In this case, the initial action of finding the table and chairs is a singular event occurring at a specific point in time over the course of the story. Afterwards, we find out that the characters’ interpretation of the fact is that someone was camping in the forest. The ongoingness of the construction *to be + Ving* resulting in the thought process of the characters and their speculation about the presence of someone there, extends the narrative beyond the immediate action of finding the objects. It suggests that the characters are mentally engaging with the situation (expressing it by a verb of mental activity “think”) and interpret the surrounding based on the evidence presented to them. Consider (60):

(60) *"Miss wait"*

*Wait a second **is someone talking** with me? -"Yes"*

Oh no! The police. (Leonide, EN_pic_3_57Y25A14_120)

In (60) we get to know from the story-telling that someone requested the attention of the character (“*Miss wait*”) in the form of direct speech in quotation marks. Afterwards, we are faced with the confusion of the character expressed by the question *wait a second is someone talking with me?*, which is not enclosed in quotation marks. With this shift on the perspective, the character is probably relying on her thoughts or spoken words indirectly in a sort of internal dialogue. Moreover, the progressive construction *to be + Ving* in *is someone talking with me* creates even more a sense of empathy with the character and helps the reader connect more deeply with her emotions and the ongoing events. The effect is even more evident if we consider the effect that *wait a second* gives, thus shifting the camera from the direct speech of the police to the “mental room” of the character. However, the following answer *yes* suggests that indeed someone is actually addressing the character, functioning as a direct response to the implied question posed by the speaker. This interaction between the characters, with one posing a question to herself and the other providing an answer, mimics a dialogue-like exchange within the narrative. The presence of the response *yes* creates the impression of a conversational interaction floating between the actions and the mental representation of the actions, prompting the reader to infer that the characters are between an engaged dialogue with others or themselves. The subsequent realization (*Oh no! The police*) introduces again another element of mental reflection, in which the presence of the police is finally inferred by the speaker based on the dialogue exchange.

5.1.1.6 Temporary Validity

The use of progressive aspectuality almost always involves situations that are implicitly bounded in time, without actually profiling these boundaries (De Wit & Brisard 2014: 76). Only observations with clear contextual indications of temporariness, such as “now” in example (61), have been classified as belonging to the category of “temporary validity” (abs. freq. 13, rel. freq. 1,95%), i.e. situations that have a limited validity for a certain period of time:

(61) *Science is one of my favourite subjects, because I find it very interesting, especially the part that **we're studying now**: Vulcanos.* (Leonide, EN_op_3_57Y28A06_135)

In example (61), the author expresses interest for science as a school subject. From the sentence “*especially the part that we're studying now*” we understand that the current focus during the science lessons is on the topic of volcanoes, and it has a temporary validity for the present time in which the author is writing, as indicated by the expression “*now*”.

5.1.2 Intersubjective meaning types

5.1.2.1 Modal

De Wit & Brisard (2014) highlight that what they describe as “modal” qualifications of progressive aspectuality, which are non-temporal, intersubjective expressions such as surprise, tentativeness, irritation, or intensification. These emotional aspects are intrinsic to the meaning of the progressive, becoming evident in examples where there is no temporal justification for the use of the progressive. The use of progressive constructions in such instances often indicates that the situation being described was unexpected or unpredicted, creating a sense of surprise for the speaker. This aligns with the progressive's core meaning postulated by De Wit & Brisard (2014) of “epistemic contingency”, where atypical events can lead to irritation or frustration, as they are seen as situations that might be corrected in response to the disturbance they cause. In Leonide data, interestingly, all the cases annotated as belonging to this meaning type (abs. freq. 19, rel. freq. 3,12%) does not express a surprising or unexpected event, but result in emotional overtones of irritation deriving from routines, which is also the reason why most of the occurrences belonging to this meaning type appear in the opinion texts.

(62) *I spend only at least a half our time for doing homework and for learning, because we **stay** a half day **sitting** in the school **learning** and **writing** and then I need first some air.* (Leonide, EN_op_2_57X34A01_103)

In (62) the author describes his/her habitual actions or routine that implies finding a good balance between school-related activities (“*doing homework and learning*”) and dedicate some time to other activities. The author justifies the fact that he/she dedicates less time doing homework because

school-relates activities already occupy a big portion of his/her time (“*only at least half of our time*”). In the specification of the time spent at school already conveys some kind of subjective expression of irritation regarding this routine by quantifying it in a certain way. This emotion becomes clearer in the subsequent sentence, in which the author explains the reason for that, i.e. the fact that engaging in learning activities for half of the day represents a significant portion of the day and therefore does not allow more time for other activities. Therefore, after having conducted all the activities part of the routine, the author needs “*some air*” to take a break. Formally, the use of the construction *stay* + *Ving* is the only case found in Leonide: the author chooses the posture verb “stay” as auxiliary that might a) suggests a prolonged duration in which the speaker emphasizes the idea of remaining in a particular location (the school) for an extended period or b) might be a transfer from the Italian verb *stare* which can be employed to express progressive aspectuality in the construction *stare* + *gerund*. Note that the same example can also be classified in the meaning type of “habitual” (Section 5.1.1.3) but we would lose the interpersonal dimension of the sentence. Quite similar to (62) is example (63):

(63) *Sport is very important, after **sitting** in the class for 6-8 hours.*
(Leonide, EN_op_2_57X32A12_72)

In (63), the author discusses the importance of certain activities and school subjects, more specifically Sport and how much is important after spending a significant amount of time in a classroom setting. Similarly to the previous example, here the verb “to sit” is used in combination with an indication of time (“*for 6-8 hours*”) to emphasize the prolonged duration of the school activities for an extended period that imply sitting at the chair. The contrast between Sport and the activity of sitting may serve as a comparison between these two activities and the need for the author for counteract the negative

effects of sitting with physical activity. Like the previous example, the activity of prolonged sitting emphasized by *Ving* and the indication of time shows that certain occurrences might be ascribed to different meanings, depending whether we focus on a pragmatic interpretation or purely temporal-aspectual one. In this case, if we consider this occurrence as belonging to the “duration” meaning type, we will focus on the temporal aspect of the action only, highlighting the length and its duration, but we would lose the subjective dimension. Cases like this classified as “modal” would instead emphasize the subjective or emotional connotation associated with the action, that involves the speaker’s perspective or evaluation of this activity, and possibly the speaker’s discomfort with certain experiences.

5.1.2.2 Emphatic ongoingness

Within the inter-subjective meanings, we also found another meaning type which is mostly concerned with emphatic expressions on the ongoingness of the events (abs. freq. 28, rel. freq. 4,2 %). We have seen in the Section 5.1.1.1 that ongoingness focuses on the action in progress at a particular moment or during a specific period in the past. There is however a more interpersonal dimension on the ongoingness of the event that concerns the nature of narratives and the effects that these might produce on the reader. For this reason, while always being connected to the core meaning of ongoingness, it has been grouped within the inter-subjective meaning types.

In this meaning type, in fact, we found a particular construction used by Leonide students, the *V_I+and+V_I* construction, which expresses “emphasis” or narrative emphasis meaning by a special combination of both syntax and pragmatics. The incompleteness of an action or activity or event that is ongoing is rendered through the syntactical reduplication of the same verb to extend its meaning towards a never-ending activity. In this way, the repetition of the same verb suggests not only that the action continues over time but also its persistence on the part of the subject. The effect that this construction reaches is to contribute to the narrative rhythm, creating a sense of engagement with the reader. Consider examples (64) and (65):

(64) *I was **running and running**. It was 7:00 pm.* (Leonide, EN_pic_2_57X32A08_71)

(65) *They **going and going** And find a(Sache n für ein Picknick).* (Leonide, EN_pic_2_57X33A18_81)

In both examples, there are two verbs indicating a movement, i.e. “go” for example (65) and “run” for example (64). In (64), the use of the construction

$V_I + \text{and} + V_I$ of the same verb “run” conveys a sense of endurance as the author/character continues to run over an extended period (cf. Section 5.3.1.4). In this case, the clause “*it was 7:00 pm*” also provides temporal context and additional background information, what Bardovi-Harlig (2013: 233) calls “scene setting”, which also includes among all the descriptions and evaluations, also the orientation of the background (cf. Section 5.1.1.4). In example (65) the activity of going not only draws the audience into the narrative but also adds a sense of resolution to the narrative with the discovery “(*And find*) of a *Sache für ein Picknick*”. The construction also conveys a sense of adventure or exploration, that is the reason why it is mostly frequent in the picture story task.

5.2 A semantic network for English progressive aspectuality

A semantic map developed by De Wit & Brisard (2014: 86) and explained in Section 3.3 (Figure 9) is the only semantic network that the literature offers about the English progressive and the different meaning types identified. This semantic network illustrates the connections among various meanings of the English progressive, which are organized according to what are referred to as “conceptual branching principles”: “temporal versus non-temporal”, “actual versus virtual”, “boundaries attended versus boundaries unattended” and “singular versus multiple”. They are all connected to a common underlying schema called “contingency in immediate reality”, also named “epistemic contingency”, which constitutes the semantic core that gives rise to aspect-temporal as well as the intersubjective meanings. According to De Wit & Brisard (2009), this common underlying schema explains the property of the English progressive to express non-canonical situations or, to a certain extent, unpredictable events, and consequently, how certain progressive constructions can be employed for temporal-aspectual meanings but also for non-aspectual reasons (see also Section 3.3). In this semantic map, the meaning of “current ongoingness” is considered the construction’s prototype for its frequency of use, together with other modal usage types referred to inter-subjective readings or “modal”.

Similar to De Wit & Brisard’s account for the English present progressive, based on Leonide data and the description for each meaning type given in the previous sections, a network graph for English progressive aspectuality has been created to visualize the relationship between various meaning types. The Python library *NetworkX* (Hagberg et al. 2008) was used to create and visualize the network graph. The frequencies of the meanings were calculated to determine node sizes. The nodes have been added to the graph

with a group attribute to identify their category: two core categories have been created and can be distinguished by different colors, namely "aspecto-temporal meanings" and "intersubjective connotations", and they result as subtypes of the core meaning of “ongoingness”. Edges were created to connect individual meanings to their respective core nodes. Moreover, each subtype was connected to the main meaning with specified branching principles but also to other nodes to indicate they share the same branching principle. To make comparison easier, these connections will be now commented in light with the specification for the conceptual branching principles used by De Wit & Brisard (2014).

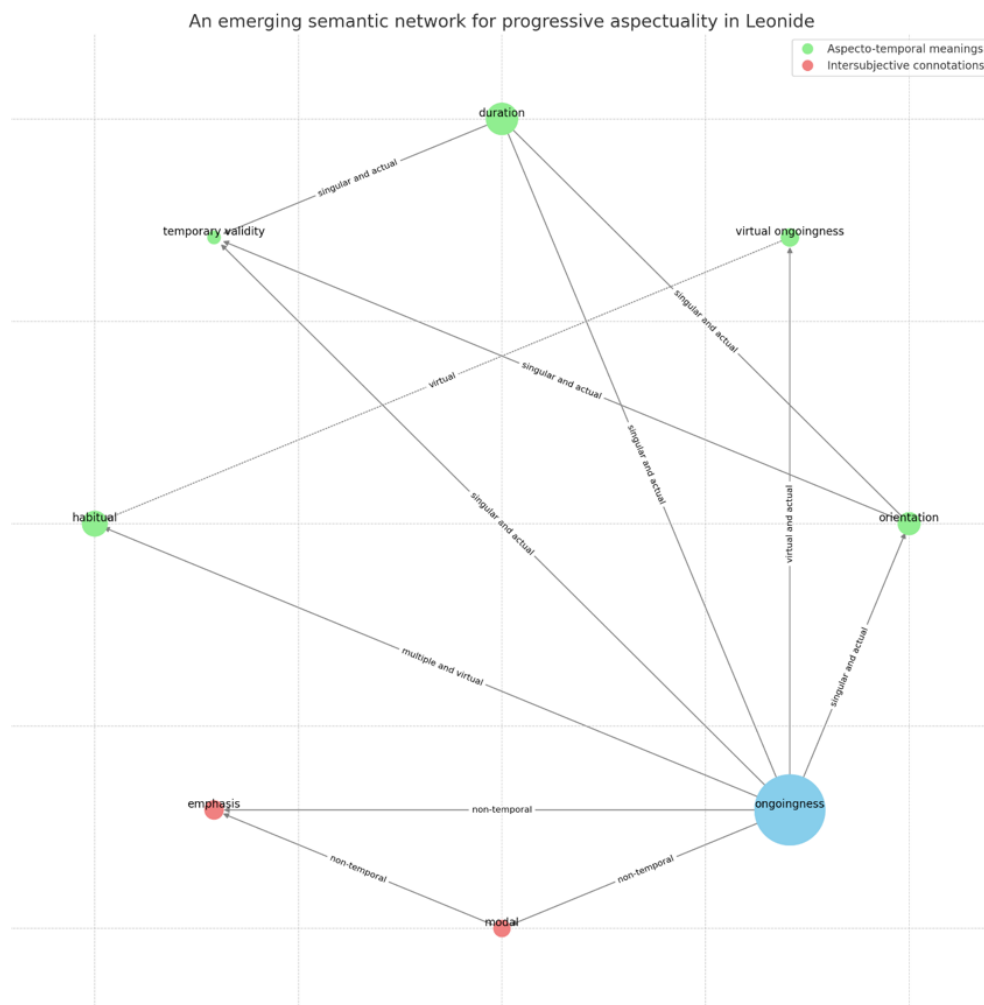


Figure 18: A semantic network for English progressive aspectuality in Leonide

As can be seen in Figure 18, at the center of the graph is the core category of “ongoingness” from which propagate “aspecto-temporal meanings” and “intersubjective connotations”. The node size indicates that there is a higher frequency of aspecto-temporal meanings compared to intersubjective connotations. Similar to De Wit & Brisard’s (2014) investigation, the meaning type of ongoingness seems to be the core meaning type found in the data, to which different meaning types are systematically related in different ways. This core meaning, in fact, is further connected to other categories of meaning types when they share the same characteristics: in case of “orientation”, “duration” and “temporary validity” they all involve singular events that concern singular and actual events (branching principles ‘singular’ and ‘actual’). Also, the meaning type “virtual ongoingness” is connected to the meaning of ongoingness with the branching principle ‘virtual’ and ‘singular’ because it refers to virtual events, instead of actual. “Virtual ongoingness” shares the same virtual principle with the node “habitual”, therefore they are also connected. The habitual meaning type is only connected with the “virtual ongoingness” node but not with other subtypes as it is the only one specifying a series of repeated events (branching ‘multiple’). The group of intersubjective connotations in red is connected to the nodes of “modal” and “emphatic” meaning types through the branching principle of “non-temporal”, that makes these meaning types different from the aspecto-temporal meanings in a way that they additionally express pragmatic connotations. Compared to the modal usage types in De Wit & Brisard (ibid.) that do not share any branching principle with the core meaning of ongoingness, I argue that these are additional nuances of

meanings that in any case share properties with the core meaning of ongoingness. Therefore, in my network they are connected to the core node of ongoingness with a branching principle that justifies meanings that are not properly temporal.

In conclusion, it is possible to say that the emerging semantic network from Leonide data seems to suggest analogous results. On the one hand, the progressive aspectuality as a semantic-cognitive concept expresses core aspecto-temporal meaning and meaning subtypes, and intersubjective connotations that additionally encode an internal perspective on the event. While De Wit & Brisard (2014) argue for a more abstract schema of contingency in immediate reality, an additional explanation also comes from what Langacker calls “subjectification” (1990), which is an important type of semantic extension which involves the way a certain speech event is conceptualised. I interpret subjectification in Langackerian terms as the reason why progressive aspectuality possesses a strong intersubjective interpretation. The subjectification should represent a spectrum which goes from more concrete reading on the event itself to a more personal dimension on the event. In case of progressive aspectuality, temporal-aspectual meaning types like ongoingness seem to play a prominent and prototypical role in encoding how progressive aspectuality places itself in a more concrete reading on the spectrum, as it can be traced back in time due to explicit reference to the ground. However, as this meaning becomes less anchored in time and relies more on the conceptualizer's perspective of the scene, the construal becomes increasingly abstract and subjectified. In this more abstract reading, the progressive loses its objective grounding and shifts towards modal meanings, where the speaker's subjective viewpoint takes precedence, and the reference to the temporal ground diminishes (cf. also Almeida & Ulloa 2020 for a similar observation).

5.3 Inside the construct-i-con: expressions of progressive aspectuality by constructions

The previous chapter presented the idea that the emerging knowledge of the semantic-cognitive notion of progressive aspectuality can be modelled, on the basis of the data, as a large network having a core aspectual-temporal meaning of ongoingness and peripheral meaning types that also include intersubjective connotations. The different facets of the main construct of progressive aspectuality show that learners of English are able to express a wide range of meanings, from prototypical aspecto-temporal meanings like ongoingness (i.e. the conceptualisation of an action that is happening at the moment of speaking), to peripheral uses which are more concerned with emphasizing the conceptualiser's perspective on a certain event. All of them are connected via branching principles representing shared properties.

If until now we have sketched a semantic network for the emerging meaning types found in the data and their connections based on shared properties, it is equally important to investigate which structures students actually use to express semantic content. These structures should be intended as constructions, i.e. form-meaning pairs: according to the framework of Construction Grammar, "knowledge of language is a large repository of symbolic units in which every symbol is only a symbol by virtue of having a form and a meaning" (cf. Hilpert 2019: 50). Therefore, if we started from an onomasiological motivation by investigating the meaning side and the different connections among them, we should complete the picture by identifying the form side of such constructions.

The form-meaning pairs that will be sketched contribute to create what is called constructicon, i.e. a large repository of form-meaning pairs that represent speakers' knowledge of progressive aspectuality. This repository is

a highly structured hierarchical network in which constructions are interlinked between more abstract constructions, which are situated towards the top of the constructional network, and more specific constructions, which are found in lower levels of the constructional hierarchy (cf. also Section 3.3).

The constructions and their connecting branching principles or inheritance links will be organized and represented in the form of network graphs. While frequency of use has a significant impact on the representation and development of constructions, it is also important to determine the different types of associations that have been found in the data. There are different and possible types of associations that are not only based on form-meaning commonalities but can also be traced back to generalizable domain-general processes (Diessel 2020). They are:

- **Taxonomic relations** that connect constructional schemas with lexical constructions or schemas at higher or lower levels of abstraction.
- **Horizontal relations**, also known as “lateral” or “sister relations”, connect constructions at the same level of abstraction.
- **Symbolic relations** connect a particular linguistic form, for example a word form or structural pattern, with a particular function or meaning.

On the basis of the type of relations, a construction will be constructed step by step starting from taxonomic relations (Section 5.3.1) that connect constructional schemas at higher or lower levels of abstraction, explaining the type of relationships existing among them, to horizontal relations among constructions schemas and construction types. It will be partially explained in Section 5.3.1 and comprehensively in Section 5.3.3. Finally, the constructions as form-meaning bearing elements will be assembled according to their symbolic relations (cf. Langacker 2000), i.e. by combining

the form and the meaning side of the constructions as entrenched (cf. Section 5.3.2). Due to the heterogeneity of the emerging meaning types and constructional formal schemas found in the data, statistical procedures have been conducted to determine the degree of specificity of certain constructions in assigning linguistic meaning to language structures. A final subsection will be dedicated to the longitudinal aspect of the construction types, investigating whether learners of English show certain preferences over the course of three-years of instruction and any development towards a more stable categorization.

5.3.1 Taxonomic relations

In order to build a construction, I started to determine the taxonomic relations between the constructions found in the corpus and schemas at higher levels of abstraction. The procedure of extraction for constructional schemas consisted of first categorizing the constructions actually found in Leonide data having similar forms into low-level construction types, and second, to reconstruct the high-level constructional schemas by abstraction (Anderson 2005: 165–167). This is in line with the hypothesis that grammatical patterns are often stored at different levels of abstraction in speakers' minds, and that, consequently, there are different degrees of specificity of the constructions that determine taxonomic relations (Langacker 1991).

According to Diessel (2023: 17), two perspectives regarding taxonomic relations can be considered. The first focuses on how a constructional schema is derived from lexical sequences that share similar forms and meanings. The second examines how an established schema is applied to generate and interpret novel utterances or new instances of that schema. Diessel (*ibid.*) notes that this “bidirectional nature of taxonomic relations” arises from two distinct cognitive processes of “abstraction” or “schematization” (Langacker 2008) and “categorization” (Langacker 2000). It is also important to note that the emergence of fully schematic constructions might take some time to become established schemas, and this is even more relevant for learners. It is usually the case that in the corpus have been found occurrences of learners' attempts to produce a certain constructional schema or construction. Moreover, since Leonide students are emerging multilingual speakers, the linguistic knowledge of the target language (i.e. English) sometimes intersect with formally or semantically

similar constructions in the other languages learners use, that function as starting points for generalization. We will see this aspect more clearly in Section 6.

The taxonomic relations between low-level construction types (column of the dataset “*construction_types*”) and high-level constructional schemas (column “*construction_schemas*”) have been represented in a network graph (Figure 19). The Python library *NetworkX* (Hagberg et al. 2008) was used to create the graph and *Matplotlib* (Hunter 2007) to visualize it. The nodes represent either a constructional schema or a construction type and the size of each node was scaled based on the frequency of occurrences. Edges were added between nodes with weights corresponding to the frequency of the connection, and the thickness of the edges was scaled down to reflect the connection strength. A spring layout ([spring_layout function](#)) was used, with edge weights influencing the distances between nodes, with more frequent connections resulting in nodes being positioned closer together. The blue nodes can be distinguished from the red ones, representing respectively the constructional schemas and the construction types.

Network graph of constructional schemas and construction types

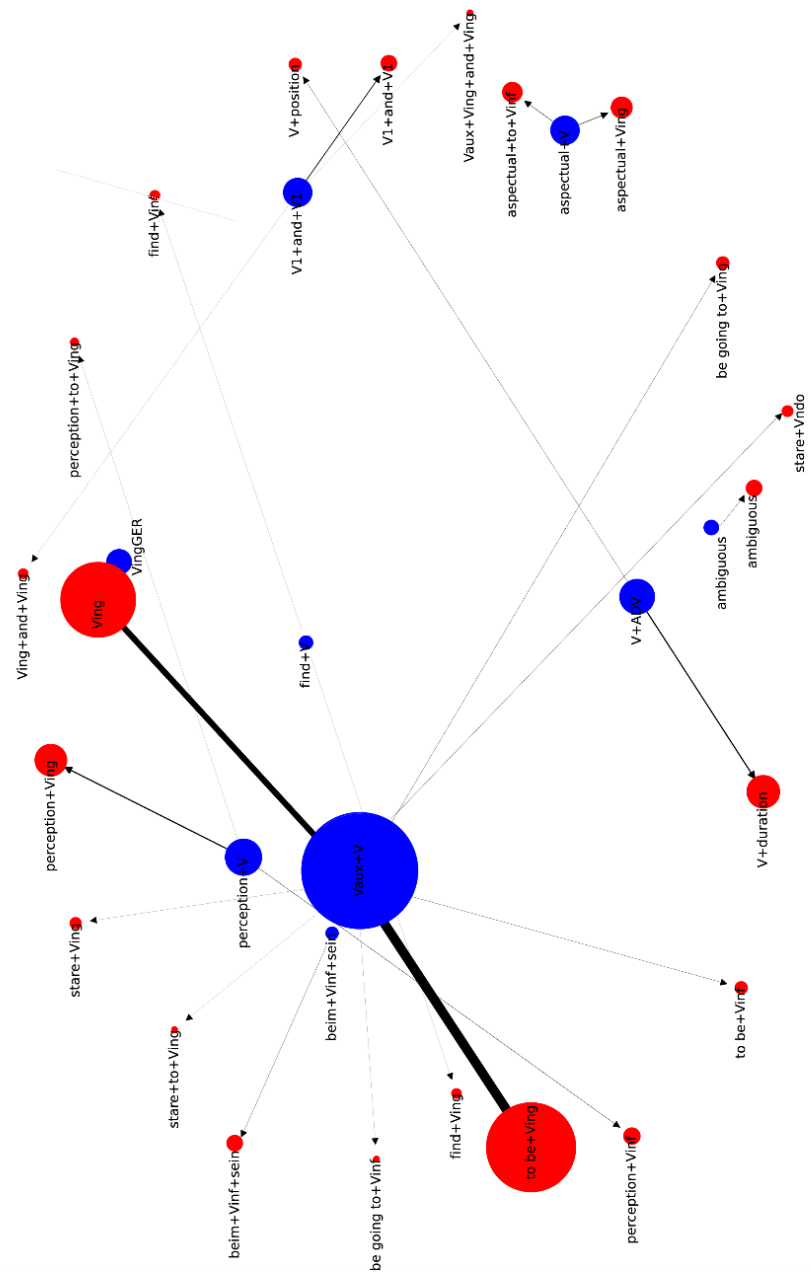


Figure 19. Constructional schemas (in blue) and construction types (in red) in Leonide

In Figure 19 it is possible to observe a huge variety of constructional schemas and construction types. The largest and dominant constructional schema is *Vaux+V*, from which propagate the dominant construction type *to be + Ving*, which as it can be noted from the thickness of the edges, also represent the strongest connection with higher frequency of occurrence. This is in fact the prototypical construction that English possesses to morphologically encode progressive aspect and that learners of English mostly use in Leonide data. From this constructional schema there are other construction types that propagates from this node, representing sister constructions of the prototypical construction *to be + Ving*, but that are typical of interlanguage processes of generalization and categorization. For example, as it will be discussed in Section 5.3.1.1, *Ving* represents a patterned sister construction of *to be + Ving* in which the auxiliary is omitted by learners but remains the *Ving* participle. Connected to the same abstract schema, there are also other construction types like *stare + Vndo* which also result from interlanguage processes of identification, in this case with the Italian *stare + gerund* construction, and that come at play in Leonide English texts as transfer phenomena or lexical innovations (*stare + Ving* and *stare+to+Ving*).

Similar constructional schemas are the *perception+V* and *aspectual+V* schemas, consisting of lexical verbs that behave as auxiliaries, followed by another verb. These aspectual verb constructions develop differently from *to be + Ving* however: in this construction, in fact, *to be* functions as a canonical auxiliary and generally lacks any overt lexical meaning related to "being" or "existing," instead serving purely as a grammatical marker. However, in the case of perception and aspectual schemas of the type *perception+V* and *aspectual+V*, these constructions retain visible traces of their original lexical meanings, even when they function as auxiliary

elements. This means that, in such contexts, the perception and aspectual verbs not only serve grammatical purposes but also carry semantic cues tied to their lexical content, influencing how the entire construction is interpreted.

There is the constructional schema *V+ADV* that is also the second most frequent schema in which a verb phrase occurs with temporal adverbial of position or duration. For these construction types, there should be a second level of perspectivisation in which it is only through a verb form and a lexical (e.g. adverbs) form with which aspectuality is mostly conveyed and in which aspectual verbal periphrases do not play any significant role. Moreover, another constructional schema emerges from the data, i.e. the *V₁+and+ V₁* constructional schema, which basically relies on the syntactical repetition of the same verb lemma connected by a coordinating conjunction to express progressive aspectuality. In the following sections, each of the constructional schemas and the construction types and their relations will be explained providing examples from Leonide data.

5.3.1.1 The $V_{AUX} + V$ constructional schema

In the first type of constructional schemas extracted from Leonide data, i.e. the $[V_{AUX} + V]$, a constructional supraordinate schema is composed by a combination of two verbs, i.e. an auxiliary verb followed by another verb. This schema is used by learners to process and produce instances of different construction types.

In Figure 20, we can observe that the construction $[V_{be} + Ving]$ is the construction having the marked line because it signals the prototypical morphological construction that English possesses to mark progressive aspect and that learners use or try to achieve. The dashed lines of the other related constructions signal the emergence of the full schema $[V_{AUX} + V]$ that comes from overgeneralization processes towards the construction $[V_{be} + Ving]$, which represents the prototypal construction.

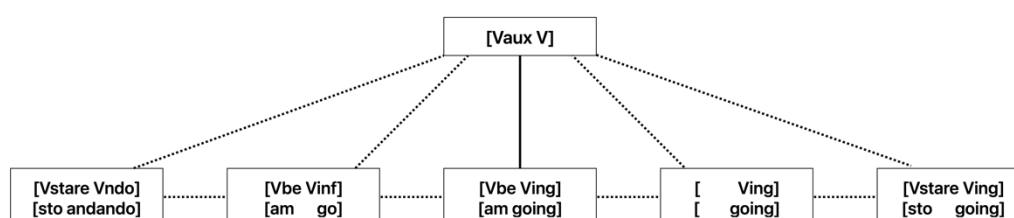


Figure 20. A constructional network for the $V_{aux}+V$ schema

From the $[V_{be} + Ving]$ construction four constructions that are still in phase of constructionalization emerge: the first two are the $[Ving]$ and $[V_{be} + Vinf]$ construction types that arise from the analysis of the lexical sequence $[V_{be} + Ving]$ as the target construction, with some modifications or missing elements. The relationship between these two constructions connected by analogy is of the horizontal type.

The constructions [*Vstare + Vndo*] and [*Vstare + Ving*] found in the English data, also connected to the [*V_{AUX} + V*] schema, are the result of processes of interlingual identification across similar constructions deriving from other languages. In this case, these construction types are directly connected to the [*V_{AUX} + V*] constructional schema because they share the presence of an auxiliary followed by a participle, but learners use the Italian auxiliary *stare* and a participle realized using either the morpheme *-ing* or the Italian gerund *-ndo*. Both of them are connected and related to the schema [*V_{AUX} + V*] but involve elements of other languages part of the multilingual construction. Analogous cases of such processes will be explained in Section 6.3.

In order to deepen into the network just sketched, examples from Leonide are provided as well as the frequencies for each construction types:

- [*V_{be} + Ving*] (raw freq. 284, rel. freq. 42,58%): it is the prototype construction coming from the [*V_{AUX} + V*] schema, i.e. the target construction that English possesses to express progressive aspect. Formally, the occurrences of this type follow a target-like usage by learners in which the auxiliary *be* is followed by the *-ing* participle, like in (66):

(66) *Luca's father is in the garden and he's reading Luca's comic.* (Leonide, EN_pic_1_57Y26A05_24)

Modeled on the basis of this construction type, other constructions emerge as result of interlanguage processes, namely:

- [*Ving*] (raw freq. 200, rel. freq. 29,99%): this construction generates from the prototype [*V_{be} + Ving*], with a missing element, which is the auxiliary *be*, like in example (67):

(67) *A day 2 boys named Messi and Ronaldo going in the forest and he see a monster* (Leonide, EN_pic_2_57X31A17_83)

In example (67), Messi and Ronaldo, the two characters of the picture story, were in the process of heading to the forest (encoded in the *Ving* “going”) when, suddenly, a monster appeared in front of them, interrupting the proceeding action. Reconstructing the target hypothesis of this occurrence is not an easy task, since we might interpret the use of [*Ving*] in different ways: a) the English progressive aspect [*V_{be} + Ving*] is the target construction that the learner wants to express, but the auxiliary was omitted and the *Ving*, in terms of saliency, is the single remaining element to express this function; b) it can be a possible avoidance strategy in which the learner employs *Ving* instead of the irregular past tense (“went”) because perceived simpler and more versatile, leading learners to use it as a default to avoid more complex tense constructions.

The context is extremely useful to determine which might be the intended function of *Ving* by the student. Looking at the pictures and interpreting the *Ving* as an introductory sentence that sets the scene of the story, we might interpret the action of going as an ongoing action, in which therefore the progressive aspect seems to be the appropriate choice to encode this meaning. This is a clear and emerging pattern from the data in which there is a high chance that learners try to imitate the prototype [*V_{be} + Ving*], with a missing element, which is the auxiliary, but keeping the *Ving* participle. As also shown by other studies (e.g. Goldschneider & DeKeyser 2005), the participle *-ing* is “one of the first grammatical functors acquired by learners” (Wold 2017: 53) and seems to be highly salient to encode progressive aspect for Leonide students as well, therefore it occurs as the only element part of the prototypical construction [*V_{be} + Ving*]. We can also imagine that learners initially perceive [*Ving*] as instantiations of the construction [*V_{be} + Ving*]

and that “their interlanguage systems require revision as the auxiliary node develops and hitherto independent developments begin to interact” (Andersen 1984: 91; cf. also Wold 2017: 101).

This is also relevant for occurrences like (68) and (69) in which the authors both use the root of the verb coming from German (in (68) *gucken* and in (69) *gehen*) to which the morpheme *-ing* is then attached to form a participle.

(68) *Vater say it is book. Te Vather **guking** the bok.* (Leonide, EN_pic_1_56X32A16_30)

(69) *Maria and Johannes **ginging** on the camping platz.* (Leonide, EN_pic_2_57X33A06_81)

- [*V_{be}* + *Vinf*] (raw freq. 5, rel. freq. 0,75%): this is another construction type emerging from the prototype [*V_{be}* + *Ving*] in which the *-ing* participle is substituted by the infinitive form of the verb. However, the fact that this construction has a very low frequency compared to the previous one, confirms the fact that *-ing* is actually a highly salient morpheme to encode progressive aspect. In example (70) not only the author uses an infinitive verb but it is also transferred directly from the German *schreien*, ‘to scream’.

(70) *Sarah don't think that the person **is schreien** to she.* (Leonide, EN_pic_3_57X32A18_121)

Compared to the previous cases, here the *Ving* participle loses its saliency: the verb root is in its infinitive form (in (70) *schreien* is borrowed from German), but the auxiliary *to be* is still present. It is possible to make two main observations concerning (70): the first is that the author has probably

elaborated the information that the prototype construction possesses a combination of *Vbe* followed by another verb, and this is clear not only from the use of the auxiliary *to be* in (70), but also from what comes after three clauses in the same text, in which the author relies instead to the prototype construction [*V_{be} + Ving*]: “*One of the policeman asks: "Why are you running so fast on the street?"*” (Leonide, EN_pic_3_57X32A18_121). The second observation concerns the fact that probably the use of the German *schreien* represents a strategy to repair his/her possible lack of the English lexeme for “to scream”.

- [*Vstare + Vndo*] (raw freq. 5, rel. freq. 0,75%) and [*Vstare + Ving*] (raw freq. 4, rel. freq. 0,6%): both constructions found in very few cases in the English data are directly connected to the abstract schema [*V_{AUX} + V*] for processes of interlingual identification with similar constructions across the multilingual constructicon (see Section 6.3). In both cases, the superordinate abstract schema does replicate a formally similar construction of the Italian, i.e. the periphrastic construction *stare + gerund*, that encodes progressive aspect. Due to the structural similarity, learners use the auxiliary *stare* in both construction types and a gerund *Vndo* in the first case (71) or *Ving* (72) in the second. Both constructions are therefore taxonomically linked to the abstract schema [*V_{AUX} + V*] but also horizontally linked. Both [*Vstare + Vndo*] and [*Vstare + Ving*] share, in fact, similar forms, so it seems reasonable to assume that they are also connected by horizontal relations.

(71) *She (sta perdendo) the bus (quindi is ranning dietro al bus.)* (Leonide, EN_pic_3_57Y26A21_122)

(72) *The Ded (stava) reading her book, why it is so interessant.* (Leonide, EN_pic_1_57Y27A14_28)

An interesting aspect of examples (71) and (72) concerns the fact that both authors signal the insertion of lexical elements from Italian into the text within brackets: enclosed in brackets are “*sta perdendo*” in (71) and “*stava*” in (71). We can hypothesize different reasons for that, for example that a) it could serve as a way to hedge or provide clarity, indicating that the authors are unsure if the English expression accurately conveys their intended meaning or b) that authors encountered a situation where they do not know the appropriate English expression and resort to using the Italian equivalent: brackets might help signal to the reader that the inserted word is from another language and they are doing that on purpose as a strategy to overcome lack.

Within the construction types found in Leonide, there is another one that possess a borderline status because in principle it does not share the same functional properties of the other construction types, but that was in any case considered within the [*V_{be}* + *Ving*] prototypical construction type. The construction in question is the [*V_{be}* + *Vgoing to*] (raw freq. 5, rel. freq. 0,75%) which in English serves the function of a future tense marker, typical to express intentions or plans that are decided upon before the time of speaking. The *be going to* construction is, in fact, one of the strongest forms of prediction and also involves an element of planning (see Wekker 1976; Huddleston & Pullum et al. 2002: 208–12). In Bergs’ study (2010) this construction has been included in a constructional network of futurity including *will*, *be to*, the simple present and the present progressive as well. However, the *be going to* future has links to the progressive aspect because they share their form but fulfill completely different functions, thus

representing a neighbor construction (cf. Section 5.3.3). This is the case of the very few occurrences of [*V_{be}* + *Vgoing to*] construction type found in Leonide, in which there is no logical expression of futurity but rather a progressive interpretation. Consider (73):

(73) *On a raini day in Summer my Sister and I are going to swimming in the afternoon.* (Leonide, EN_pic_2_57X33A02_81)

We can consider the use of [*V_{be}* + *Vgoing to*] in a way that it does not seem to express a future intention of the characters, but rather that they are actually in the process of going somewhere to swim, providing a scene setting to the narrative. In German, it is common to use constructions like *schwimmen gehen*, which directly translates to ‘go swimming’, implying the act of going to do an activity.

5.3.1.2 The $V_{ASP} + V$ constructional schema

The second type of constructional schema [$V_{ASP} + V$] includes the combination of aspectual verbs followed by another verb. Generally speaking, there are different classes of aspectual verbs that indicate initiation, duration and cessation (Newmeyer 1975: 25). Semantically, they can assert occurrence or nonoccurrence of their associated propositions with respect to one or more points in time: for example, *begin* and *start* assert occurrence after an implied non-occurrence. *Stop*, *finish*, and *end* assert non-occurrence after a presupposed occurrence, *keep* and *continue* assert occurrence after the temporal reference point, where occurrence before that point is normally presupposed (ibid.).

For the present investigation, only the verbs *continue* and *keep* have been considered under this constructional schema because they are linguistic expression of progressive aspectuality since they focus on the duration of the event described. In terms of frequencies, in Leonide the aspectual verb *continue* is used for all the cases of this constructional type, except for one occurrence in which the verb *keep* is used.

As Figure 21 shows, the superordinate constructional schema [$V_{ASP} + V$] is taxonomically linked to two lower-level construction types, i.e. [$V_{asp} + Ving$] (raw freq. 15, rel. freq. 2,25%) and [$V_{asp} + to Vinf$] (raw freq. 13, rel. freq. 1,95%) which are in turn horizontally connected, and therefore sister constructions. These are in fact two (sub)constructions that differ in the use of *-ing* complements in the first case (i.e. gerundive) and to infinitival complements in the second (i.e. infinitive).

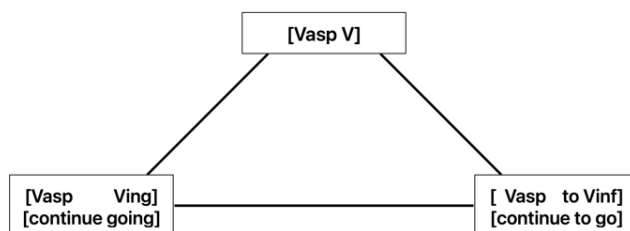


Figure 21. A constructional network for the *Vasp+V* schema

According to some scholars, what is particularly noteworthy about the choice of one of the two constructions concerns their progressive interpretation. Deschamps (2014: 70) considers that the interpretations of the alternations between [*Vasp + Ving*] and [*Vasp + to Vinf*] for *continue* (and other aspectual verbs as well) are semantically very close to each other, but when contrasting them in the same context the opposition can be explained by a semantic difference of the two. On the same lines, Alexander (1988) and Frank (1993) in their modern grammars of English note differences between the *-ing* element in the [*Vasp + Ving*] construction that refers to “an action in progress”, in opposition with the “the complete action” of the *to infinitive* element in the [*Vasp + to Vinf*] construction. Freed (1979) suggests that:

in general the *to V form* of a sentential complement, whether occurring with *start, begin, continue* or *cease*, carries with it a generic reading. Once again a generic reading of an event suggests a repetition (or a series) of the event in question, occurring at different moments throughout an unspecified stretch of time. The *V-ing form*, on the other hand, has a durative reading, which here refers to the unspecified duration of a single event. (Freed 1979: 152)

Whether the two constructions do differ and actually play different semantic roles in Leonide data is an issue. We shall try to show that the two constructions correspond to different meanings, or at least that there are tendencies in learner data explaining that the two types of constructions are not interchangeable. Let us consider the following two examples from

Leonide in which the verb *walk* occurs in the two subconstructions at issue as minimal pairs:

(74) “*I think we should **continue walking**..” says Anna. They **continue walking**. (Leonide, EN_pic_2_57Y28A07_69)*

(75) *They **continue to walk** in the camp and then they see someone very familiar: Lori, Rick’s wife and Carl’s mother (Leonide, EN_pic_2_57Y28A09_69)*

If we would like to adhere to what the scholars above mentioned hypothesized, the interpretation for (74) is that not only the character Anna suggests continuing walking to the other characters, but also that they actually continue walking as described in the following clause. The point is that the [*Vasp + Ving*] construction should provide a durative reading to the activity of walking without giving a specified duration. Instead, in example (75) the [*Vasp + to Vinf*] construction should suggest a series of repetition of the activity of walking in the camp occurring at different moment in time. However, it is worth considering the possibility that learners may not have been explicitly instructed on these nuanced differences, given their subtlety. Moreover, there is a possibility that the structure [*Vasp + to Vinf*] mirrors the Italian [*Vasp + a + Vinf*] (*‘continuare a Vinf’*), potentially obscuring any intentional semantic distinctions by the authors (cf. Section 6.1.1).

5.3.1.3 The $V_{PERC} + V$ constructional schema

In the [$V_{PERC} + NP + V$] constructional schema (exemplified in [$V_{PERC} + V$]) the constructional supraordinate schema is composed by a combination of two verbs, i.e. a perception verb followed by another verb, with a noun phrase occurring between these two elements.

Before embarking on the construction types connected to this schema as they emerge from the data, it is convenient to first give a general overview of what is intended with “perception verbs”. Perception verbs are those verbs denoting sensory modalities of sight, sound, touch, smell, and taste (Whitt 2009: 1084). Because of their property of conveying or signaling our perception about what we know about the world around us, perception verbs have been investigated by several scholars as evidential markers (Aikhenvald 2004; Whitt 2009). Evidentiality is about how speakers witness a certain event or infer it from evidence, hear it from someone else, or simply assume it based on common knowledge or speculation.

The fact that these verbs play a role in certain construction types and are part of a construction for progressive aspectuality is quite interesting. As already anticipated, perception verbs behave as evidential markers, i.e. they provide information about how speakers linguistically encode their source of information in a way that they express it as perceivers. In the words of Joseph (2003: 308), “evidential utterances typically include indicators pointing directly to particular sources or away from potential sources, as the speaker takes a particular point of view in describing an action”. Despite evidentiality and progressivity are two distinct concepts, they can intersect or influence each other. For example, in the picture stories where we might expect students to convey what another person or character said or did, evidential markers can influence how the reported speech is framed. If the

author of the picture story uses the constructional schema [$V_{PERC} + V$] in a construction like in “*I saw Olga reading a book*” not only the construction describes an ongoing action at the time of observation, but also the visual verb “saw” gives the impression that it is a direct observation and that the author/character personally witnesses the action of Olga reading. It is this second proposition that allows the speaker to report the first proposition to be the case: auditory perception serves as evidence to assert what Olga is doing. This aligns with the concept of progressive aspectuality, which also relates to the speaker’s knowledge or perception of an unfolding event seen from his/her own reality.

Perception verbs have been classified according to their frequency in linguistic representation: for example, Viberg (1983:136) establishes a perception verb hierarchy that expects verbs of visual perception higher in the hierarchy, with a greater frequency in usage (Whitt 2009: 1084):

Sight > Hearing > Touch > {Smell, Taste}

This is probably one of the reasons why research on perception verbs has focused on the verbs of visual perception (cf. Sweetser 1990; Schröder 1995; van der Does & van Lambalgen 2000).

In Leonide data, perception verbs occurring in the constructional schema [$V_{PERC} + V$] are actually mostly used to indicating visual perception, with four different verbs belonging to this sphere (*look* ($n=4$), *see* ($n=23$), *sehen* ($n=1$), *vedere* ($n=1$) and only one verb indicating auditory perception, i.e. *hear* ($n=17$). The lemmas with which visual verbs combine express general activities like *running* ($n=1$) or mental activities like *reading* ($n=29$) and *writing* ($n=1$), while the verb *hear* indicating auditory perception naturally occurs with verbs of communication like *screaming* (comprising different

variants such as *scream* (n=4), *schreien* (n=5), *urlare* (n=2), *shouting* (n=2), *yelling* (n=1), *laughing* (n=1).

It is also useful to draw a two-way distinction between subject-oriented and object-oriented perception verbs (Viberg 1983; Whitt 2009). Subject-oriented perception verbs are transitive and feature the perceiver as the grammatical subject of the perception verb and emphasize the role of the perceiver (subject) in the act of perception. One example could be the sentence “*Olga listened to the music*”, in which Olga intentionally listens to the music that is playing. Object-oriented perception verbs, on the other hand, are intransitive and feature the perceived object (or stimulus) as the grammatical subject of the clause: this is the case of a sentence like “*The music sounds loud*”. In Leonide data, all the instances are subject-oriented perception verbs: it can be a third-person subject who perceives something, usually one of the characters of the picture stories (n=36), a first-person subject when the story is told from the perspective of the author/character of the story (n=5) or an undefined subject (for example in cases of “*someone*” who perceives something (n=5)).

In Figure 22, we can observe the [$V_{PERC} + NP + V$] constructional schema taxonomically linked with three different construction types produced by Leonide students. The [$V_{perception} + NP + Ving$] construction is the one having the marked line because it signals the prototypical morphological construction for the English that learners use or try to achieve. As for the other constructional schemas, the dashed lines of the related constructions signal the emergence of the full schema that comes from the occurrences of overgeneralization processes towards this schema that are still in phase of constructionalization towards the prototype [$V_{perception} + NP + Ving$]. These are the [$V_{perception} + NP + toVing$] and the [$V_{perception} + NP + Vinf$] constructions.

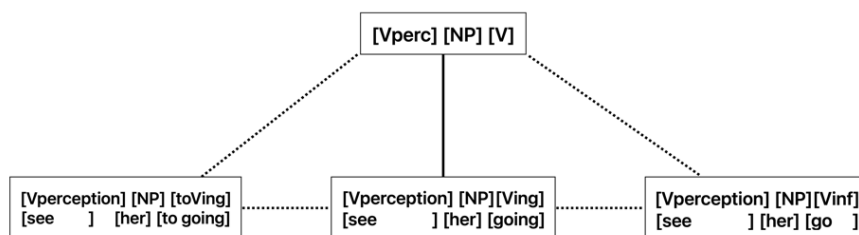


Figure 22. A constructional network for the *Vperc+NP+V* schema

- [*Vperception* + *NP* + *Ving*] (raw freq. 35, rel. freq. 5,25%): this construction involves a noun phrase (NP) as the subject of this construction, followed by a perception verb, another NP as the object, and a *Ving* as the complement, like in (76):

(76) *When I was running I heard someone shouting.* (Leonide, EN_pic_3_57X34A12_123)

In this example, the author/character (“*I*”) is also the perceiver that hears “*someone*” (the object) as the entity being perceived who is “*shouting*”, representing the action perceived. The temporal conjunction “*when*” serves as the temporal context, indicating that the two actions occur in parallel. From this construction matrix, two sisters-constructions are horizontally linked as result of a process of gradual entrenchement, namely:

- [*Vperception* + *NP* + *Vinf*] (raw freq. 9, rel. freq. 1,35%): here the second element that follows the perception verb is a bare infinitive to fill the *Ving* syntactic slot of the matrix construction, like in (77) and (78):

(77) *Walter live the hous and see Max read a book* (Leonide, EN_pic_1_57X31A10_17)

(78) *I have heard Maia urlare and have never see him again* (Leonide, EN_pic_2_57Y25A06_75)

- [**Vperception** + **NP** + **toVing**] (raw. freq. 2, rel. freq. 0,3%): in only 2 cases, the construction type involves the same characteristics of the matrix construction, but the Ving is used in combination with the infinitive marker “to”, like in (79):

(79) *The dad go to found Gino, and see Gino to reading a interesting book* (Leonide, EN_pic_1_56Y25A17_20)

These very few cases are particularly interesting because learners use bare infinitive element or *-to* infinitive forms, sometimes from a different language, either Italian or German. We can interpret this process as if learners are able to recognize that the abstract schema contains a perception verb followed by another verb and that they use a bare infinitive coming from a different language (for example, “*schreien*”, “*lesen*”, or like in (78) “*urlare*”, ‘*scream*’) or a *to-infinitive Ving* ([*toVing*]) as a strategy to fill the syntactic slot. This can also be the result of interlingual identification processes (cf. Section 6), in which learners might identify common properties with either the Italian construction *Vperception+Vinfinite* construction (for example in “*Ho visto Olga parlare con qualcuno*”, ‘I saw Olga talking with someone’) or the German construction *Vperception+Vinfinite* (for example in “*Ich sah Olga mit jemandem sprechen*”, ‘I saw Olga talking with someone’), in which the perception verb is followed by an infinitive.

With very few occurrences there is another construction type that shares some characteristics in terms of forms and function with the [*V_{PERC}* + *NP* + *V*] constructional schema, i.e. the construction type [*Vfind* + *NP* + *Ving*] (raw freq. 3, rel. freq. 0,75%). Consider example (80):

(80) *Nick fand im on the floor his Book reading.* (Leonide, EN_pic_1_55X33A07_26)

The author seems to be trying to create a verbal periphrasis composed by the German verb *finden*, ‘find’ (inflected as *fand*) and a *Ving* to indicate that the second character of the story (*im*, probably meaning ‘him’) was in the process of reading a book and that Nick (the main character) perceived him being involved in that activity. Despite *find* is not properly a perception verb, the function it expresses can be ascribed to this constructional schema as not only conveys an activity ongoing expressed by the character’s eyes/perception, but also it is formally similar to the constructional schema of [$V_{PERC} + NP + V$].

5.3.1.4 The $V_1 + \textit{and} + V_1$ constructional schema

One of the very few studies that has dealt with this constructional schema is the one of Melgarero (2008) on Spanish, to what she refers as “duplicated verb sequences”, i.e. constructions in which the same verb is duplicated by the use of the coordinating conjunction *and*. The duplicated verb sequence may appear in different forms, i.e. together with an auxiliary verb as in “*Olga was drinking and drinking*” or without an auxiliary verb, as in “*Olga drank and drank*”. In the first case, the auxiliary *to be* serves to form a verbal phrase expressing the verbal categories of time, manner, aspect, number and person, together with the main verb *drink* that carries the lexical-semantic properties of the construction. In the second case, it does not need to rely on an auxiliary verbal form but the duplication is expressed in a way elided or silent. In both cases however, the verbal phrases appear as a regularly constituted construction with a duplicated verb, with or without auxiliary, that agrees with the referent, i.e. the subject. Duplicated verb sequences can be modified by adverbs of frequency or manner, but not by adverbs of quantification (cf. *ibid*: 111). For example, we might say “*Olga and Verena run and run so fast*” but not “*Olga and Verena run and run a lot*”. This is because the meaning expressed by the duplicated verb sequence is not compatible with this type of modifiers since a tautological meaning is encoded between the quantifier and the duplicated construction. Proof of this is that if we omit the duplication of the verb, the quantifier does not generate ungrammaticality, as in “*Olga and Verena are running a lot*”.

The core semantic property expressed by these constructions is the one of “emphasis” (Lehmann 2006), in which the verb that is repeated assumes a focal function and meaning, and the form, repeated, underlines and accentuates that meaning. In this sense, the duplicated form demonstrates to

its maximum extent the internal semantic nature of the verb giving it a pragmatic emphatic meaning. A sentence like “*Olga and Verena run and run*” denotes the repeated action of running in an indeterminate manner accentuating its temporally prolonged duration. In this way, the perception of the person who is describing the activity of the two people running is simply to underline, accentuate the prolongation of the state of running encoded in the first verb. With this order of ideas, the emphatic sense is generated when the verb that is doubled appears with the same referent. Verbs that occur in this construction can be activity verbs like *run* or achievement verbs like *boil* that intrinsically express a process that continues after having reached the telos in such a way that the doubled verb highlights this process. Or also semelfactive verbs like *blink* (cf. Smith 1997) which for their own inherent semantic nature of being durative and punctual already express emphatic meaning, but with the double constructions emphasize the prolonging of the event into an indeterminate timeline.

In Leonide the $[V_I + \textit{and} + V_I]$ constructional schema is formally realized into three different construction types as shown in Figure 23.

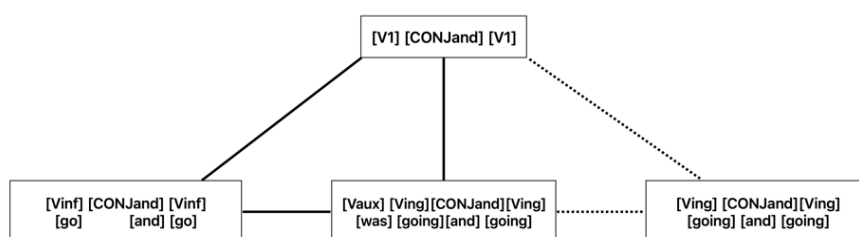


Figure 23. A constructional network for the $V_I + \textit{and} + V_I$ constructional schema

The first and most frequent one is the $[Vinf + CONJand + Vinf]$ (raw freq. 24, rel. freq. 3,60%) in which the abstract constructional schema is realized by using the forms of a replicated verb, generally in present tense like in (81):

(81) *Linda lost the bus, **she run and run** but improvise he hear scream, louder and louder* (Leonide, EN_pic_3_57X32A07_121)

This example is also particularly interesting because it not only shows the construction type in “run and run”, which remains uninflected relative to its subject “she”, but also for the parallel intensification of the comparative in “louder and louder” immediately afterwards. Here, the repetition of the adjective mirrors the verb pattern, emphasizing a progressive increase in intensity.

A possible variant of this schema involves the verb repeated three times, adding further emphasis to the continuity or persistence of the action, as in:

(82)

(82) *They **walk, walk and walk**, but than they found a camp in the middle of the wood.* (Leonide, EN_pic_2_57Y28A13_69)

In other few cases, the reduplication incorporates an auxiliary verb belonging to the *to be + Ving* construction. In this case, the *Ving* is the only element that is repeated, without the auxiliary. It can be exemplified by the following construction type [*V_I [V_{be} + Ving] + and + V_I [Ving]*] (raw freq. 1, 0,15 %) that occurs only in one case in Leonide (example 83):

(83) *I was **running and running**. It was 7:00 p.m.,my bus already started.* (Leonide, EN_pic_3_57X34A03_123)

In other occurrences, this constructional schema seems to be horizontally connected to a sister construction type similar to this one that can be summarized in [*V_I [Ving] + and + V_I [Ving]*] (raw freq. 3, 0,45%). As already mentioned in Section 5.1.1.1, it is usually the case that learners express the *to be + Ving* construction leaving out the auxiliary and using only the *Ving* participle. This pattern occurs also in these cases, where *Ving*

is the only salient element of the construction type expressed. An example is (84):

(84) *He **going and going** and the montein is verry big and the children goes on the montagn up.* (Leonide, EN_pic_2_57X31A10_83).

5.3.1.5 The V + ADVP constructional schema

The [*V + ADVP*] constructional schema illustrates how certain adverbials play a critical role in aspectual construal in contexts where the verb form itself does not morphologically encode aspect. In the [*V + ADVP*] schema, learners use adverbials to primarily convey specific meanings related to progressive aspectuality together with the present or past tense of verbal forms. In fact, these forms, when combined with certain adverbial phrases, extend their meaning beyond their intrinsic temporal indications to provide aspectual information. Therefore, this constructional schema is able to address two relevant questions raised in the literature on aspectuality, namely what role the adverbial plays in aspectual composition (cf. Sasse 2002: 257) and how lexical means like adverbials are employed by learners to express progressive aspectuality (cf. Bardovi-Harlig 2000; Dietrich et al. 1995).

In Leonide many types of adverbials have been found co-occurring with different constructions, enriching or contributing to the meaning type of each construction (cf. Section 5.1.). However, there are cases in which learners rely on adverbials only to express aspectual contents over inflectional cues to express progressive aspectuality. This is mostly the case in which learners have not yet developed a morphologically aspectual marker for progressive aspectuality and rely on the use of present or past tense forms in combination with specific adverbials to express it. As we will see in Section 6.3, this comes from generalization processes towards the formation of diaconstruction modeled on the basis of pre-existing constructions. It will be shown that this schema is mostly employed by learners having a German dominant background on the basis of their idiosyncratic system, that does not

foresee a morphologically aspectual marked form, but relies on other constructions to express it, among which adverbials play a big role.

Two main construction types in the way they formally realize the most abstract [*V* + *ADVP*] constructional schema (cf. Figure 24) have been found in Leonide, namely the [*V* + *ADVposition*] (raw freq.5, rel. freq. 0,75%) containing a verb predicate followed by a temporal adverbial of position and the [*V* + *ADVduration*] (raw freq. 37, rel. freq. 5,5%), in which an adverbial of duration is expressed in combination with a verb predicate.

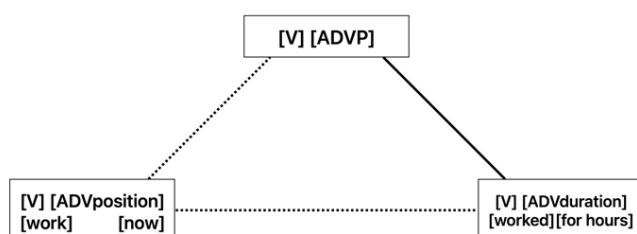


Figure 24. A constructional network for the *V+ADVP* schema

The difference between the two constructions is substantially one of meaning: the durative adverbial construction [*V* + *ADVduration*] (raw freq. 37, rel. freq. 5,55%) zooms in the duration of the event, and the duration can be indicated in a vague way, for example in “*He worked for quite a while*”, but it can also be made very precise, as in “*He worked for seven hours and four minutes*”. And it is natural that certain adverbials of duration encode the concept of progressive aspectuality when the duration of the event is in focus. On the other hand, temporal adverbials that encode progressivity in the second type of construction [*V* + *ADVposition*] (raw freq. 5, rel. freq. 0,75%) express a relation that is simultaneous between two time spans, i.e. between a time which is somehow positioned, and a time which is used as an anchor, in relation to which it is positioned. Included into this construction type is the use of the temporal adverbial *now* and a verb predicate only in cases in which learners employ it as a strategy to focus on the here-and-now

of the moment of speech, to produce the effect of a zoom into the speech situation as it is actually occurring in that particular moment. In all those cases, the English progressive aspect should be obligatory. Compare examples (85) and (86) in which the temporal adverbial of position *now* appears in the corpus:

(85) *noa: "I am a woman, but I am not stupid and I don't want to lose a day of work for a stupid bus!" noa: "I am sorry but **now I must go.**"* (Leonide, EN_pic_3_57Y25A06_120)

(86) *Elias goes in the room. But **His father now read** the book.* (Leonide, EN_pic_1_57X34A09_18)

In (85) the temporal adverbial *now* is used at a pivotal moment to signal a transition from discussing or arguing about a situation to taking decisive action. The character Noa, after expressing frustration, uses *now* to indicate that the moment has come for her to leave, despite the circumstances discussed previously (missing a bus and not wanting to lose a day of work). This use of *now* serves to highlight the immediacy and importance of her decision to act at that moment and functions as a demarcator of temporal shift within the narrative, without stretching the action over time. Therefore, cases like (85) are not considered as occurrences of progressive aspectuality.

In (86) instead the temporal adverbial *now* is employed to shift the focus to the present, ongoing activity of the father reading the book, that is in progress and currently happening as Elias enters the room. It positions the action of read the book in relation to the speech moment as seen by the author of the story, highlighting its current occurrence. This use of *now* in (86) illustrates how temporal adverbials can be used by learners to focus on the ongoingness of a certain activity, making it relevant for a discourse on progressive aspectuality. Although *now* itself does not inherently express

progressivity, its placement here with a simple present tense (in which English foresees the obligatory progressive aspect construction (i.e. ‘is reading’) suggests an ongoing action. *Now* is therefore a strategy that centers the action in the present, inviting a real-time perspective that makes the ongoing nature of the action more immediate and perceptible. A similar case is (87), in which the use of *now* suggests a temporary situation ongoing at the moment of writing:

(87) *My favourite subject is geography , now we make and learn the rivers of Africa.* (Leonide, EN_op_3_57X31A14_133)

The [*V + ADVduration*] instead focuses on the duration of the event using temporal adverbial of duration. Examples of this type concern the so-called “durative constructions” (cf. Haspelmath 1997; Fuhs 2010) marked by the preposition *for*, followed by a string denoting a time interval, like in (88):

(88) *They walked for two hours and saw a table with some benzina.* (Leonide, EN_pic_2_57X31A04_83)

A borderline case is represented by the German single word adverb *weiter* which creates a compound form that generally means to continue or to carry on doing something. “*Weiter*” essentially translates to ‘further’, ‘continue,’ or ‘more’, and when prefixed to a verb, it gives the sense of continuation or persistence of an action. It can be used as a prefix when *weiter* typically combined directly with the verb to form a new verb. For example, *weitermachen*, ‘to continue doing’. In Leonide, the use of *weiter* directly borrowed from the German is used in 8 occurrences, like (89):

(89) *But someone (shreit) his name but she goes(weiter) but the person(schreit immer weiter).* (Leonide, EN_pic_3_57X33A17_124)

It is possible to make several observations concerning (89): firstly, the use of *weiter* in combination with present-tense verbs *goes* and *schreit*, ‘screams’.

The use of *weiter* here expresses the continuation of the previous action of the characters, which is inherently durative as it extends the action over time. In fact, it suggests an ongoing process that might not have a defined endpoint during the narration (contrast it with example (88) in which the durative adverbial *for two hours* locks the action into a clearly defined timeframe). Secondly, the use of *immer* in combination with *weiter* also suggests that the continuation of the event is even more emphasized.

5.3.1.6 Single construction types

In addition to the more prominent constructional schemas previously discussed, the Leonide data reveals few constructions that, although infrequently occurring, provide insightful examples of how learners navigate and innovate within the target language to convey meaning types of progressive aspectuality. These constructions do not fit neatly into the major categories but demonstrate interesting adaptations of certain grammatical structures into the English target language. Among them we find the German construction [**beim** + *Vinf* + *sein*] (raw freq. 5, rel. freq. 0,75%) which is directly used in English texts like in example (90). The process behind this construction entrenchment will be explained in more detail in Section 6.3.

(90) *The child eat allon and go out the dad holen, aber the dad **war beim lesen**.* (Leonide, EN_pic_1_57X31A14_17)

A last single construction is the [**VingGer**] in which a *Ving* acts as a gerund in some occurrences (raw freq. 21, rel. freq. 3%), imposing aspectual characteristics, like in (91):

(91) *She was yelling while **running** for the bus.* (Leonide, EN_pic_3_57Y28A07_127)

5.3.2 Symbolic relations

It is now clear that from a CxG approach, constructions are considered symbolic units because they consist of a form (the way a linguistic expression is structured) and a meaning (what the expression communicates). Until now we have observed these two aspects as separated: on the one hand, core and peripheral meanings of progressive aspectuality have shaped a complex network of meaning types (Sections 5.1 and 5.2) and, on the other hand, a network of constructional schemas at different degree of abstraction has focused on the formal expression of progressive aspectuality (Sections 5.3.1). To complete our network, the next step is linking the form and the meaning of the constructions, i.e. what Croft (2001: 59) describes as “symbolic links”. Symbolic links are, in fact, the associations that bind forms and meanings together.

Symbolic links vary across several dimensions (cf. Langacker 2005: 107). The first aspect pertains to their internal symbolic complexity, which refers to how many smaller symbolic units are integrated within a larger construction. In essence, a symbolic assembly becomes more complex the smaller elements it contains. The second aspect involves the level of specificity, indicating whether the representation of the construction is detailed or more general. As we have seen in Section 3.3, the same construction can be described differently, depending on the level of schematic hierarchy we might want to consider and how formal and functional properties are intertwined. The third aspect concerns how deeply constructions are cognitively entrenched, and if the speaker recognizes the construction as familiar. If so, the symbolic link is then considered cognitively entrenched (Langacker 2005: 107–108; cf. also Wasserscheidt 2019). Langacker (1987) describes entrenchment as follows:

every use of a structure has a positive impact on its degree of entrenchment, whereas extended periods of disuse have a negative impact. With repeated use, a novel structure becomes progressively entrenched, to the point of becoming a unit; moreover, units are variably entrenched depending on the frequency of their occurrence (Langacker 1987: 59).

Langacker (*ibid.*) also notes that the strength of the symbolic assemblies depends on how conventionalized they are within the language community. “A lexical item is in fact “fixed” in the sense of being learned by individual speakers and conventional within a certain speech community” (*ibid.*)

This means that the process of schematization is flexible, evolving based on the frequency of exposure and speakers’ use of that schema, what is stored in as their linguistic knowledge and what is filtered out, thus guiding the development of different aspects of how constructions are organized. On the same lines, the linguistic generalizations that we can draw from the analysis of Leonide data are schemas abstracted from occurring expressions that should be treated as sort of “templates” representing the coarse-grained commonality exhibited by a set of expressions with respect to some facet of their structure.

To look at constructions as entrenched symbolic units emerging from Leonide data, I have determined this symbolic relationship by conducting a series of statistical tests in a way that the constructional generalization followed the same continuum of the constructions themselves, i.e. from very abstract constructional schemas to lexically specified patterns. I have first determined the association between constructional schemas at a higher level of abstraction (from which the construction types are formally realized) and the meanings for progressive aspectuality, thus resulting in form-meaning constructional pairs at higher level of abstraction. In this way it is possible to know whether certain constructional schemas are symbolically linked to specific meanings. Second, I have determined the association of highly frequent verb lexemes with the construction types encoding progressive

aspectuality found in the data. This last point helps to illustrate not only what semantic material at a lexically specified level occurs more often in the constructions encoding progressive aspectuality than random distribution would suggest, but also to make inferences about the semantics of verb predicates that learners use.

I have started with a frequency analysis visualized in the first heatmap (Figure 25) representing the absolute frequencies of constructional schemas and meaning types.

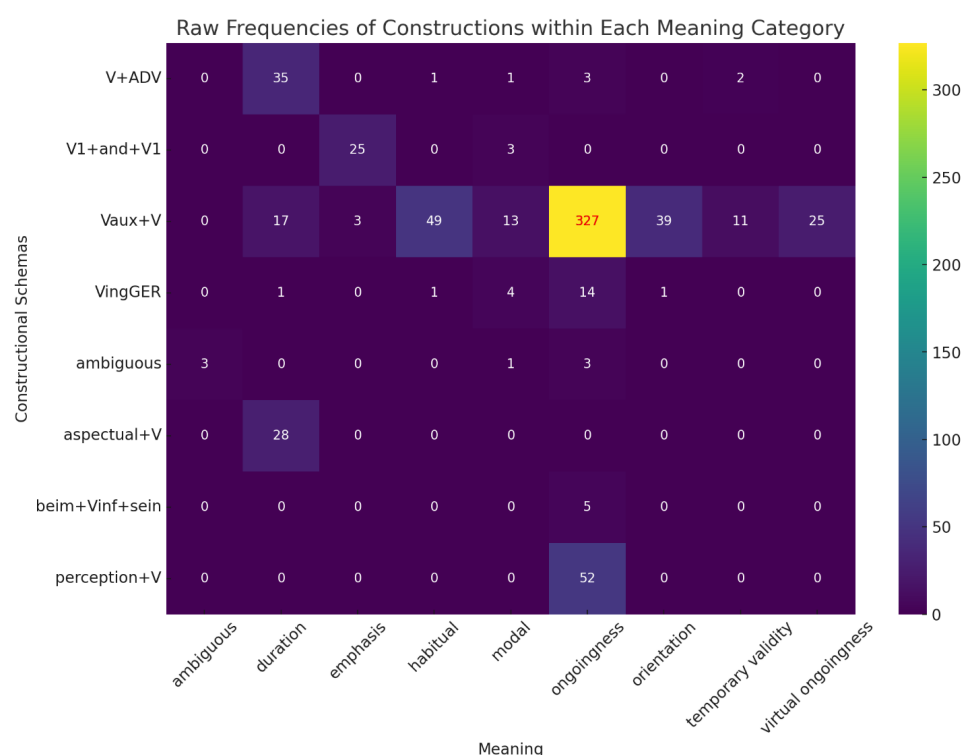


Figure 25. Frequencies of constructional schemas and meaning types

The raw frequency data give some initial impressions about learners’ preferences and tendencies in using specific constructional schemas to express certain meanings. It is evident that the constructional schema [$V_{AUX} + V$] has the highest frequency for the meaning type “ongoingness” ($n=327$), suggesting that learners find this construction most intuitive or straightforward for expressing ongoingness. This is in line with the semantic

network of meanings sketched in Section 5.2: not only the meaning of ongoingness seems to be the core and prototypical meaning for progressive aspectuality but it seems that, in terms of forms, the $[V_{AUX} + V]$ is the core constructional schema mostly employed by learners to express ongoingness. While the high frequency of this constructional schema to express ongoingness might indicate a certain prototypical form-meaning symbolic link between the two, it is also relevant to note that the same constructional schema is quite versatile and is also used to express more specialized meanings that concern the macro area of temporal-aspectual meanings like habitual ($n=49$), orientation ($n=39$) and virtual ongoingness ($n=25$).

Instead, there are other constructional schemas that apparently convey only specific meanings: for example, the $[V_I + \textit{and} + V_I]$ is almost fully employed to express emphasis ($n=25$), considered an inter-subjective meaning, sharing some properties with the core meaning of ongoingness. The $[V + ADVP]$ ($n=35$) and $[V_{ASP} + V]$ schemas ($n=28$) are instead mostly employed to focus on the duration of the event, due to the presence of mostly adverbials of duration in the first case and inherent aspectual properties of the aspectual verbs *continue* and *keep* in the second.

If the frequencies have already given a first idea of learners' use of constructional schemas for meaning types, association measures were used to determine their degree of association. A second heatmap (Figure 26) explores the association between meanings and constructional schemas by first calculating the proportion of each construction within each meaning category, to understand how prevalent each construction is in expressing specific meanings.

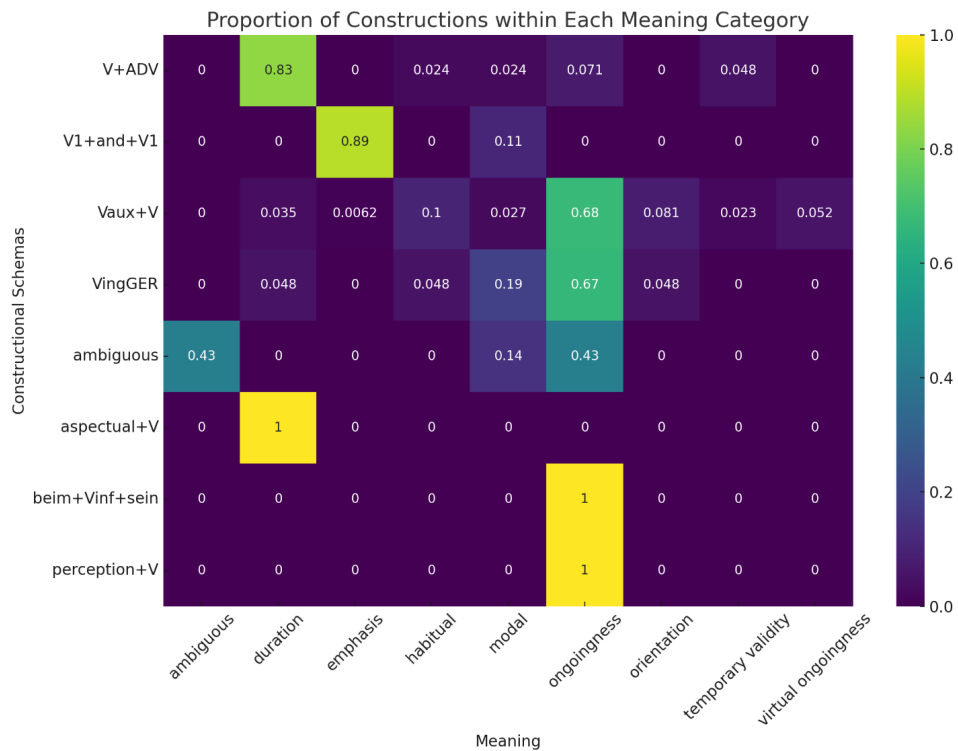


Figure 26. Proportion of constructional schemas within each meaning category

In Figure 26 the contribution of each construction schema to the meaning types is represented. The colors range from lighter shades (lower contributions) to darker shades (higher contributions), making it easy to see which constructions are most influential for each meaning. We can start from the most relevant contributions of constructional schemas like the $[V + ADVP]$ (83%) and $[V_{ASP} + V]$ schemas (100%) contributing almost exclusively to the meaning type of duration; the $[V_I + and + V_I]$ contributing to the inter-subjective meanings of emphasis (89%) and modal (11%); the $[V_{PERC} + V]$ (100%), $[V_{find} + V]$ (100%), and $[beim + Vinf + sein]$ (100%) contributing exclusively to the meaning type of ongoingness. This means that these constructions do not contribute at all to other meaning types, thus indicating that there are other constructions that contributes more to express them. Then, the $[V_{AUX} + V]$ (68%) and $[VingGer]$ (67%) contributing to the meaning of ongoingness with less prominent proportions. By looking at the most frequent constructional schema $[V_{AUX} + V]$ alone, we can see that it

contributes mostly to ongoingness but is also used for other meanings in lower proportions.

I have then tested the degree of this association by first using a chi-square test, suggesting that there is a strong association between the constructional schemas and meanings ($\chi^2 = 1323.48$, $p = 1.44 \times 10^{-2341.44}$, $df = 64$). To understand the association for each combination of constructional schema and meaning type, I looked at the standardized residuals (Table 7), that indicate whether a specific combination occurs more or less frequently than expected by chance. Positive values indicate more frequent occurrences than expected, while negative values indicate less frequent occurrences.

meaning	V+ADV	V1+and+V1	Vaux+V	VingGER	ambiguous	aspectual+V	beim+Vinf+sein	perception+V
ambiguous	-0.434632658	-0.354876079	-1.475436052	-0.3073317	16.7298723	-0.354876079	-0.149962514	-0.483614576
duration	13.2391596	-1.843990198	-5.449177317	-0.970745677	-0.921995099	13.3404723	-0.779228081	-2.512935053
emphasis	-1.327824703	21.97507062	-3.841978856	-0.938913851	-0.542082165	-1.08416433	-0.458143048	-1.477466936
habitual	-1.234011963	-1.463191558	1.971355782	-0.477995395	-0.731595779	-1.463191558	-0.618311285	-1.99399398
modal	-0.327366489	2.160710092	-0.741839119	3.973942724	1.600641555	-0.961008965	-0.406100408	-1.309634464
ongoingness	-4.448939644	-4.118193808	1.976573649	0.359000145	-0.602147503	-4.118193808	1.132888455	3.653455491
orientation	-1.587054073	-1.295824224	1.851407122	-0.231123201	-0.647912112	-1.295824224	-0.547585678	-1.765910751
temporary validity	1.30577088	-0.738733468	0.510104338	-0.63976195	-0.369366734	-0.738733468	-0.312171867	-1.00672402
virtual ongoingness	-1.25467641	-1.024438999	1.610406431	-0.887190198	-0.512219499	-1.024438999	-0.432904489	-1.396075029

Table 7. Standardized residuals of constructional schemas and meaning types

The standardized residuals indicate the strength and direction of the association for each combination of construction schema and meaning. Some key observations could be done that support the previous observations, for example that:

- [$V_1 + \text{and} + V_1$] has a very high positive residual for the meaning of *emphasis*, suggesting a strong and positive association (21.97);
- [$V_{ASP} + V$] has a high positive residual for *duration*, indicating it is more common than expected for this meaning (13.34).
- [$V + ADVP$] has high negative residuals for *ongoingness*, indicating it occurs less frequently than expected for this meaning (-4.44) but a high and positive for expressing duration (13.23).

The association strength between constructions and meanings can also be observed in the dot plot (Figure 27) in which each dot represents the residual for a combination of meaning and constructional schema, with the color and size indicating the magnitude and direction of the residual.

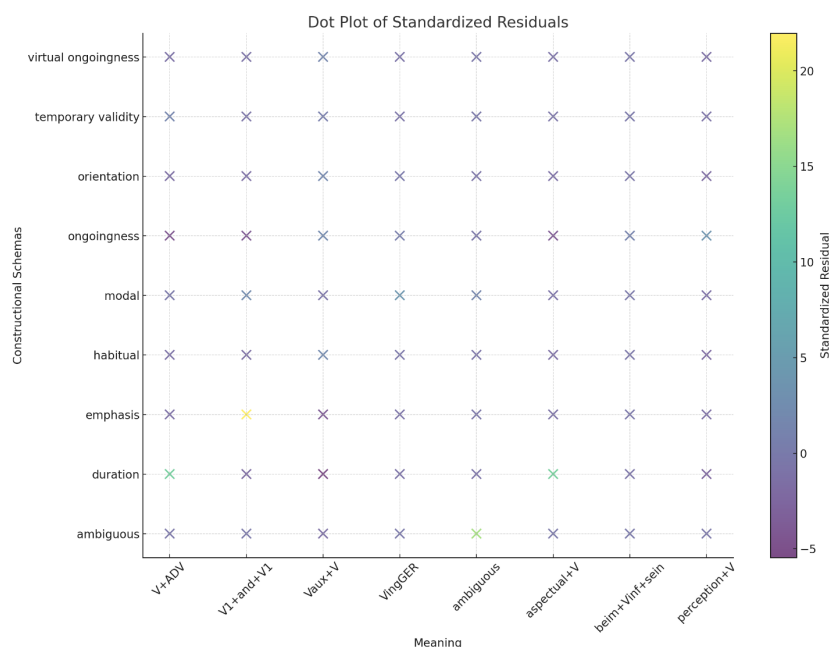


Figure 27. Standardized residuals of constructional schemas and meaning types

As already anticipated, an additional aspect that characterizes symbolic associations between form and function concerns the semantics of verb predicates occurring in the constructions, that explain additional properties of the construction found in the data and their usage by students. In Table 8 we can observe the raw frequencies of the verb lemmas having a minimum of 5 occurrences in the dataset and occurring in the constructional schemas found in the dataset.²¹ In the table is also indicated the corresponding semantic domain of each verb lemma, determined by its immediate context in each occurrence of the dataset.

²¹ Note that in this first overview, lemmas have been presented in the way in which forms have been found in the original texts of the corpus on purpose. This is the case for *schreien* and *scream* representing two distinct lemmas despite being the German and English equivalents.

lemma	construction_schema	Biber_semantic_domain	raw_freq
go	Vaux+V	activity	82
run	Vaux+V	activity	63
read	Vaux+V	mental	54
do	Vaux+V	activity	38
read	perception+V	mental	28
come	Vaux+V	activity	25
run	V1+and+V1	activity	17
learn	Vaux+V	mental	15
play	Vaux+V	activity	14
speak	Vaux+V	communication	12
sit	Vaux+V	existence	12
eat	Vaux+V	activity	11
walk	Vaux+V	activity	11
run	aspectual+V	activity	10
look	Vaux+V	mental	10
watch	Vaux+V	mental	8
walk	aspectual+V	activity	7
run	V+ADV	activity	6
miss	Vaux+V	occurrence	5
make	Vaux+V	activity	5
talk	Vaux+V	communication	5
schreien	perception+V	communication	5
listen	Vaux+V	mental	5
scream	Vaux+V	communication	5
lesen	beim+Vinf+sein	mental	5
call	Vaux+V	communication	5

Table 8. Lemmas and semantic domains occurring in the constructional schemas

The first observation concerns the fact that verb lemmas used to express progressive aspectuality and having the highest frequency are mostly activity verb predicates, especially verbs of motion (*go*, *run*, *walk*) and verbs belonging to the mental domain (*read*, *learn*, *watch*). This seems to support the Aspect Hypothesis' predictions for progressives (cf. Section 3.5.2) with respect to the characteristics of the lexical aspect of these verb predicates, as they suggest dynamic and atelic events. We can also see that certain verb lemmas are used within different constructional schemas, as it is the case of *run*, occurring in many constructional schemas like $[V_{AUX} + V]$, $[V_I + and + V_I]$, $[V_{ASP} + V]$, $[V + ADVP]$. Interesting is the case of *schreien* and *scream* (denoting the semantic domain of communication in their German and English forms): they occur in two different constructions (*schreien* in $[V_{PERC} + V]$, while *scream* in $[V_{AUX} + V]$) depending on which language variant is chosen.

To deepen the discussion around verb semantics, I expanded the investigation to the whole corpus, with the main objective to investigate which role actually play verb lemmas and their semantics in the whole construction family for progressive aspectuality. To do that, I have employed Distinctive Collostructional Analysis (DCA) (Gries & Stefanowitsch 2004): in such a framework, the semantic meaning of a grammatical construction can be described by investigating the lexemes that co-occur in a prominent slot in competing constructions, i.e. the distinctive collexemes. While simple frequency lists of lexemes given in Table 8 can illustrate what semantic material is possible in that particular slot, even whether it is frequent or infrequent, it cannot tell us whether that particular lexeme occurs more often in that construction than in other non-progressive constructions than random distribution would suggest. In fact, lexemes that are highly frequent in a language may also occur frequently in certain constructions, but since they also occur frequently elsewhere, they are not particularly associated to that construction.

DCA offers an empirical method to identify when verbs occur much more frequently than expected in a construction: in this case the verbs are referred to as distinctive collexemes because their distribution is biased towards one construction rather than the other. In order to quantify the association strength of a verb to constructions belonging to the construction family of progressive aspectuality vs constructions that do not encode progressive aspectuality, several pieces of information have been collected by looking at the whole corpus: (i) the frequency of the verb lemma in the progressive construction as it was found in the dataset (without specifying which constructions) (column *progasp*), (ii) the frequency of the verb lemma in all other non-progressive occurrences found in Leonide (column *nonprog*), (iii) the total number of verb lemmas conveying progressive aspectuality found in

the corpus based on our dataset (column *tot_prograsp*) and (iv) the frequency of all other non-progressive verb lemmas occurring in the corpus (column *tot_nonprog*). The full results could be seen in Table 9. To this four information, the expected frequencies for progressive (column *exp_freqprog*) and non-progressive constructions (column *exp_freqnonprog*) have been calculated and have been subjected to log-likelihood ratio association measure (column *distinctiveness_Loglik*).

lemma	prog_asp	nonprog	tot_progasp	tot_nonprogasp	exp_freqprog	exp_freqnonprog	distinctiveness_Loglik
read	99	145	667	10568	14.48580329	229.5141967	236.6332297
run	99	337	667	10568	25.88446818	410.1155318	125.3229395
walk	23	31	667	10568	3.205874499	50.7941255	59.41237475
scream	20	37	667	10568	3.383978638	53.61602136	43.18389678
sit	17	26	667	10568	2.55282599	40.44717401	41.15641067
go	95	845	667	10568	55.80596351	884.1940365	22.23264671
come	25	147	667	10568	10.21130396	161.788696	16.24559305
talk	7	15	667	10568	1.306097018	20.69390298	13.7990316
watch	13	61	667	10568	4.393235425	69.60676457	11.98761642
make	8	287	667	10568	17.51357365	277.4864263	6.671916621
do	44	1012	667	10568	62.69265688	993.3073431	6.064882943
look	12	82	667	10568	5.580596351	88.41940365	5.948680502
wait	5	21	667	10568	1.543569203	24.4564308	5.334865796
learn	21	188	667	10568	12.40792167	196.5920783	5.181758449
speak	13	147	667	10568	9.498887405	150.5011126	1.218770023
eat	11	198	667	10568	12.40792167	196.5920783	0.173122142
play	16	243	667	10568	15.37632399	243.623676	0.025953695

Table 9. Distinctive Collexeme Analysis of verb lemmas occurring in progressive constructions vs non-progressive constructions in Leonide

The results of the DCA show that the top 5 lemmas having the highest values for distinctiveness of progressive aspectuality are *read* (Log-likelihood=236.63), *run* (Log-likelihood=125.32), *walk* (Log-likelihood=59.41), *scream* (Log-likelihood=43.18) and *sit* (Log-likelihood=41.15). *Run*, *walk* and *read* are verb types that denote activities (for run and walk motion activities) and, as such, they are dynamic and typically atelic. Much depends on the

verb predicate and its elements, for example if *reading* is described without reference to completing a book or document, it remains atelic. *Scream* belongs to the semantic domain of verbs of communication and shares with the other the characteristic of atelicity. The verb type *sit* seems to be unexpected for progressive aspectuality: it has the characteristics of a stative verb and, as such, is inherently intended as non-dynamic. However, it does not produce a clash with the progressive aspectuality constructional semantics, but instead it is available as a construal in some of the constructional schemas found via a profile-shifting operation. By looking at the occurrences in the dataset, of the 17 occurrences in which *sit* is used, in 10 cases it serves a function of orientation for backgrounding the picture story, in which the main characters are actually sitting at the table and waiting for the father to start having dinner together. This suggests that despite being traditionally associated with stative verbs, it can be used to emphasize not only the duration of the event but the perspective of the narrator.

The results presented showed how to determine symbolic associations between constructional schemas and meaning types, at different degrees of abstraction, from the higher level of constructional schemas to lower lexically specified lemmas occurring within constructions. Let us now look at the horizontal relations across the different constructions of the network to finally arrive at a comprehensive and integrated network for progressive aspectuality.

5.3.3 Horizontal relations

Until now we have focused on taxonomic relations, representing linguistic generalizations in terms of constructional schemas, and symbolic relations connecting the form and meaning side of constructions. Horizontal relations, instead, have been proposed in several studies to describe associations between similar and contrastive constructions (among the most recent studies, cf. Bloom 2021; Hilpert 2021; Ungerer 2021)²². Specifically, they have been defined “as relations that combine two or more constructions at the same level of specificity” (Diessel 2023: 58). There is, however, a close connection between the taxonomic (vertical) and horizontal dimensions of grammar, since constructional schemas are derived from lower-level constructions with shared properties (what we called “construction types”).

To make a concrete example, we have seen in Section 5.3.1.1 that the *Vaux V* constructional schema is taxonomically linked to lower-level construction types extracted from their actual use in Leonide data. Thus, the type of link between the constructional schema and the construction types “appears to be the ‘instantiation link’ which identifies a given construction as an instance of another, more schematic construction” (Lorenz 2020: 244; cf. also Goldberg 2006; Traugott 2007). We have also seen that such constructions represent symbolic units of form and meaning, in the sense that most construction types derived from this schema convey the meaning of ongoingness as a symbolic association, beside other possible aspecto-temporal extensions and intersubjective connotations. However, “[W]ith instantiation/inheritance relations alone, the resulting network would be a strictly hierarchical

²² Beside the term “horizontal relations”, which has been used in most studies, other scholars have adopted the notions of “sister relations” (Audring 2019), “paradigmatic relations” (Diewald & Politt 2022) and “lateral relations” (Diessel 2019) as alternatives. However I will stick to the most adopted the term, i.e. “horizontal relations”.

taxonomy, a system of classes and subclasses” (Lorenz 2020: 244). However, if we look at the symbolic unit of $[V_{aux} V <ongoingness>]$ as a form-meaning pair, we can characterize different horizontal relatedness links to identify not only the relationships between the different construction types instantiated from this schema that share similar formal and functional properties, but also horizontally relatedness links with other constructional schemas sharing common properties at the same level of abstraction. Consider now Figure 28 in which the $[V_{AUX} + V <ongoingness>]$ is represented as a symbolic unit.

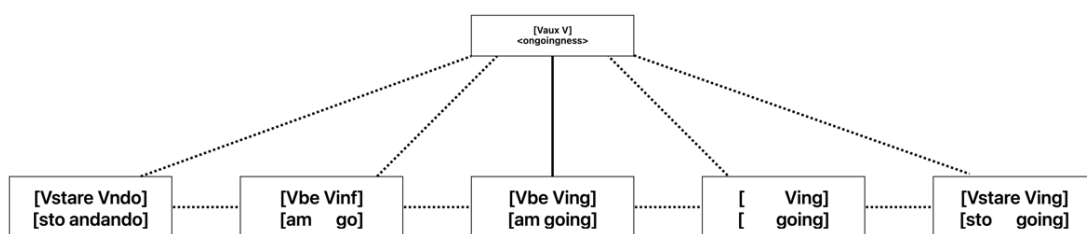


Figure 28. The $V_{aux}+V <ongoingness>$ constructional schema: taxonomic and horizontal links

We can observe that from this schema, several inheritance relations constitute taxonomic links with subclasses of construction types found in the data. From the English morphologically marked progressive construction $[V_{be} + Ving]$ two variants $[Ving]$ and $[V_{be} + Vinf]$ emerge from data due to interlanguage processes of constructionalization towards the target-like form. Both of them constitute two different variants of the same prototype, encoding the same function but having forms that need to be reorganized towards a stable constructionalization process. For their shared properties they are also horizontally related. There are also other two construction types, namely $[V_{stare} + Vndo]$ and $[V_{stare} + Ving]$, derived from lexical strings with similar forms in the way they interpret the taxonomic relation with $[V_{AUX} + V]$: both of them are composed by the Italian auxiliary *stare* and a participle coming either from Italian (*Vndo*) or English (*Ving*). Therefore, both of them are also connected by horizontal relations to the

other emerging constructions. All of these construction types form what is considered a “family”: the term “family” describes a group of similar constructions that are categorized as subtypes of the same schema.

Families of constructions can also be traced back to higher level constructional schemas sharing the same properties. Consider the [$V_{ASP} + V$ <ongoingness/duration>] schema, which turned out to be specialized in conveying duration, a subtype of ongoingness (cf. Section 5.1.1.2). Lower-level constructions instantiated from this schema are two possible variants [$V_{asp} + V_{ing}$] (e.g. “*I continue going*”) and [$V_{asp} + to V_{inf}$] (e.g. “*I continue to go*”). According to Van de Velde (2014: 150), both construction types can be connected by “horizontal relations of contrast” as they are recognized as variants, but the different forms come with different aspects of meaning. Moreover, both seem to be periphrastic forms consisting of an auxiliary verb (in this case represented by an aspectual verb that behaves as a lexicalized auxiliary) and a *-ing* participle or a *to infinitive*. We can say that periphrases like “*I continue going*” instantiated from this schema and the periphrasis “*I am going*” instantiated from the [$V_{AUX} + V$] schema share the same formal properties and the core meaning of ongoingness (with additional meaning of duration for the [$V_{asp} + V_{ing}$] construction), therefore they are also horizontally related. The only difference between them concerns the advanced degree of grammaticalization of the latter periphrasis (cf. Mair 2012). Cappelle (2006) uses the term “allostructions” to refer to such constructions: “these allostructions are represented as being linked to each other, “horizontally” as we then say, to capture the incontestable fact there is a strong connection between them. [...] crucially, this relatedness is in fact already captured by representing each allostruction as a daughter of the same mother node. And this also means that this node somehow resides

in the minds of most if not all speakers– no minor presumption to make” (Cappelle 2024 :22).

This means that the $[V_{ASP} + V <ongoingness/duration>]$ and the $[V_{AUX} + V <ongoingness>]$ can be considered allostructions linked to one another, and this relatedness can be recovered by a higher construction daughter at its most basic form that consist of a periphrasis composed by two elements $[V_{\pm aux} V]$, i.e. an auxiliary subject to a different degree of grammaticalization and another verb, that is usually represented as a present participle or a verb infinitive. This relationship can be represented as in Figure 29.

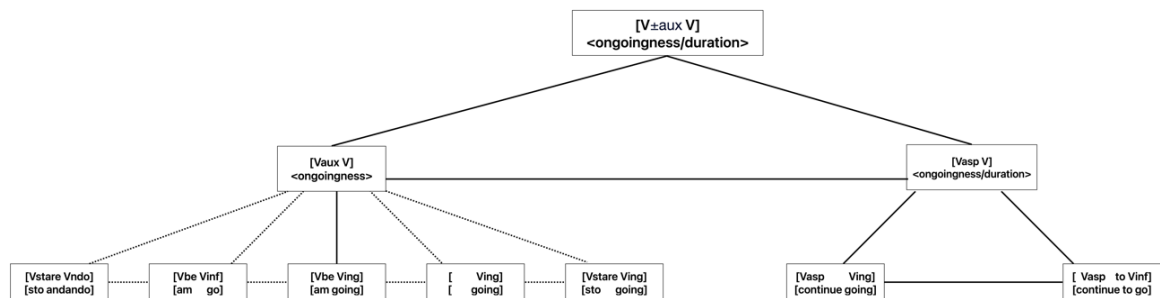


Figure 29. Figure 29. *Vaux+V and Vasp+V allostructions*

The horizontal relation just sketched can be further extended to the whole constructional schemas and types found in the data. The links are always determined on the basis of the functional and formal properties they share. In Figure 30 the constructional network for progressive aspectuality is now justified in terms of horizontal relations among constructions also having in common mother-nodes when they all share similar characteristics.

A final point that should also be clarified concerns the fact that a family of constructions needs to be distinguished from a “neighborhood”: both families and neighborhoods describe groups of constructions that have some salient formal and/or semantic properties in common. However, families and neighborhoods are distinguished from each other by taxonomic relations. We can make an example with the construction type $[V_{be} + V_{going\ to}]$ that has been found in Leonide with few occurrences (cf. Section 5.3.1.1). In this case, while the family members are subtypes of the same schema not only in terms of forms but also for the function of encoding progressive aspectuality, the $[V_{be} + V_{going\ to}]$ forms a “neighborhood” with other construction types (one of them could be for example $[will+V_{inf}]$) because they are licensed by different schemas to encode the property of futurity (Figure 31). However, as we have also seen from the data, the fact that it shares similar formal characteristics with the prototype $[V_{be} + V_{ing}]$ suggests a horizontal relation. In support of this is especially Audring (2019) who argues that horizontal relations are needed to account for constructions that are related in some systematic way but not licensed by a shared schema.

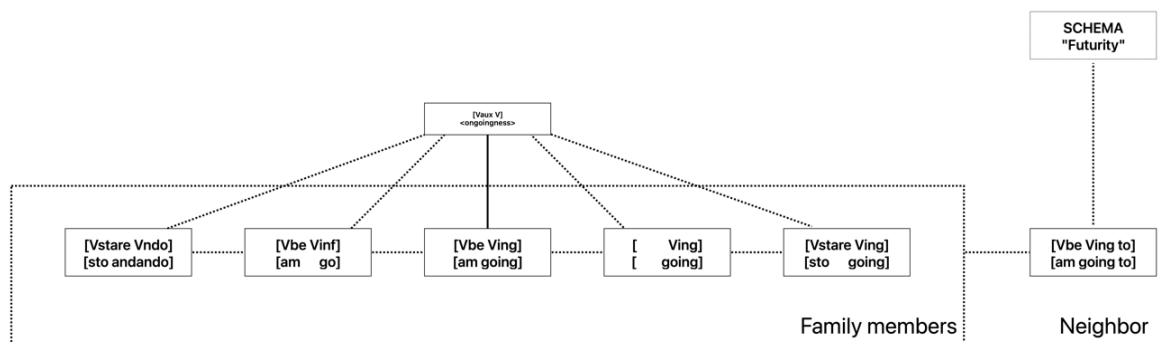


Figure 31. Family members and neighbor constructions

5.3.4 Changing constructions

Throughout the analysis conducted, the idea that constructions are nodes in a highly interconnected network has been presented specifying their relations in great detail, from taxonomic, symbolic to horizontal relations. However, the construction sketched should not be intended as a static representation of learners' linguistic knowledge. Leonide texts should be seen as subsets of constructions produced by learners within an evolving construction system. In an ever-growing network, we should interpret the construction sketched until now in terms of dynamic, changing, and growing constructional network representing learners' processes of learning English within their mental construction. This is in line with CDST recent publications by Larsen-Freeman (2020a, 2020b) which not only expand the framework to learners' usage and patterns of constructions, but also explains its relational systems and how such systems change every time a new form is used.

The last piece of analysis is dedicated to investigating the construction as an emerging and changing network of constructions considering one of the most interesting aspects of Leonide data, which concerns the fact that it is a longitudinal collection conducted over three years of lower-secondary school. Taking into account the (possible) longitudinal development of learners' use of constructions might be beneficial to understand at least language users' experience with specific patterns of form and meaning over the course of three years of exposure to English, and whether they are initially created and then strengthened or restructured over the course of the years. It should be however clear that a comprehensive overview on the emerging multilingual construction as a changing construction should also comprise identification processes with the pre-existing idiosyncratic

construction systems of the students. This will be the focus of the following chapter.

For now, we limit our attention to the longitudinal aspect of the construction sketched, trying to understand the developmental patterns of forms and meanings identified. I have started to investigate the distribution of constructions in terms of meaning and form in two separate trend line graphs (Figures 32 and 33).

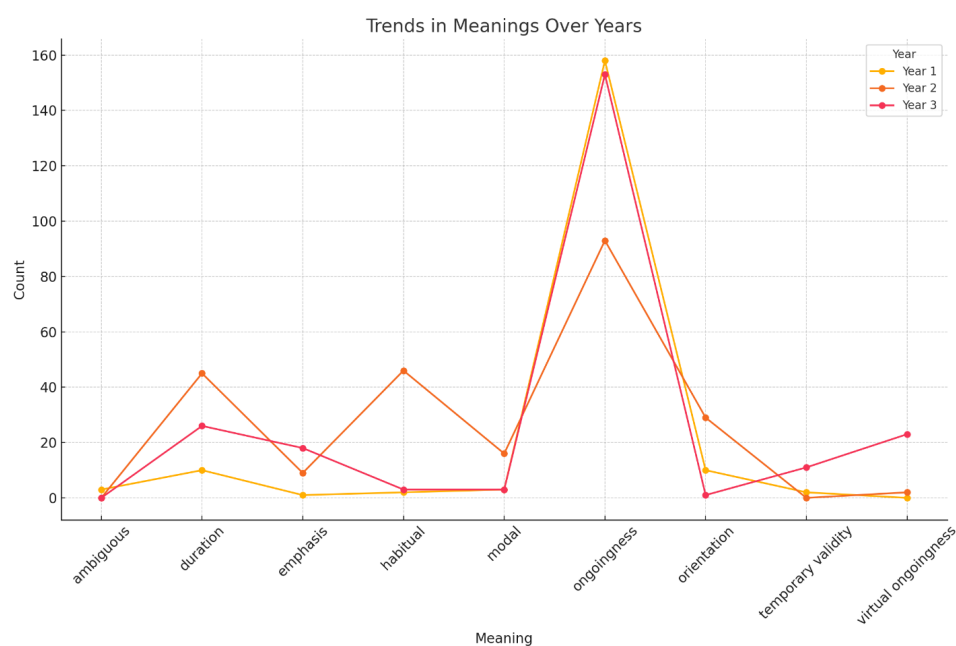


Figure 32. Distribution of meanings across 3 years of lower-secondary school instructions

As far as the meanings are concerned, we can observe that in year 1 most occurrences have been found in the meaning type of ongoingness. All the other occurrences occupy very few instances (0-20) and a static trend line. In year 2 new meanings are introduced, in which duration and habitual show the most evident increases, with a consequent decrease for ongoingness. In year 3 there is a gradual stabilization of these meanings that decrease from the previous year, with a consequent increase in frequencies for ongoingness.

The trends for the types of construction follow instead these patterns (Figure 33).

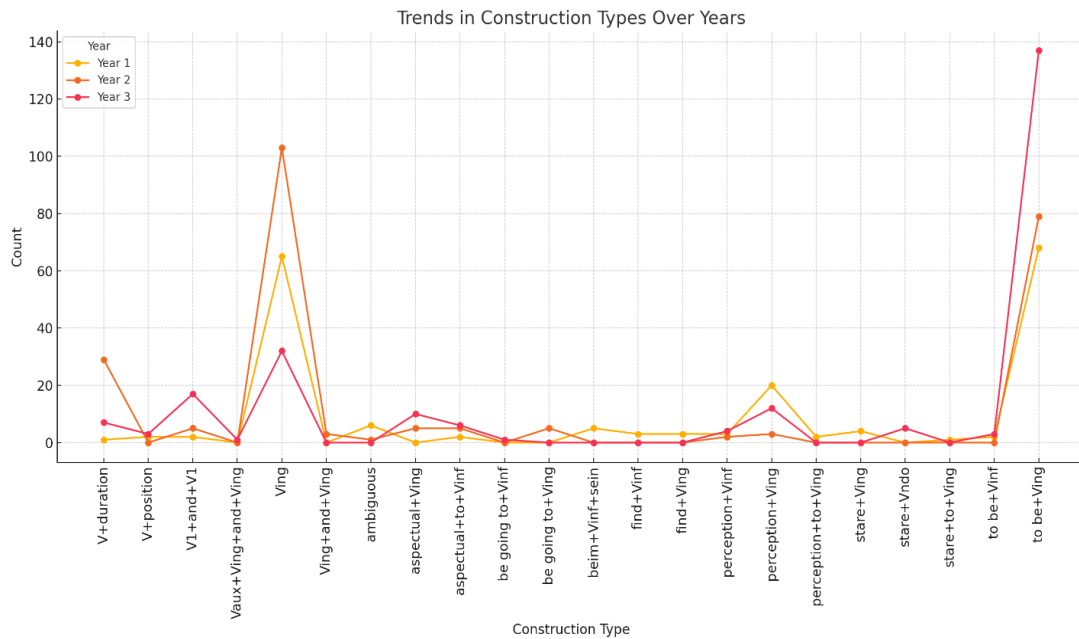


Figure 33. Distribution of construction types (form) across three years of lower-secondary school instruction

There are two main observations that should be done: the first one concerns the English morphologically marked progressive aspect [*V_{be}* + *Ving*] that develops similarly in year 1 and 2, to then having a substantial increase in year 3; the second concern its derived and non-target like [*Ving*] construction type (i.e. cases in which learners only use the participle -ing, omitting the auxiliary), that shows a decrease from year 1 to year 2, suggesting a process towards more target-like forms. As far as the other construction types (that have very few occurrences in the corpus) are concerned, the distribution does not show any notable differences in their developments over the three years and the trends seem to suggest a quite stable use.

To predict the likelihood of learners using certain construction types or meanings considering their exposure to three years of English lessons at school, different models have been tested, ranging from linear regression analysis to more complex models able to capture the complexity of the dataset. I found however two main problems: 1) given the small frequencies for certain construction types and meanings, all the models I tried did not

explain much of the variance; 2) due to the very short longitudinality of the data (only three data points for years), it was very challenging to achieve statistically significant results, therefore the p-values in most of cases indicated the likelihood that the observed trends were due to chance rather than a real effect.

I found two viable solutions to overcome these problems. As far as the construction types are concerned, I have only considered the two most evident patterns in their distributional values, i.e. the construction [$V_{be} + Ving$] and [$Ving$], to test whether learners are more likely to use a target-like form instead of "Ving" over different task years. As far as the meanings are concerned, to handle very sparse data, I have considered temporal-aspectual meaning types and meanings additionally having inter-subjective meanings to create a binary variable, in order to investigate whether learners are more likely to use the core temporal-aspectual meaning types in the first year of instruction instead of more peripheral meanings (i.e. intersubjective meanings) that could come after an extended period of instruction. For both cases, the method used is generalized mixed-effect model (GLMM) for a major reason: it is useful to handle data that involves both fixed and random effects. In fact, Leonide data includes multiple observations per author, which introduces the possibility that measurements within the same author are correlated. A mixed effects model accounts for this by incorporating random effects (*author_id*) to model the variability in the intercepts across different authors. This accounts for the individual differences among authors that might affect the likelihood of using "intersubjective" or "temporal-aspectual" meanings for the first model, and the use of target-like constructions like [$V_{be} + Ving$] or non-target like constructions like [$Ving$] for the second model.

To develop the two separate models, I filtered the dataset to include only the constructions $[V_{be} + Ving]$ and $[Ving]$. A new binary variable (*construction_type_binary*) was created, where 1 indicates $[V_{be} + Ving]$ and 0 indicates $[Ving]$. The independent variable is the year in which each text was produced (*task_year*). To analyze the data, a mixed-effects logistic regression model via the *glmer* function from the *lme4* package in R was used. This method allows to: examine the effect of *task_year* on the likelihood of using $[V_{be} + Ving]$ instead of $[Ving]$, and to incorporate random effects to account for variability due to individual differences among authors (*author_id*). The results of the model are summarized in Figure 34.

```

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']
Family: binomial ( logit )
Formula: construction_type_binary ~ task_year + (1 | author_id)
Data: filtered_data

      AIC      BIC    logLik deviance df.resid
 524.1    540.9   -258.1   516.1     480

Scaled residuals:
   Min       1Q   Median       3Q      Max
-2.4701 -0.5106  0.1848  0.4392  3.3642

Random effects:
 Groups   Name                Variance Std.Dev.
author_id (Intercept)  4.029      2.007
Number of obs: 484, groups: author_id, 126

Fixed effects:
              Estimate Std. Error z value Pr(>|z|)
(Intercept)  -0.1394    0.3358  -0.415   0.678
task_year2   -0.3657    0.3652  -1.001   0.317
task_year3    2.1347    0.4383   4.870 1.12e-06 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:
      (Intr) tsk_y2
task_year2 -0.623
task_year3 -0.599  0.486

```

Figure 34. Results of *glmer* for construction types ($V_{be}+Ving$ vs $Ving$)

The results show that the random effect for *author_id* explains a variance of 4.029 (Std. Dev.: 2.007) suggesting that there is substantial variability in the intercepts across different authors, indicating significant individual differences among authors. The intercept (estimate: -0.1394, Standard Error: 0.3358, z value: -0.415, $\text{Pr}(>|z|)$: 0.678) suggests that the log-odds of using $V_{be} + Ving$ in the reference year (which is year 1) is -0.1394, which is not significantly different from zero. In the following year (year 2) the log-odds

of using [$V_{be} + Ving$] compared to [$Ving$] decreases by -0.3657 in `task_year2`, however this decrease is not statistically significant. In year 3 instead the log-odds of using [$V_{be} + Ving$] compared to [$Ving$] increases by 2.1347 and this increase is highly significant, suggesting that learners probably follow a U learning curve towards the target-like construction [$V_{be} + Ving$]. The odds ratios calculated for the three years (year 1= 0.8698631, year 2= 0.6937030, year 3= 8.4540976) also suggest a significant increase (increase by approximately 745.4%) in the likelihood of using [$V_{be} + Ving$] in year 3.

As far as the second model is concerned, a similar model has been developed. The two macro-areas of meaning grouped into "intersubjective" and "aspectotemporal" have been used to create the dependent binary variable (*meaning_binary*), where "intersubjective" is coded as 1 and "aspectotemporal" is coded as 0. The *glmer* function has been used to fit a mixed-effects logistic regression model with *task_year* as the independent variable and *author_id* as the random factor. Compared to the previous model, an interaction effect has been added with *task_type* (opinion or picture stories). The results of the analysis are reported in Figure 35.

```

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) [
glmerMod]
Family: binomial ( logit )
Formula: meaning_binary ~ task_year * task_type + (1 | author_id)
Data: data

      AIC      BIC    logLik deviance df.resid
  310.3   341.8   -148.2   296.3     657

Scaled residuals:
   Min       1Q   Median       3Q      Max
-1.2331 -0.2014 -0.1444 -0.0377 12.4100

Random effects:
 Groups      Name      Variance Std.Dev.
author_id (Intercept) 2.853    1.689
Number of obs: 664, groups: author_id, 134

Fixed effects:
              Estimate Std. Error z value Pr(>|z|)
(Intercept)    -1.9766    0.9690  -2.040 0.041366 *
task_year2     -0.7805    0.9822  -0.795 0.426791
task_year3     -0.9852    1.2637  -0.780 0.435619
task_typepic   -4.5767    1.3801  -3.316 0.000913 ***
task_year2:task_typepic  3.5295    1.4669    2.406 0.016123 *
task_year3:task_typepic  4.1999    1.6458    2.552 0.010716 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:
          (Intr) tsk_y2 tsk_y3 tsk_ty ts_2:_
task_year2 -0.829
task_year3 -0.690 0.662
task_typepc -0.557 0.613 0.461
tsk_yr2:ts_ 0.521 -0.662 -0.426 -0.931

```

Figure 35. Results of glmer for aspecto-temporal and intersubjective meanings

The results show that the random effect of the author explain a variance of 2.853 (Std. Dev.: 1.689), suggesting that there is substantial variability in the intercepts across different authors, indicating significant individual differences among authors.

Looking at the results, the intercept (Estimate: -1.9766, Std. Error: 0.9690, z value: -2.040, Pr(>|z|): 0.041366) suggests that the baseline log-odds of a meaning being classified as "intersubjective" (when task_year is year 1 and task_type is picture story) is significantly less than zero. In year 2, the log-odds of a meaning being classified as "intersubjective" decrease by 0.7805, but this effect is not statistically significant, while in year 3 also seems to decrease but this effect is not statistically significant. When the task type is a picture story, the log-odds of a meaning being classified as "intersubjective"

decrease significantly by 4.5767 and this is more evident when it interacts with the year. The interaction effect between year 2 and picture stories is significant, indicating that the effect of the year 2 on the log-odds of a meaning being classified as "intersubjective" is significantly different for the task type "pic". The same for year 3 when it interacts with picture story: their interaction is significant, indicating that the effect of year 3 on the log-odds of a meaning being classified as "intersubjective" is significantly different for the task type picture. These results suggest that the interaction between the type of task and the year of production has a significant effect on the production of the two types of meanings.

In conclusion, the results show that the longitudinal development of students' productions goes hand in hand with the purpose of the construction being used. It is not only the form that evolves (this has been showed for *Ving* which decreases over time towards a more constructionalization and target-like process) but also the reason why certain meanings are used with respect to what the task prompt requires the students.

6. Progressive aspectuality from a Diasystematic Construction Grammar approach

In the preceding chapter, we delved into the semantic notion of progressive aspectuality, revealing its foundation in the core meaning of ongoingness expressed by different types of constructions, and in additional subjective connotations. In fact, not only, at its most abstract level, progressive aspectuality as a semantic notion seems to express the property of a series of events characterized by their dynamicity and boundedness, but also scenarios where the internal perspective of the speaker in the ongoing development is rendered livelier. This interpretation seems to support a range of other submeanings that incorporate intersubjective connotations inherent to progressive aspectuality. We have explored how these meanings manifest in Leonide students' productions by constructions. We have also determined a network in which constructions are connected according to different characteristics, thus determining also different kinds of relationships: from taxonomic connections that link abstract schemas to their linguistic realizations, to horizontal relationships that acknowledge commonalities across constructions, and symbolic relationships that assess the entrenchment of form and meanings. This exploration not only deepens our understanding of progressive aspectuality as it is expressed by students in Leonide English data, but also highlights its diverse expressions and implications from a language learning perspective.

What remains to be elucidated is how the outlined constructicon sketched can be theoretically accounted for, considering students' language systems and how these interact with newly acquired linguistic information. Our understanding about the cognitive mechanisms behind their language learning processes and the organization of multilingual knowledge, in this

specific study, base its assumptions on a usage-based investigation on students' productions.

Consider for example Italian, which is one of the languages taught at school according to South Tyrolean's curricula and to which Leonide students are exposed in different ways to. We have seen in Section 3.4 that Italian possesses an equivalent construction for morphologically marking the progressive aspect like which is, in some respect, very similar to the English progressive aspect. Therefore, we might hypothesize that students might process and access the relevant structures in Italian and English as interlingual equivalents (Weinreich 1964), i.e. by identifying mutual counterparts in the two languages. This can be of course extended to the other languages that students learn at school and to which are exposed in different ways: this is, in fact, also the case of German, also included in the South Tyrolean school curricula, and with which the same process of interlingual identification can take place. Therefore, such processes not only involve learning English and its constructions that encode progressive aspectuality, but also involve Italian and German, which are, like English, languages comprised in school curricula and in students' repertoires, having their own idiosyncrasies. Such mechanism is not self-evident, but arises from a creative and in part arbitrary association by multilingual speakers, motivated by formal or functional similarities between Italian, German and English, including phonic, semantic, morphological, syntactic, pragmatic and frequential features (cf. Höder 2012).

The framework in which this chapter will develop this argumentation is called DCxG (Boas & Höder 2018; Höder 2012; cf. also Section 2.3.3). To give a short remark to what this framework consists of, DCxG is a usage-based approach to language contact phenomena based on the cognitively and typologically oriented constructionist approaches by Goldberg (1995, 2006)

and Croft (2001). The basic principle of DCxG is cross-linguistic generalization in multilingual environments: multilingual speakers organize their linguistic knowledge by means of abstraction and generalization processes on the basis of the available input, and this generalization goes as far as possible, regardless of any pre-existing boundaries between languages. One of the basic principles is that speakers' linguistic knowledge constitutes one combined multilingual system in which some elements are language-specific ("*idioconstructions*"), while others lack such specificity ("*diaconstructions*"). From this perspective, we should expect that systematic, i.e. primarily cognitively motivated, mechanisms explain innovations that facilitate the establishment of language-unspecific structures and simplify such structures within a common system (cf. Höder 2014b: 41).

Following Goll's (2024) recent recommendations on how to model a multilingual construction network in DCxG, there are two major steps that have been conducted. The first one concerns a contrastive analysis of the languages involved, in which she identifies a construction network for learners' L1 and a construction network for the additional language with respect to the functional area of interest. In our case, we will consider all the three languages taught at school, thus representing the main linguistic inputs they receive at school, i.e. Italian, German and English, and the way in which they encode progressive aspectuality. In order to observe differences and similarities among the three language systems, I will adopt principles of multilingual constructicography, which combines CxG and lexicography principles to create constructicons by comparing and connecting constructions in typologically different languages (Lyngfelt 2018: 11) (Section 6.1).

The second major step will draw on the contrastive analysis to model a multilingual construction network in a DCxG framework aiming at

explaining the language learning mechanisms behind Leonide's productions. The multilingual construction network comprises language-specific construction types in each language (the idioconstructions) and the diaconstructions, often instantiated along with idioconstructions but at a highest level of abstraction (Section 6.2). In this way, diasystematically anchored innovations or potential non-canonical productions of Leonide participants in English as additional language, will offer a window on language learning mechanisms resulting from the interplay of the three languages (Section 6.3). The last part of the chapter is dedicated at analyzing patterns of use depending on learners' exposure to the three languages taught at school and to students' language profiles, combining both theoretical (Section 6.4) and empirical observations (Section 6.5).

6.1 Contrastive analysis: adopting multilingual constructicography for typological comparisons

The issues reported on in this section draw on the theoretical discussion already anticipated in Section 3.4, in which typological differences between Italian, English and German have been sketched. However, it is possible to extend this discussion by establishing actual correspondences and (to the extent possible) equivalence among constructions across the three languages at issue by applying concepts of Construction Grammar to create a multilingual constructicon.

The so-called multilingual constructicography will be used for this purpose, which consists of creating constructicons of languages based on the CxG insight that lexicon and morphosyntax are highly integrated and that constructions across languages can be connected via their semantic/functional properties they share. Lyngfelt et al. (2022: 107) use the notion of constructional correspondence “as a basic approximation of when a construction in one language may be said to correspond to a given source construction in another language”.

In multilingual constructicography it is common to connect and organize constructions using frames, i.e. semantic units based on the idea that words are not understood in isolation but in relation to the scenes (called frames) and to the participants involved (the frame elements). A frame can be evoked by different expressions, for example the *Removing frame* represents a scene where an *Agent* removes a *Theme* from a *Source/Location*, and it may be evoked by verbs like *eliminate* or nouns like *removal*, as well as by syntactic constructions like *Verb_away_NP* (cf. Frame-Net). The interesting idea of multilingual constructicography is that semantically related constructions in

different languages can be linked to the same frames and therefore they can thereby be linked to each other (Boas et al. 2019).

Recently, Lyngfelt et al. 2022 have created an example of linking system based on comparative concepts (CCs) (Croft 2022), that should be understood as theoretical constructs designed by language typologists specifically for the purpose of comparing linguistic structures across languages. Their system includes five types of CCs: constructions (*cxn*), strategies (*str*), semantic content (*sem*), information packaging (*inf*) and frames (*fr*). Both constructions (*cxn*) and strategies (*str*) are form-function combinations, i.e., they correspond to (language-particular) constructions in the basic CxG sense, whereas semantic content (*sem*) and information packaging (*inf*) are functional notions (for an extensive overview, see Croft 2022).

The basic idea of their CC-based linking system is illustrated by Lyngfelt et al. (2022) in Figure 36, where the cylinders represent different language-particular constructicons (in this case of Swedish, Brazilian Portuguese and English), each containing a set of construction entries. Each construction entry is linked to one or more CCs representing properties associated with the construction in question. Their model is highly relevant for the present investigation since it focuses on the English *be_present-participle* construction and its closest counterparts in Brazilian Portuguese and Swedish.

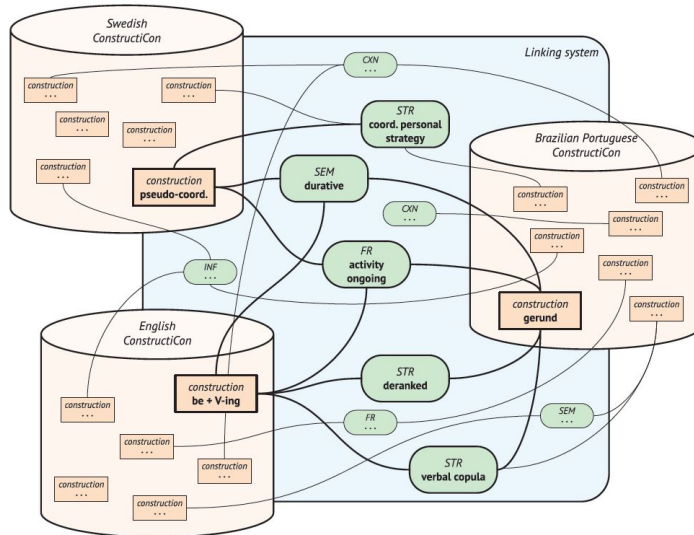


Figure 36. An example of a linking system (taken from Lyngfelt et al. 2022: 119)

As shown in Figure 36, the English *be present-participle* construction (*be + Ving*) is linked to **durative** (*sem*) and **activity ongoing** (*fr*), since they are used to express progressive aspectuality. It does so by means of a copula and a participial nominalization construction and is therefore also linked to the **verbal copula** (*str*) and the **deranked** (*str*) predicate strategies. These properties are shared with *gerunds* in Brazilian Portuguese (*estar + Vndo*), which use the same combination of strategies to perform a similar function, and thus the two constructions are connected through both semantic content, frame, and strategies. Swedish, on the other hand, lacks a similar construction, but may express progressive aspectuality through other means, e.g., *pseudo-coordinations* (e.g., *sitta och ata*, ‘sit and eat’). Consequently, Swedish *pseudo-coordinations* are also linked to **durative** (*sem*) and **activity ongoing** (*fr*), but to a different strategy, namely **coordinate personal strategy** (*str*). As shown in Figure 36, CC may have multiple connections meaning that constructions sharing multiple CCs are more strongly linked than those connected by a single CC. For example, the English *be present-participle* and the Brazilian Portuguese *gerund* exhibit a closer

correspondence to each other than either does to the Swedish pseudo-coordination (cf. Lyngfelt et al. 2022).

The linking system modeled for *be + Ving* by Lyngfelt et al. (2022) will be the starting point to create a linking system for progressive aspectuality taking into consideration the three languages involved in this study and not only the *be + Ving* construction, but all the constructions that each language possesses to express progressive aspectuality with their (non) shared properties. This first step will serve to successively integrate the typological differences identified from this contrastive analysis within the DCxG framework, to investigate how idio- and diaconstructions part of this system might interact in language contact situation, while offering an explanation of multilingual language learning scenarios.

6.1.1 German

For English and Italian, a construction of the type [*V_{aux}* + *Ving/ndo*] is usually considered the morphologically grammaticalized aspectual construction to mark progressive aspectuality. This is not the case for German, that lacks a comparable construction in its system. Standard German does not have a fully grammaticalized aspect system (König & Gast 2018) and is sometimes considered “one of the poorest languages as regards to the category of aspect” (Lehmann 1991: 513), while other scholars still debate whether German has an aspectual system at all (e.g. Rothstein 2007: 4). There is, in fact, no grammaticalized progressive construction in German and usually the concept of progressive aspectuality is typically expressed in a more implicit or context-dependent manner rather than through a specific grammatical structure. However, there are “lexical expressions” (ibid.) to express this concept and other types of constructions (cf. also Section 3.4). König & Gast (2018) make an inventory of the lexical expressions and constructions to express progressive aspectuality in German:

- a) *gerade (adv.)*;
- b) *am* + *Vinf* + *sein*;
- c) *beim* + *Vinf*;
- d) *sein* + *Vinf*.
- e) *(gerade) dabei* + *zu* + *inf*.

as shown by the corresponding following examples (92) and (93):

(92) ‘Charles is working.’

- a) *Karl arbeitet gerade.*
- b) *Karl ist am Arbeiten.*
- c) *Karl ist beim Arbeiten.*

d) *Karl ist arbeiten.*

(93) ‘I was just taking a walk when the bomb exploded.’

e) *Ich war gerade dabei, spazieren zu gehen, als die Bombe explodierte*

(examples taken from König & Gast 2018: 93)

König and Gast (2018) point out that the different expressions are not equally permissible in all contexts. For example, the adverb *gerade* is often used together with other expressions. The prepositions are used with intransitive verb or a complex predicate consisting a verb and an incorporated object. The infinitive with *zu* is used with transitive verbs and verbs meaning events (changes) (ibid.). The copula with plain verb and the use of *bei* imply a person has gone somewhere and is doing something at an appropriate place, but the use of *am* does not. *Beim + Vinf* tends to be used with agentive subjects (ibid.: 94).

As far as the meaning of these constructions is concerned, while the use of the progressive construction [*V_{be} + Ving*] in English extends to a wide range, including for current happenings, temporal frames, backgrounding, possible incompleteness, and some secondary use, such as interpretative use, emotive use, futurate use, German progressive lexical expressions can only be used in the contexts of current happenings or temporal frames (ibid: 93). On the same line, van Pottelberge (2004: 109) assumes one function for the German progressive, i.e. expressing the course of an action (“*Verlauf der Verbalhandlung*”).

Recent accounts about the German progressive have shaped a different picture, taking into account the fact that even in German some progressive constructions are particularly disposed to stress the atypicality of the denoted situation. For example, Anthonissen et al. (2016) analyze the German construction *am V-inf sein* (also called the *am*-progressive) in line with De

Wit & Brisard (2014) and De Wit et al. (2013) account of the progressive, starting from its basic meaning of epistemic contingency (cf. also Section 3.3). In this paper, the authors present a detailed corpus study demonstrating that, despite its relatively low degree of grammaticalization, the German *am*-progressive not only expresses various aspectual and temporal meanings but also conveys pragmatic notions of intersubjectivity, similar to the role of progressive constructions in other languages.

To these constructions, the *German FrameNet Constructicon* (Neumann-Schneider & Ziem 2022) adds two other constructions belonging to the German construction family of the progressive²³, namely the *VI und VI* construction (“*Sie lacht und lacht*”, ‘She laughs and laughs’) and the *vor sich hin VP* construction (“*Er saß stundenlang vor sich hin und träumte*”, ‘He sat for hours, lost in his thoughts’)²⁴. A comprehensive overview for German is already given in the form of construction family developed within the corresponding German FrameNet Constructicon project (Ziem et al. 2019), which documents form-meaning structures of the present German language based on Construction Grammar principles²⁵. Relevant for progressive aspectuality is the „*Progressiv*“ family²⁶ evoked by the frame *Aktivität_ weiterverfolgen*, which encodes the same frame of the Berkeley-FrameNet “*Activity_ongoing*”, defined as “an Agent is performing the portion of an Activity in which there is dynamic stability”.²⁷ The frame identifies as core elements the name of the ongoing Activity in which an [Agent] engages in an ongoing [Activity] having a certain [Duration], (in

²³ [Meaning Family: Progressiv - FrameNet-Konstruktikon des Deutschen \(hhu.de\)](#)

²⁴ The examples in brackets are taken from the FrameNet-Konstruktikon des Deutschen (hhu.de)

²⁵ The overall goal of the project is to record and document the inventory of German constructions in their multiple structural connections in a constructicon, while at the same time identifying German equivalents of English construction entries in the Berkeley FrameNet Constructicon. Similar projects have been conducted for Swedish (SweCcn, Lyngfelt et al. 2018), Japanese (JFN, Ohara et al. 2004) and Brazilian Portuguese (FrameNet Brasil Project, Torrent et al. 2024).

²⁶ [Meaning Family: Progressiv - FrameNet-Konstruktikon des Deutschen \(hhu.de\)](#)

²⁷ [Frame Index \(berkeley.edu\)](#)

which Duration is conceived as the length of activity from the beginning to its end), while other non-core elements might occur, for example specification of [Time] when the activity occurs. The family members of the German frame *Aktivitätweiterfolgen* consist of seven constructions belonging to the same family because of their shared semantic connections (Figure 37).

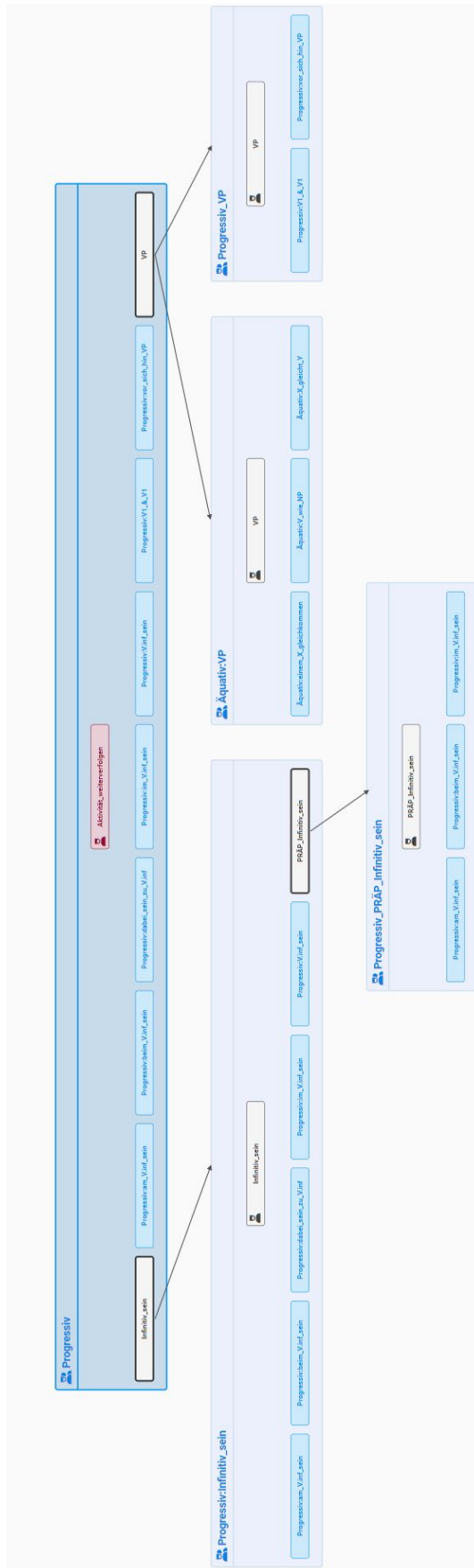


Figure 37. The construction for the German Progressive Family (taken from FrameNet-Konstruktion des Deutschen)

We can observe that from the frame *Aktivität_weiterverfolgen* seven constructions (form-meaning pairs) are lined up at a lower level, with members that themselves constitute a construction family being outlined in the dark blue field. The seven constructions are provided together with examples taken from the construction entries available in the construction platform:

- *Progressiv_Absentiv:V.inf_sein* (e.g. *Die Mutter war arbeiten*, ‘The mother was working’)
- *Progressiv:am_V.inf_sein* (e.g. *Ich bin am Schlafen*, ‘I am sleeping’)
- *Progressiv:beim_V.inf_sein* (e.g. *Wir sind beim Schwimmen*, ‘We are swimming’)
- *Progressiv:dabei_sein_zu_V.inf* (e.g. *Diese Bombe ist jetzt dabei zu explodieren*, ‘This bomb is about to explode’)
- *Progressiv:im_V.inf_sein* (e.g. *Die Arbeitslosigkeit ist weiter im Sinken*, ‘Unemployment is still decreasing’)
- *Progressiv:VI_und_VI* (e.g. *Wir warten und warten*, ‘We keep on waiting’)
- *Progressiv:vor_sich_hin_VP* (e.g. *Das Spiel holpert so vor sich hin*, ‘The game is going on’)

As we can notice from Figure 37, there are also other two members of the construction family, i.e. the forms in white *Infinitiv_sein* and *VP*, that represent formal realization of a constructional schema. In fact, the arrows starting from these two members lead to corresponding sub-families, whose field is highlighted in light blue. On the left we can observe that the *Infinitiv_sein* composes another sub-family of five constructions having in common the presence of an infinitive combined with the verb *sein*, ‘to be’.

Here the *PRÄP_Infinitiv_sein* also represent another formal constructional schema that is realized by the constructions *Progressiv:am_V.inf_sein*, *Progressiv:beim_V.inf_sein* and *Progressiv:im_V.inf_sein* since they are all formed using a prepositional phrase together with the *sein*-infinitive, and thus forming another sub-family named *Progressiv:Infinitiv_sein*. On the right, the form VP also composes two sub-families called *Progressiv_VP* and *Äquativ:VP*. In the first one, the most abstract constructional schema VP is realized by the two constructions *Progressiv:VI_&_VI* and *Progressiv:vor_sich_hin_VP*. Their shared semantic relations with the family of *Progressiv* make this sub-family relevant for the present investigation. The sub-family of *Äquativ_VP* represents instead a case of a neighbor construction family: while sharing a formal VP element with the progressive family, it does encode other semantic properties not compatible with progressive aspectuality, therefore we do not consider it as relevant.

6.1.2 English

As far as English is concerned, a comparable visualization of the construction family sketched for German for English progressive aspectuality is not currently available. However, we can rely on the information given in the Berkeley Frame-Net platform to build one. Figure 38 shows a comprehensive construction family for English I have designed, evoked by the same frame *Activity_ongoing*.

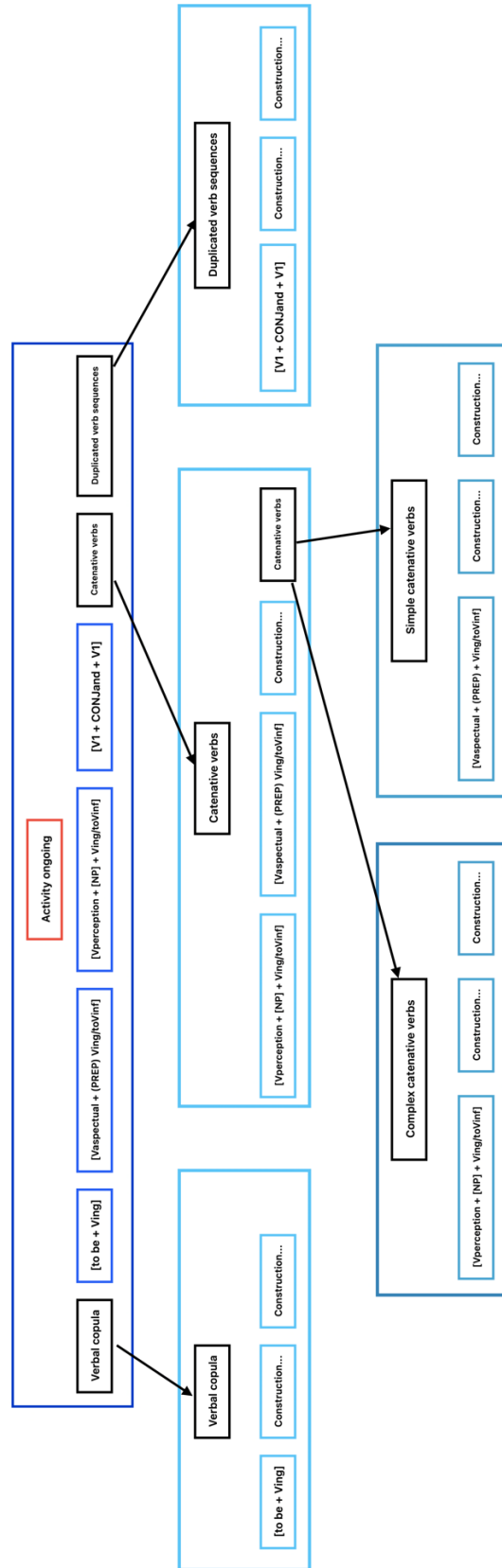


Figure 38. A construction family for the English progressive

As represented in the English family for progressive aspectuality, the frame *Activity ongoing* includes four constructions (form-meaning pairs) that are lined up at a lower level, with members that themselves constitute a construction family being outlined in the dark blue field. The constructions include:

- [$V_{be} + Ving$] (e.g. “*I am going*”)
- [$V_{ASP} + (PREP) + Ving/ to Vinf$] (e.g. “*I continue going/I continue to go*”)
- [$V_{PERC} + NP + Ving$] (e.g. “*I saw her coming*”)
- [$V_I + and + V_I$] (e.g. “*I go and go*”)

As we can notice, there are also other three members of the construction family, i.e. the forms in bold *Verbal copula*, *Catenative verbs* and *Duplicated verb sequences* that represent formal realization of a constructional schema. In fact, the arrows starting from these two members lead to corresponding sub-families, whose field is highlighted in light blue. On the left we can observe that the *Verbal copula* composes another sub-family of constructions having in common the presence of a copular verb (like in the case of [$V_{be} + Ving$] construction there could be other verbal copula constructions that use the same strategy, for example the passive construction [$V_{be} + V_{past participle}$]).

The *Catenative verbs* also form another sub-family of constructions: “A catenative verb does not occur on its own. It is followed by at least another verb form. It functions like an element of a chain (lat. catena) uniting at least two separate verb forms to form one homogenous verb phrase” (Mindt 1999: 343). There are different classes of catenative verbs, for example expressing causation (verbs like *help*, *make*) or attitude (verbs like *love* and *detest*), while in this specific case we are just considering classes that convey

progressive aspectuality²⁸. These are perception verbs (e.g. *see*, *hear*) and aspectual verbs of continuation (*keep*, *continue*). Within the Catenative verbs constructions listed for progressive aspectuality in fact there are the [$V_{ASP} + (PREP) + Ving/ to Vinf$] and [$V_{PERC} + NP + Ving$] part of this sub-family, however it can be noted that they differ in terms of their linguistic realization. Catenative verbs may or may not follow a noun phrase: we can see that in the case of the [$V_{PERC} + NP + Ving$] between the matrix ($V_{PERCEPTION}$) and dependent verbs (*Ving*) there is an intervening NP that is interpreted semantically as subject of the nonfinite clause. According to the presence of a noun phrase, Huddleston & Pullum (2002: 215) classify catenative constructions between simple and complex ones, arguing that complex catenative constructions have an intervening NP occurring between the two verbs and functions as the subject of the dependent clause, on the other hand in the simple catenative constructions an intervening NP never occurs. This is the reason why other two sub-families are produced, namely *Complex Catenative Verbs* and *Simple Catenative Verbs*. On the right, the last form *Duplicated verb sequences* also composes another subfamily similar to the VP of the German construction, but with a more specific definition: these are in fact constructions like [$V_I + and + V_I$] realized by duplicating the same verb (V1) with an occurring conjunctive coordinator (*and*) that is placed between the two verbal components.

²⁸ For a full account of all the semantic classes for catenative verbs, refer to Palmer 1974: 191.

6.1.3 Italian

Like English, Italian possess an aspectually morphologically marked form for progressive aspect, which is realized using the auxiliary *stare* in combination with a gerund realized in *Vndo*. It is based on the Latin verb *stare* (Squartini 1998) that marks the inflectional morphology for tense/aspect/mood and a non-finite form of the verb, i.e. a gerund, which requires a verb stem to which it attaches. The evolution of [*Vstare* + *Vndo*] has extended its actional compatibility with different semantic verb classes, but the only residual actional resistance that remains is that it is never possible to combine the progressive form with a permanent state, like in this example (94):

(94) ??*Gilberto sta essendo alto.*

‘Gilberto is being tall’.

The core aspectual-temporal traits of the progressive in Italian, as outlined by Bertinetto (1986: 347), encompass the following: a) being in a state of ongoingness with a focused moment; b) unbounded, signifying that the endpoint of the event is left open and there is no reference to its conclusion; c) semelfactive, indicating that it pertains to a singular occurrence when the event took place. The typical use of this construction that is most often referred to is to express aspectual contents contents: it is what Bertinetto (2000) defines “progressive-focalized”, referring to “a single moment of focus which is particularly emphasized and considered, and which simply indicates a moment in the unfolding of the event, while the actual duration of the event remains undetermined” (Bertinetto 2000: 579). This is illustrated in the example (95):

(95) *Verena stava facendo i compiti quando Leo entrò nella sua stanza.*

‘Verena was doing her homework when Leon came into her room’.

In (95), the “progressive focalized” *stava facendo* puts emphasis on a single focalization point: the speaker is only concerned with what was going on at a particular point in time in which Verena was doing her homework. There are however other peripheral functions of the construction that have been identified in the literature. Compare (95) with (96):

(96) *Quest’anno Verena sta ottenendo voti alti.*

‘This year Verena is getting good marks’.

For (96), Bertinetto rather speaks of progressive durative (non-focalized) since the event of Verena getting good marks (*sta ottenendo*) is developed over a stretch of time (*quest’anno*), rather than at a particular instant. This means that, on the contrary to (95), in (96) the collection of good marks involves several points in time and not a certain moment of time. However, cases like (96) are in the minority in Italian since they are found in lower frequencies. Another minor function of this construction is to denote habitual situations. According to Squartini “the intrinsic ‘temporary’ meaning of the Progressive, which excludes permanent states, tends to exclude habitual situations too, unless the context makes clear that the habit denoted is restricted to a given temporal interval [...]. In Italian the most natural choice is to use the non-Progressive in habitual contexts, but in case the situation denoted is temporally restricted, the progressive is admitted (1998: 110-111)” like in (54):

(97) *In questo periodo Gilberto sta andando molto spesso al cinema.*

‘In this period Gilberto is going quite often to the cinema’

Quite close to habituality, Bertinetto (2000) also finds some instances of colloquial Italian that function as hyperbolic meaning, in which the [*Vstare*

+ *Vndo*] construction in sentences like (98) suggests that the event tends to repeat itself with unusual frequency:

(98) *È un mese che me lo sta dicendo. È un mese che me lo sta dicendo.*

‘He is been telling me that for a month now.’

Compared to English, both constructions have in common a copula that acts as auxiliary approximately meaning “be, stand”, followed by a gerund/present participle. Nowadays, both linguistic realizations are the most common constructions in the standard variety of the two languages to explicitly express progressivity²⁹: this is also supported by Bertinetto (2000) in *The progressive in Romance as compared with English* who, when dealing with the so-called *perifrasi progressiva* [*stare*+*Vndo*], he assumes that despite some differences, it is formally comparable to the English counterpart [*Vbe* + *Ving*]. Differences concern for example the fact that in English [*Vbe* + *Ving*] could also appear in contexts which have little to do with the semantic notion of progressive aspectuality but it can be used with future-time reference, as in *I am going to leave tomorrow*. As observed in Section 5.3.3, the meaning of futurity expressed by [*Vbe* + *Vgoing to*] forms a neighbor construction that is only formally connected with [*Vbe* + *Ving*] but that does not match the same meaning of progressive aspectuality. Another issue concerns the fact that while in English the progressive construction is mandatory, in Italian the progressive construction [*Vstare* + *Vndo*] is not, and imperfective tenses can also be adequate, and this has the consequence of considering the Italian progressive aspect as a subtype of imperfectivity (ibid.).

²⁹ More ancient forms of progressive constructions in Italian also exist and are clearly described in Bertinetto (2000), such as [*andare/venire*+*gerund*] (called “Mot-PROG” by Bertinetto). However, they occur quite rarely in Modern Italian.

Quite similar to English, a construction network for Italian can be represented in Figure 39 and comprises:

- [*Vstare* + *Vndo*] (e.g. “*Io sto leggendo*”, ‘*I am reading*’)
- [*Vasp* + *a* + *Vinf*] (e.g. *Io continuo a lavorare*, ‘*I continue working*’)
- [[NP] + *Vperception* + *Vinf*] (e.g. *Io lo vedo lavorare*)
- [*VI* + *CONJe* + *VI*] (e.g. *Io corro e corro*)

Also here, the forms in bold *Verbal copula*, *Catenative verbs* and *Duplicated verb* represent specular formal realization of the same constructional schemas found for the English.

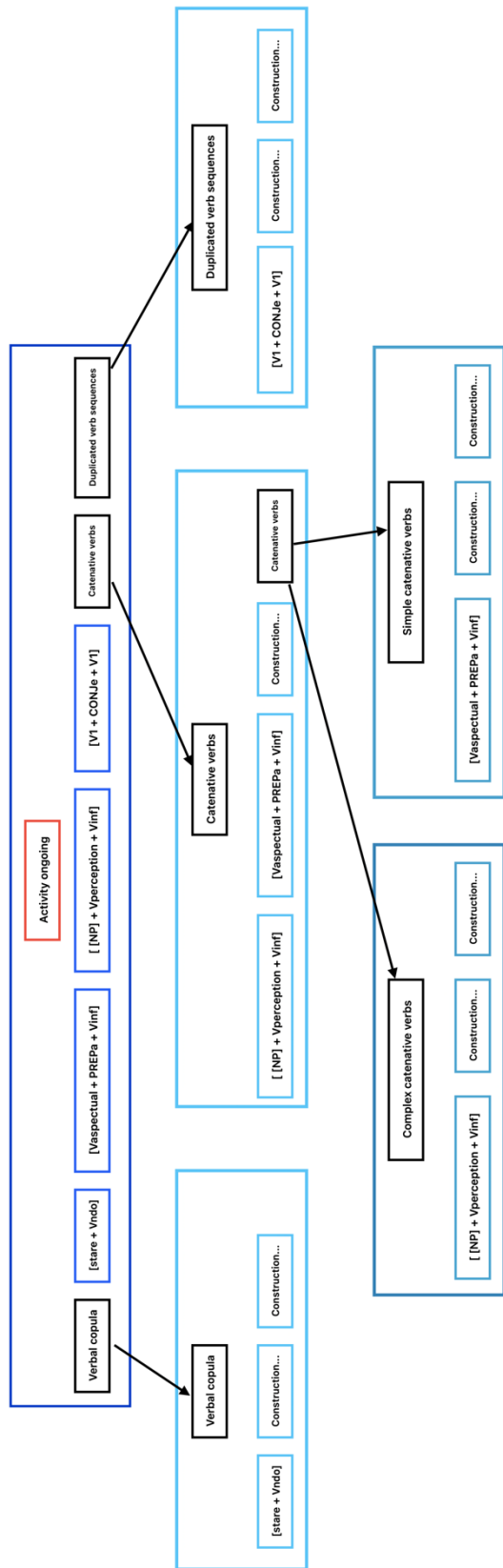


Figure 39. A construction family for the Italian progressive

6.1.4 Multilingual constructicography for German, English and Italian

By applying the concepts of multilingual constructicography, we can sketch at this point a multilingual constructicon for the three languages English, Italian and German considering their similarities and differences with respect to the frame *Activity ongoing* (Figure 40).

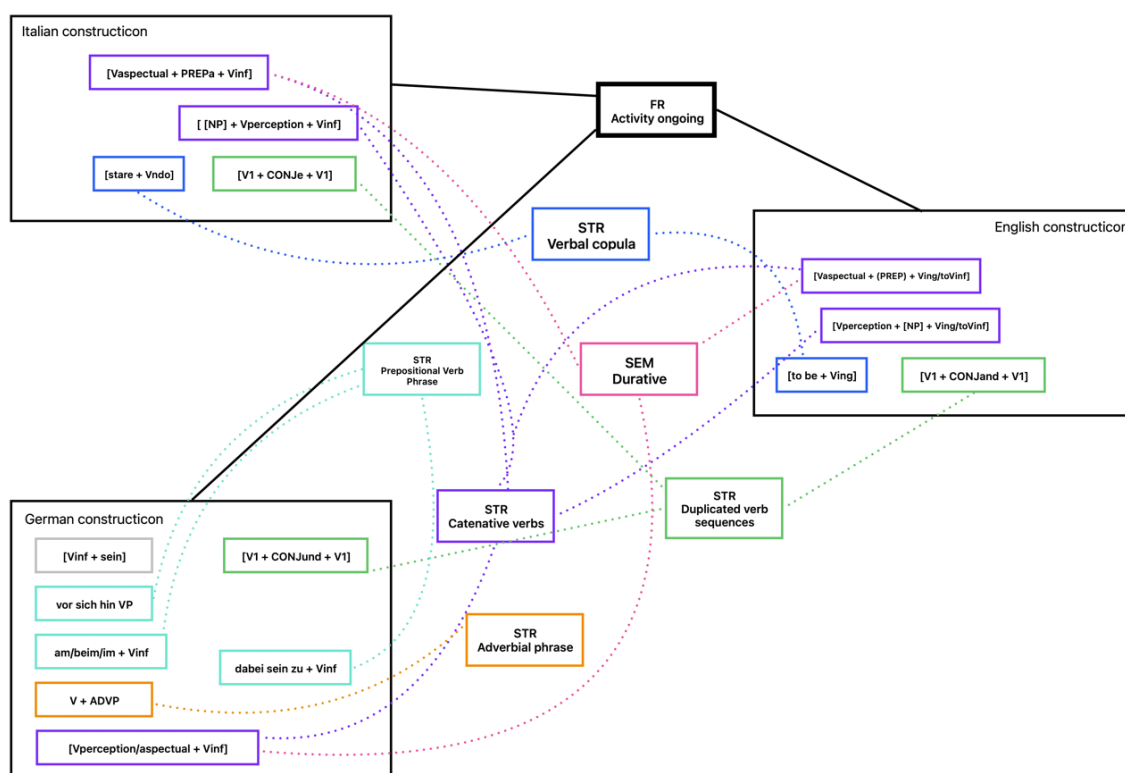


Figure 40. Multilingual constructicography for progressive aspectuality for German, Italian and English

As shown in Figure 40, the three languages are all connected to the frame *Activity ongoing*, while only some of them are connected to the additional specialized semantic content of duration (**durative – sem**) (in pink). It is possible to observe different strategies (**str**) that the languages use to evoke the macroframe: they can do so for example by means of a **verbal copula** (**str**) following a participle in the case of the English, and a gerund for the Italian, thus realizing the morphologically marked aspectual periphrases

[*stare+Vndo*] and [*Vbe+Ving*] (blue connector). German, on the other hand, lacks a similar construction, but evokes this frame through other means, e.g., **prepositional verb phrases (str)** and **adverbial phrases (str)** that are only language specific for German (light green). The three languages however share common properties for the constructions realized as **duplicated verb sequences (str)** in green and **catenative verbs (str)** in violet.

The multilingual constructicon sketched in Figure 40 has shown what are the differences and similarities in how the languages English, German and Italian typologically differ in expressing progressive aspectuality (with a core meaning of activity ongoing, plus additional semantics) and what are common strategies that these languages adopt to formally express it. This has been done following the principle of “comparative concepts” (cf. Section 6.2) applied to multilingual constructicography, which shares the same assumptions of Construction Grammar to find common properties across typologically diverse languages. It should be however remarked that such comparative concepts should be intended as specifically employed for comparison between languages and not intended to provide a guiding principle for finding language universals or some sort of psychological status, innate or otherwise (cf. Croft 2022). The crucial requirement for multilingual constructicography is, in fact, its relevance for the linguistic phenomena to be compared, thus, the strategies like the ones found for progressive aspectuality should be intended as not universally applicable but cross-linguistically valid in that they represent properties displayed across languages, providing information about the relations between constructions and language-particular constructions.

Let us now proceed with the second step of this investigation, which consists of connecting the typological differences across the languages involved in the study to learners’ productions. We will do so by applying Diasystematic

Construction Grammar principles (cf. Section 2.3.3). This will help to understand learners' evaluation of differences and similarities among the languages by looking at their actual productions in the corpus.

6.2 Idioconstructions and diaconstructions

One of the most fascinating aspects of Diasystematic Construction Grammar that makes this framework different from traditional approaches, is “assuming that languages do not have any *a priori* status in the organization of grammar, neither in individual speakers’ linguistic knowledge nor in the social conventions that represent the grammar shared by a specific speaker group” (Höder et al. 2021: 313). Rather, speakers are able to organize their linguistic knowledge in its entirety into one network of constructions (i.e. the constructicon) depending on different domain-general cognitive factors and mechanisms, for example the input frequency they receive, generalization processes abstracted over the course of time based on perceived similarity between languages, and so on.

Moreover, multilinguals do not normally use constructions randomly but according to specific patterns that represent associations between linguistic elements which, in turn, are framed in different communicative contexts in which speakers engage with. In DCxG this is reflected in terms of pragmatic meaning: a construction that “belongs to language A” carries a specific pragmatic meaning that restricts its use to a specific set of communicative contexts that are by convention associated with language A. Constructions of this type are called idioconstructions. DCxG also states that not all the constructions are restricted to specific communicative contexts, but there are more schematic constructions that are shared across all communicative contexts (diaconstructions): since these constructions do not specify any additional pragmatic meaning, they are often instantiated along with idioconstructions. To make a concrete example, in Section 5.3 we have reconstructed different constructional schemas on the basis of the actual construction types found in the data, by positing them at higher levels of

abstraction and schematicity. In DCxG terms, constructional schemas of this type should be intended as schematic diaconstructions at different levels of abstraction that are instantiated along with language-specific idioconstructions and are connected via inheritance links.

However, we have also seen that certain constructional schemas found in learner data often instantiate construction types that do not correspond to conventionalized patterns in the target language's grammar, but that these constructions are in course of being entrenched and acquired by learners (cf. Sections 5.3.4). Entrenchment is understood as “the ongoing reorganization and adaptation of individual communicative knowledge, which is subject to exposure to language and language use and to the exigencies of domain-general cognitive processes and the social environment” (Schmid 2017: 24). The ongoing reorganization requires from a speaker the identification of structural overlap between the newly acquired language and the pre-existing constructions in his/her constructicon, a process called “interlingual identification”. In our case, we have learners of English who are exposed differently to Italian and German as school subjects who needs a) to identify the pre-existing idioconstructions that might match the corresponding form-meaning pairs of the English target construction, b) gradually entrench the association between form and function of the English, c) make some abstraction and generalization over formally or functionally similar idioconstructions that results “in the addition of diaconstructions that encapsulate the forms and functions” (Höder et al. 2021: 328) across languages, d) adding or removing constructional links from the constructicon. All these levels should be seen as dynamic processes, often combined into more complex reorganizational sequences as we will see.

A constructional network of dia- and idio-constructions for progressive aspectuality like the one in Figure 41 could help to get into the understanding of these mechanisms.

Idioconstructions <C _{Ita} >	Diaconstructions	Idioconstructions <C _{Eng} >	Idioconstructions <C _{Ger} >
[_{aux} stare + V-ndo] <ongoingness> <C _{Ita} > 'lo sto correndo'	[_{aux} V + gerV] <ongoingness>	[_{aux} be + V-ing] <ongoingness> <C _{Eng} > 'I am running'	
[V ₁ + [_{conj} e] + V ₂] <ongoingness> <C _{Ita} > 'Olga corre e corre'	[V ₁ + [CONJ] + V ₂] <ongoingness>	[V ₁ + [_{conj} and] + V ₂] <ongoingness> <C _{Eng} > 'Olga runs and runs'	[V ₁ + [_{conj} und] + V ₂] <ongoingness> <C _{Ger} > 'Olga läuft und läuft'
[V (_{PERCEPTION}) + V-a/vere] <ongoingness> <C _{Ita} > 'Lo vedo arrivare'	[V (_{PERCEPTION}) + (PREP) + infV] <ongoingness>	[V (_{PERCEPTION}) + V-ing] <ongoingness> <C _{Eng} > 'I see him coming'	[V (_{PERCEPTION}) + (beim) + V-en] <ongoingness> <C _{Ger} > 'Ich sehe ihn kommen'
[V (_{ASPECTUAL}) + (a _{prep}) + V-a/e/ire] <ongoingness/duration> <C _{Ita} > 'lo continuo a lavorare'	[V (_{ASPECTUAL}) + (PREP) + infV] <ongoingness/duration>	[V (_{ASPECTUAL}) + V-ing] <ongoingness/duration> <C _{Eng} > 'I continue working'	
	[v] + [ADVPH] <ongoingness>		[V] + [_{adv} gerade/weiter] <ongoingness/duration> <C _{Ger} > 'Ich gehe gerade' 'Ich mache weiter'
	[v + PREP + infV] <ongoingness>		[_{aux} sein + [am/beim/im/dabei zu _{prep}] + infV] <ongoingness> <C _{Ger} > 'Ich bin am/beim Arbeiten'

Figure 41. A multilingual construction of dia- and idioconstructions for progressive aspectuality

Figure 41 represents a multilingual construction for progressive aspectuality comprising both language-specific idioconstructions for English, German and Italian and language-unspecific diaconstructions on the corresponding line. From a first impression we can immediately see that English and Italian share the same idioconstructions to encode progressive aspectuality with the corresponding diaconstructions (red dotted rectangle). German seems to behave differently, having in common only two idioconstructions with Italian and English ($[V_1 + conjund + V_1]$ and $[V_{PERCEPTION} + V-en]$) (violet dotted rectangle), and instead relying on other two idioconstructions that lack in the other two languages ($[V + advgerade/weiter]$ and $[auxsein + am/beim/im/dabei zu_{prep} + infV]$) (light blue dotted rectangle). As also shown

by the multilingual construction sketched in Section 6.1.4, German lacks an idioconstruction to morphologically mark grammatical aspect compared to Italian and English (green dotted rectangle), and this is an important consideration since it is the most frequent (and mandatory) construction that English requires to express progressive aspectuality.

Crucially, though, none of these subsets as represented by Figure 41 correspond to Leonide speakers' usage of English in its entirety. Rather, English knowledge (as we will infer from Leonide's actual productions of the students) might be represented partly by diaconstructions, partly by idioconstructions, in a way that different inter-constructions relations might occur, depending on how learners analyse and use them. In fact, the interaction between constructions is not restricted to their instantiation in actual utterances but also pertains to their organization within the constructional network. As will be demonstrated, the acquisition of an additional language, as also Höder et al. note (2021: 326), involves as much modification of pre-existing constructions as entrenchment of new ones, depending on how learners model their multilingual construction. These mechanisms will be explained both theoretically and empirically with the support of learner data in the next section.

6.3 Processes of gradual entrenchment and reorganization of constructions

With the help of Leonide data, it is suggested here that different instantiation types might occur, depending on how the dia- and idio-constructions interact and are modeled in the multilingual constructicon. Figure 42 provides an abstract representation of how this interaction might take place. Let us imagine that the three circles represent the three different language systems of *German* (A), *Italian* (B) and *English* (C) (the target language in which students are asked to write). Within the circles, there could be language specific idioconstructions for the three languages that are imprinted in students' knowledge as language-specific constructions with solid lines. Depending on their degree of entrenchment, students of English might already have language specific idioconstructions for the English and produce them in the texts, while for others it could be the case that idioconstructions from other languages are transferred into English productions. Moreover, the overlapping areas between the three involved languages entails language-unspecific diaconstructions (dashed lines) which can be common to all three languages or just two of them, thus helping students to transport common properties into the target language. With the help of students' productions, it is possible to empirically support how such instantiation types take place as the results of different reorganization processes.

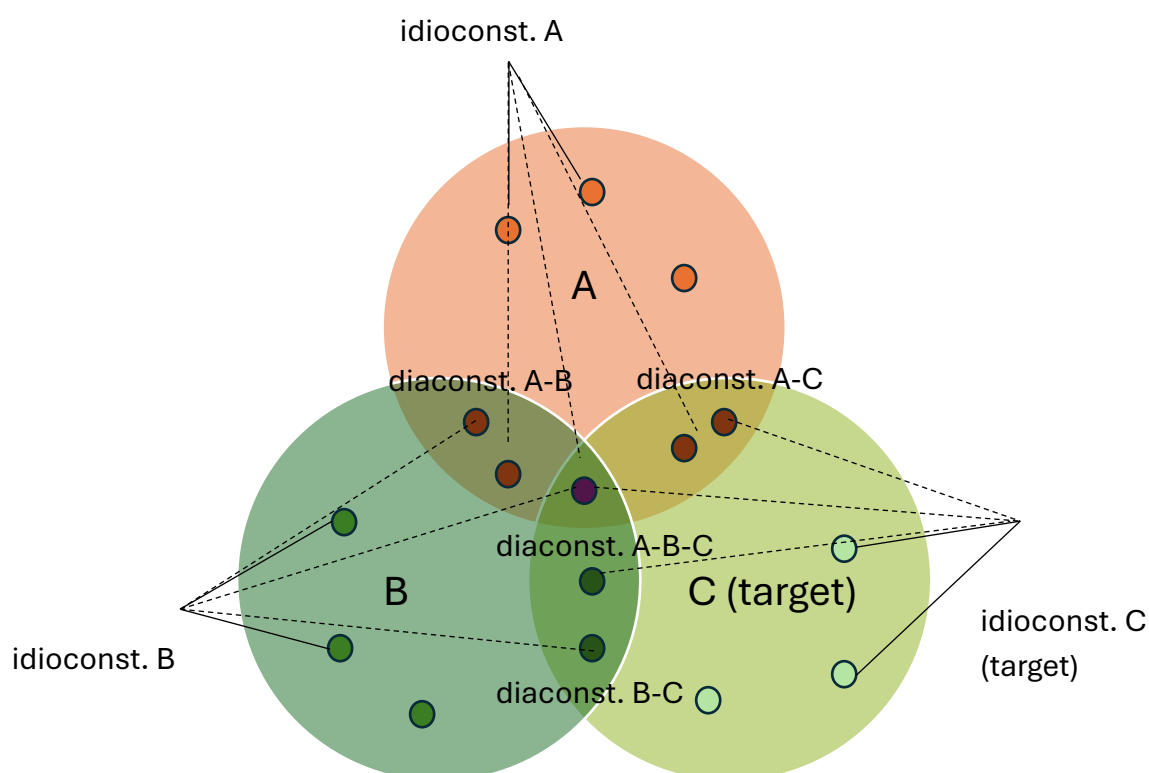


Figure 42. Instantiation types of the multilingual construction

The first instantiation type concerns cases in which learners of English have entrenched the idioconstructions that English possesses to express progressive aspectuality and canonically use them in their productions. With “canonically” it is meant that students use English idioconstructions as conventionalized form-meaning pairs in which the association between form and function could be described as a construction (cxn $\langle C_{\text{English}} \rangle$). For example, if we take a look at the first abstract constructional schema for progressive aspectuality found in the data $[V_{\text{AUX}} + V]$ (cf. Section 5.3.1.1), it seems that in the 42,58% of cases of the occurrences found in the corpus, the $[V_{\text{be}} + V_{\text{ing}}]$ English idioconstructions like in “*A woman is running to a bus in public*” (Leonide, EN_pic_3_77Y26A18_122) is canonically produced by students to express progressive aspectuality, suggesting that this construction represents a more or less strongly entrenched symbolic association.

However, we have also seen that while this idioconstruction is mostly used to express the core meaning of ongoingness, other specialized meanings might also occur with the same form (cf. Section 5.3.2), thus representing an additional step in the entrenchment processes. In fact, while in most cases this idioconstruction represents a symbolic unit with the meaning of ongoingness, it is likely to undergo a subsequent pragmatic narrowing, given that students also experience new additional meanings that can be symbolically associated with this form as an increasing and more evenly distributed input might occur.

While less than a half of occurrences produced by the students represent canonical forms of the English idioconstruction $[V_{be} + Ving]$ expressing ongoingness, in 29,99% of cases learners produce $[Ving]$ constructions like in “*The Dad riding the book vor Timi.*” (Leonide, EN_pic_1_55X31A01_17), that clearly represent weakly entrenched constructions instantiated from the same abstract constructional schema $[V_{AUX} + V]$. According to Höder (2012) cases like this represent diaconstructions that result from a process of gradual change called “pro-diasystematic change”. Figure 43 helps to understand this process.

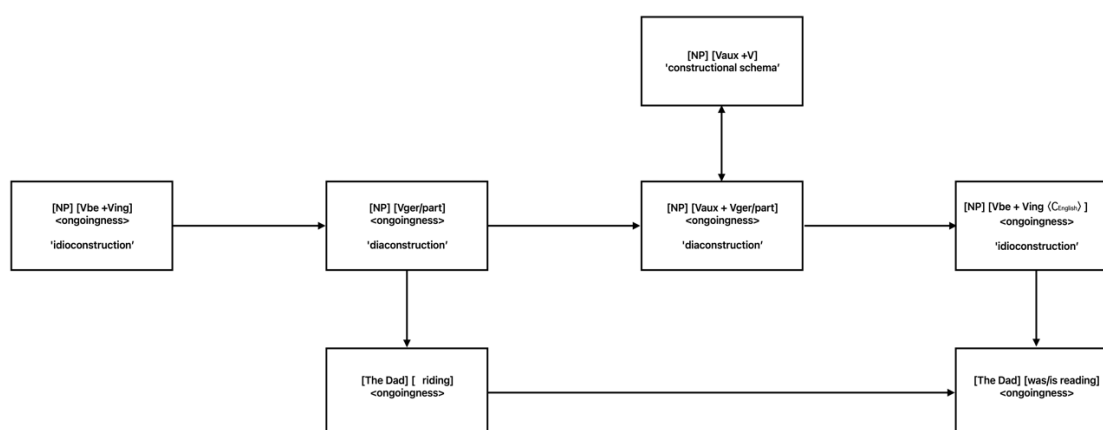


Figure 43. Pro-diasystematic change

An example like this aims at instantiating the English idioconstructions [*Vbe* + *Ving*] which is identified by the student but still weakly entrenched. In fact, the student should possess a diaconstruction that still lacks the *Vauxiliary* and only reports the present participle, thus resulting in a [*Vpart*] diaconstruction encoding the same function but having a non-canonical form. With the pro-dyastematic change the [*Vpart*] diaconstruction will be subsequently reorganized in a newly emerging diaconstruction [*Vaux* + *Vpart*] that will be entrenched in the form of language specific idioconstruction [*Vbe* + *Ving* $\langle C_{English} \rangle$ $\langle ongoingness \rangle$] and connected to the higher-level constructional schema [*V_{AUX}* + *V*]. Diaconstructions like [*Vpart*] are the result of language productivity in the sense that they allow for the production of intelligible constructs that do not represent construction in their own, but that can offer a window on the reorganization processes towards more abstract representations. Consider now examples (99) and (100):

(99) *Te Vather **guking** the bok.* (Leonide, EN_pic_1_56X32A16_30)

(100) *Nima **guking** in a Busch and a Monster springin in the strade, and eat Nima.* (Leonide, EN_pic_2_56X32A16_71)

Here both authors use the German verb *gucken*, ‘look’, as the root, to which the English morpheme *-ing* is attached. In English we know that the *-ing* morpheme is used to form the participle of the idioconstruction [*Vbe* + *Ving*] to indicate that we are dealing with an ongoing situation of the father reading a book in (99) and of the character Nima looking at the bush in (100). An isomorphous construction however does not exist in German. It should be noted that both speakers belong to the cluster “Dominant German” and when learning English as additional language will find that there is no equivalent and formally similar construction in their dominant language that could function as a starting point for generalizing across the two languages and

form a diaconstruction based on structural similarities. The option for both students to store and process this new piece of linguistic knowledge will be to establish a new idioconstruction [*Vbe* + *Ving* $\langle C_{English} \rangle$]. By attaching the *-ing* morpheme to *gucken*, the authors create "guking," effectively blending a German verb root with the English participle, thus suggesting a potentially evolving diaconstruction [*Vpart*] towards a language unspecific diaconstruction [*Vaux* + *Vpart*] that will be able, in the future, to instantiate the idioconstruction [*Vbe* + *Ving* $\langle C_{English} \rangle$] in its canonical form.

Cases of multilingual innovations of this type might appear as they carry some kind of conflicting information from two different languages. However, what enables them to be processed are generalization processes through diaconstructions (cf. also Urban 2021: 33 for a similar interpretation). Consider now example (101):

(101). *The Chlash Royal (non ora) John sina going a prendere Clash Royal (stava) riding (il suo) book.* (Leonide, EN_pic_1_57X31A20_17).

Here the author produces an innovation that seems to be a blend of two idioconstructions coming from English and Italian, which share similar formal and functional properties. However, what allows this multilingual innovation is the result of the creation of a diaconstructions that will be subsequently generalized and reorganized. Figure 44 illustrates the generalization process behind example (101).

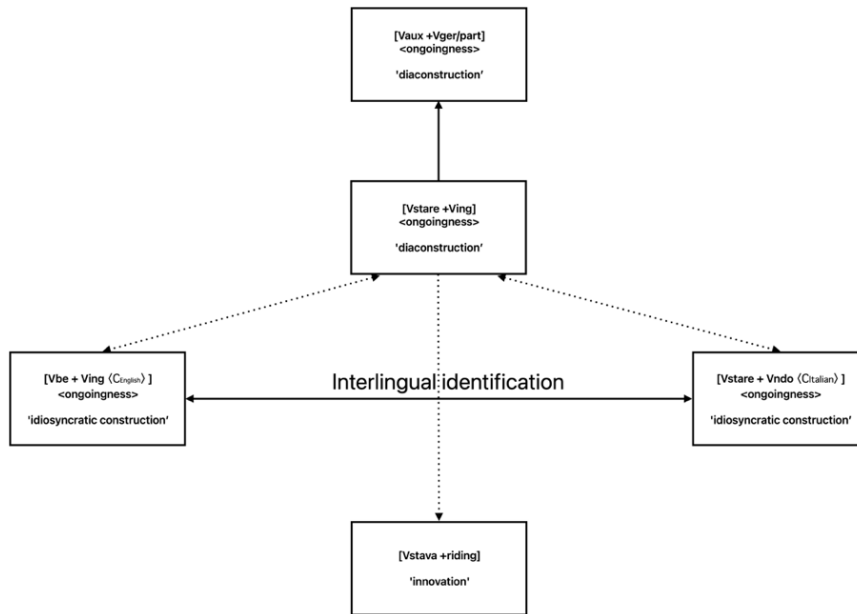


Figure 44. Generalization processes

Figure 44 illustrates the process of generalization towards a diaconstructions. Through the process of interlingual identification, the author recognizes the two idioconstructions $[Vbe + Ving \langle C_{English} \rangle]$ and $[Vstare + Vndo \langle C_{Italian} \rangle]$ as equivalent, meaning that they share common properties and elements of form and function. Those similarities are then generalized into a diaconstruction ready to be combined with idiosyncratic material of the two involved languages, composed by the Italian auxiliary *stare* and the *Ving* participle of the English $[Vstare + Ving]$. The appearance of an innovation, then, is a consequence of the productive instantiation and entrenchment of this diaconstruction, which will be in future times *regeneralized* and entrenched towards the more abstract and language-unspecific diaconstruction $[Vaux + Vger/part]$. This diaconstruction is in fact shared by both Italian and English in terms of their formal and functional characteristics and instantiates the two language-specific idioconstructions $[Vbe + Ving \langle C_{English} \rangle]$ and $[Vstare + Vndo \langle C_{Italian} \rangle]$.

The same mechanism happens for other constructional schemas found in the data, for example the [$V_{ASP} + V$] in example (102):

(102). *Anna run for bring the Bus bat a group of man see she but she (**continua**) to run.* (Leonide, EN_pic_3_57Y28A14_127)

Here the same process of interlingual identification occurs between the Italian idioconstruction [$V \{ASPECTUAL\} + (a_{prep}) + V-a/e/ire$] and the English idioconstruction [$v \{ASPECTUAL\} + to + V-inf$] that are generalized into a shared diaconstructions containing idiosyncratic material from Italian (ita. *continua*, eng. continues) and the English *to Vinf*. Relevant is the strategy of distinguishing the Italian *continua* from the rest by using brackets, a strategy that has also been observed for other cases (cf. Section 5.3.1.1 and 5.3.1.5). It can be interpreted as an attempt of the student to make the reader aware of the fact that a shared diaconstruction is already present but it is not completely entrenched, and therefore he/she decides to fill the slot with an element coming from a different language system than English, signaled by the presence of brackets.

The same strategy is used also in cases in which the use of a full language-specific idioconstruction of Italian or German is directly transferred to English productions. Consider example (103), in which the full German idioconstruction [$beim + Vinf + sein$] is used by a student:

(103). *The Fother go to the bedroom. The kid(**war bei lesen**)* (Leonide, EN_pic_1_57X33A16_26)

The same construction is also repeated from the same author within the same text (and with the same lemma) in the final passage of the text: “*The kied go in the bedrom. The Father(**war bei lesen**)*” (ibid.). The example is very interesting for other characteristics, for example the German capitalized noun transferred in the use of *Fother*, or the strategy of employing a German

idioconstruction (*war bei lesen*) that is signaled with the use of brackets by the author like example (102).

A specular case concerns the use of the idioconstruction from Italian [*Vstare + Vndo*] in example (104), in which the student not only uses the construction from Italian, but seems to completely switch to Italian in the whole subsequent portion of the text:

(104). *The (LADRO) is living in Land is very very agyl * steal. The steal is for stopped *Polizai and poliz* gli fa una domanda il perché stava correndo e lei gli dice che non voleva perdere il buss la Polizia gli dice che non può farlo e lei si incavolo.* (Leonide, EN_pic_3_57Y25A16_120)

Cases of this type are quite rare in the dataset (cf. Section 5.3.1.5 for [*beim + Vinf + sein*] and 5.3.1.1 for [*Vstare + Vndo*]). Interestingly, authors producing the German idioconstruction [*beim + Vinf + sein*] belong to the clusters “Dominant German” and “Dominant Italian + German”, both having German in their dominant language constellations, while cases of [*Vstare + Vndo*] also concerns author having Italian in their dominant constellations, thus either belonging to the cluster “Heritage Language + Italian” or “Dominant Italian”³⁰.

There are two last cases of instantiation types found in the data worth to be discussed. The first case results from the interplay of all the languages of students’ repertoire in parallel, like example (105):

(105). *The Mum go to shelf and vede suo papa ha lesen a comics* (Leonide, EN_pic_1_57Y27A20_28)

³⁰ Authors producing [*Vstare + Vndo*] are #57Y26A21 and #57Y25A16 belonging to, respectively, the clusters Dominant Italian and Heritage Language+Italian and attending schools with Italian as main language of instruction. Authors #57X31A14 and #57X33A16 belonging respectively to the clusters Dominant Italian + German and Dominant German produced [*beim + Vinf + sein*] and attend schools with German as main language of instruction.

Author's #57Y27A20 dominant language constellation reveals that Italian and a heritage language represent his/her dominant languages, while German and English are peripheral languages to which this author is less exposed to. We can hypothesize a similar mechanism taking into consideration all the languages at play that led to this interesting multilingual innovation (Figure 45):

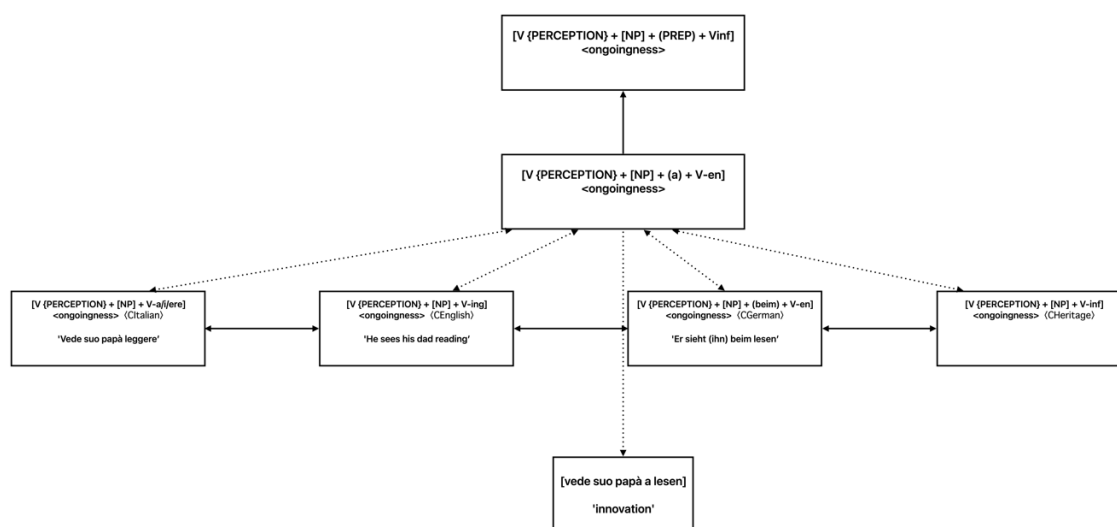


Figure 45. Generalization processes towards a diaconstruction with multiple languages at play

Analogous to Figure 44, Figure 45 illustrates the process of generalization towards a diaconstruction. Through the process of interlingual identification, the author recognizes equivalent idioconstructions in that they share similar characteristics of forms and meaning of Italian, English and German, i.e. [$V_{\{PERCEPTION\}} + NP + V-a/i/ere$ $\langle C_{Ita} \rangle$], [$V_{\{PERCEPTION\}} + NP + Ving$ $\langle ongoingness \rangle$ $\langle C_{Eng} \rangle$], [$V_{\{PERCEPTION\}} + NP + (beim) + V-en$ $\langle ongoingness \rangle$ $\langle C_{Ger} \rangle$]. Also, the heritage language of this speaker is included as the author possesses a heritage language in his/her repertoire. For reasons of anonymization, I have included the heritage language as an idiosyncratic construction of this type [$V_{\{PERCEPTION\}} + NP + V-inf$ $\langle ongoingness \rangle$ $\langle C_{Her} \rangle$]. The idioconstructions contribute to the innovation produced by the student considering their shared properties in a diaconstruction in process of being

entrenched. The emerging diaconstruction thus includes a perception verb that the author uses in its Italian form *Vedere*, ‘to see’, a noun phrase which is also shared by all the idiconstructions, the Italian preposition *a* (formally non-canonical *ha*) which does have a correspondence with German that allows the preposition *beim* as optionally marked, and a German V-en verb infinitive (*lesen*, ‘to read’). The diaconstruction will be successively reorganized towards a unspecific one [*V* _{PERCEPTION} + *NP* + (*PREP*) + *Vinf*].

The last instantiation type concerns constructions instantiated from the higher-level constructional schema for progressive aspectuality found in the data, i.e. the [*V+ADV**P*] (cf. Section 5.3.1.5). This schema involves constructions in which students do use a verb form without explicitly and morphologically marking progressivity, but just combining it with adverbs. The adverbs found in the data belonging to this type of constructional schemas involve adverbs expressing the meaning of duration with non-morphologically marked verb predicates like in “*They searched for 30 minutes but they didn't get the ball.*” (Leonide, EN_pic_2_57X32A17_71) and temporal position adverbs that express a temporal relation on the time axis. In the first case, a diaconstruction like [*V + ADV**duration*] and in the second case a diaconstruction like [*V+ADV**position*] can be identified.

The second diaconstruction is particularly interesting since in English adverbs of temporal position like *now* obligatory need a morphologically marked progressive constructions reflected in the verb predicate as well. It is therefore considered non-canonical an expression like *I go now*, that instead requires the [*Vbe + Ving*] idioconstruction to express progressivity. In Leonide data, in very few cases (0,75%) learners rely on the German idioconstruction [*V + adv**gerade/jetzt*] instantiated from the diaconstruction [*V + ADV**P*] that does not find a correspondence in English and Italian as

well. Therefore, an example like “*Elias goes in the room. But His father now read the book*” (Leonide, EN_pic_1_57X34A09_18) seems to be syntactically modelled on the German counterpart “*Elias geht in den Raum. Aber sein Vater liest jetzt das Buch*”. Student #57X34A09 belongs to the “Dominant German” language background cluster, so prototypically acquires English as additional language and is exposed to different constructions of English among which the morphologically marked [*Vbe + Ving*], which lacks a counterpart in German. The learner relies on the pre-existing German idioconstruction [*V + advgerade/jetzt*] to create an innovation like “His father now read the book”, that does not provide any cues for canonical constructions in the target language. Probably, the learner will continue to genuinely use it as a diaconstruction [*V + ADVP*] as long as he/she is not exposed to a sufficient amount of input that does not match the canonical target constructions. This then prompts a reorganizational process towards disentanglement once the idioconstruction of English will instead be entrenched.

In this chapter, we have primarily focused on instantiation types found in the data and how idio- and diaconstructions are modeled in learners’ multilingual construction on the basis of students’ productions. We have mentioned only for certain cases the impact of pre-existing constructions considering students’ dominant languages. In the next section, we will further explore the role of language background in shaping the multilingual construction, clarifying the extent to which these instantiation types result from common patterns exhibited by learners belonging to similar language backgrounds.

6.4 The role of language background and AL input in Leonide students' emerging constructions: a theoretical approach

Starting from a theoretical point of view, Höder et al. (2021: 325) illustrate and explain the role of the input when a prototypical speaker who possesses a language A (L_A) acquires a language B (L_B) as additional language. The additional language's input can be described as resulting from the learners' exposure to linguistic material (L_B exposure) and that is subject to processing mechanisms (L_B tokens):

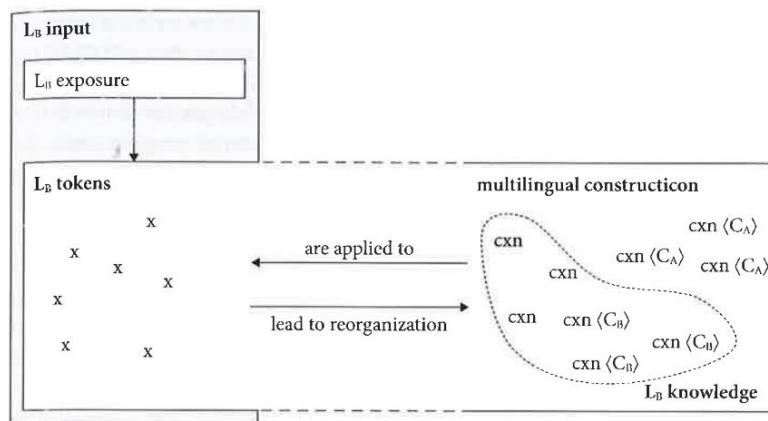


Figure 46. The emerging multilingual construction (taken from Höder et al. 2021: 325)

As can be seen in the Figure 46, a subset of these tokens can be processed as instances of pre-existing constructions, i.e. constructions in language A that the speaker has acquired at an earlier stage at their most abstract level (cxn). The pre-existing constructions can either be applied to the additional language material or they require some reorganization processes when a structural pattern that the speaker encounters in language B does not match any of the pre-existing constructions, therefore constituting idioconstructions of language B ($cxn \langle C_B \rangle$). The speaker should therefore recognize that while some pre-existing constructions can be applied to the additional language

material, other cannot and have pragmatic restrictions that are associated with language A ($cxn \langle C_A \rangle$).

The input of the additional language can be therefore processed by three different mechanisms: 1) by applying pre-existing constructions of language A that functions as diaconstructions; 2) by processing newly acquired linguistic material restricted to language B or 3) by re-processing the pre-existing but modified constructions that are now restricted to language A. These processes move between establishment and reorganization of the learner's linguistic knowledge constantly.

Considering the interplay of three different languages to which Leonide students are differently exposed to at school, we can hypothesize different scenarios of the emerging multilingual constructicon based on the input they receive at school, as has also been supported by the data.

The first case is of a prototypical German-dominant speaker (meaning that German represents the main language in which most of his/her interactions take place and the language of main instruction at school), who acquires Italian as second language officially starting from primary school³¹ (and that also represents the other dominant language of the environment to which he/she is exposed to) and is exposed to English as additional language starting from the fourth grade of primary school. The emerging multilingual constructicon could be imagined as in Figure 47.

³¹ Instruction of Italian as second language starts with 34 hours in the first year for a total of 646 hours for the whole primary school cycle. Instruction of English only occurs in grade four and with a total of 136 hours. For more information, please refer to the Provincial guidelines established by the German schoolboard: https://assets-eu-01.kc-usercontent.com/26bf2097-6663-0117-02e1-6cf39b4d6c12/0f2f6ada-3df2-4652-8670-e21b4e4d5084/Rahmenrichtlinien_Grundschule_Mittelschule_dt_2021%20.pdf

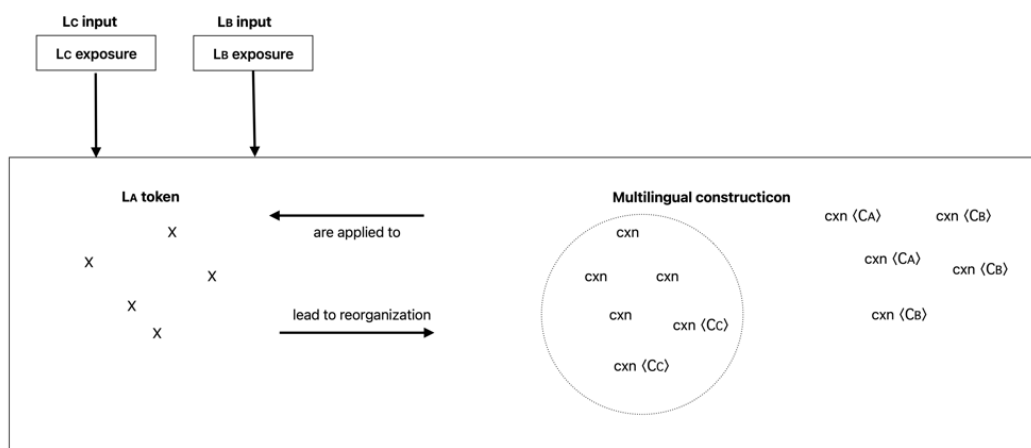


Figure 47. The emerging multilingual constructicon of German-dominant speakers

As illustrated in Figure 47, English represents the Language C, i.e. the input of additional language to which we are interested into. However, a German-dominant speaker also receives input from Italian (language B) to which should be more exposed to in terms of age of onset compared to English, since not only Italian represents the other language officially spoken in the environment, but it is also the first foreign language acquired at school. Language A³² instead represents German which is the dominant language in which this speaker has mostly received instruction at school. The imagined speaker, exposed to Language C and B (English and Italian) in different ways, needs to process tokens in both languages by comparing them to the pre-existing constructions from Language A (German) acquired at an earlier stage. The difference from Höder et al.'s (2021) previous model concerns the fact that the reorganization processes not only take place between German and English, but also involves Italian. This means that some structural

³² It should also be specified that Language A for most of German-dominant speakers might interact or even be represented by the South Tyrolean dialect, which is in most cases the variety spoken within informal interactions, rather than the language in which students are actually instructed at school. Being aware that the South Tyrolean variety should also be considered within the multilingual constructicon, I decided to focus only on the three languages in which students are instructed at school: in this case Language A thus represents the German standard variety taught at school as specified by the German school board: "Der Schule kommt daher, neben anderen sprachlichen Aufgaben hinsichtlich der Zweitsprache und der dritten Sprache Englisch, eine zentrale Aufgabe zu, das Hochdeutsche mit großer Sorgfalt zu pflegen und immer weiter zu entwickeln [...]. Schülerinnen und Schüler nutzen ein vielfältiges Medienangebot, erweitern durch die Lektüre altersgemäßer und den individuellen Interessen entsprechende Texte den eigenen Erfahrungshorizont, entwickeln eine Hörkultur im Hochdeutschen und üben sich in der Recherche durch die Verwendung von Nachschlagewerken und anderen Quellen" (Autonome Provinz Bozen – Südtirol Deutsche Bildungsdirektion: 38).

patterns that the German-dominant speaker encounters in English could either match (or not match) any pre-existing constructions coming from both not only the language in which he/she is dominant (German) but also from Italian: therefore, the reorganization process involves in parallel all the three languages at issue. The language C knowledge can be composed by not only idioconstructions that are (coming to be) associated with language C (*cxn* <CC>), but also by diaconstructions (*cxn*) that come from identification processes with pre-existing constructions of Italian and German. Outside of the linguistic knowledge (LC) but still part of the multilingual construction there remain constructions that belong specifically to Italian or German (*cxn* <CA> and *cxn* <CB>).

An analogous scenario could be traced for the multilingual construction of Italian-dominant speakers, in which Italian represents the main language in which most of their interactions take place and the language of main instruction at school, who acquires German as second language officially starting from primary school,³³ and is also exposed to English as additional language starting from the first grade of primary school. The exposure to the German standard variety mostly concerns the school environment. As already noted, the South Tyrolean variety is, in fact, mostly spoken in informal interactions. In Figure 48 is represented of what we can hypothesize being the multilingual construction of an Italian-dominant speaker.

³³ Instruction of German as a second language starts with 204 hours in the first year for a total of 969 hours for the whole primary school cycle. Instruction of English occurs in the first grade and with a total of 51 hours. For more information, please refer to the Provincial guidelines established by the Italian schoolboard: https://www.provincia.bz.it/formazione-lingue/scuola-italiana/downloads/407114_Indicazioni_provinciali_I_ciclo.pdf

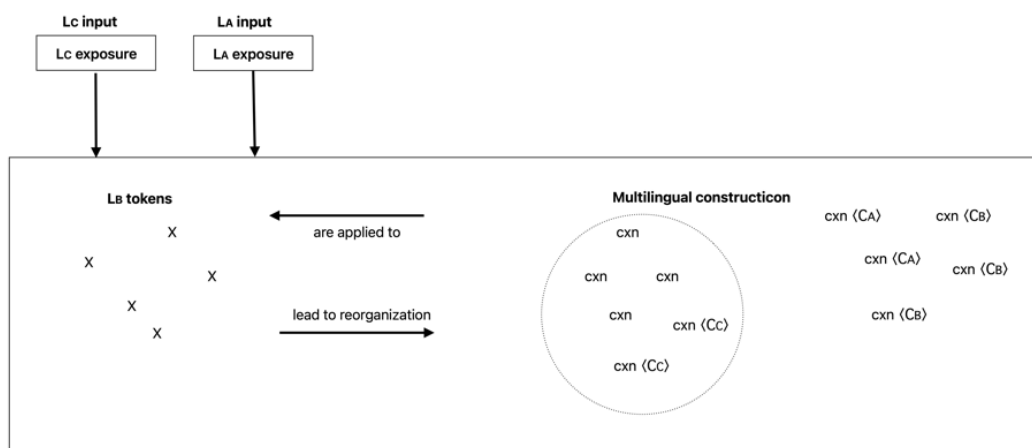


Figure 48. The emerging multilingual construction of Italian-dominant speakers

In this case, the configuration of the language changes according to the exposure: not only the Italian-dominant speaker possesses pre-established tokens from language B (Italian) but it also receives input from English (Language C) and German (Language A), acquired as first foreign language at school. Like the previous model, the reorganization processes not only take place between Italian and the additional language, i.e. English, but also involve German, meaning that some structural patterns that the Italian-dominant speaker encounters in English could either match (or not match) any pre-existing constructions coming from both German and Italian.

There are two other possible scenarios that can be hypothesized for the different language profiles of Leonide students. First, there are students that seem to make use of both official languages largely spoken in the environment, i.e. Italian and German, equally in their everyday life (Figure 49). In these cases, both languages Italian and German should ideally possess a higher degree of establishment in pre-existing language tokens that equally comprise Language A and Language B.

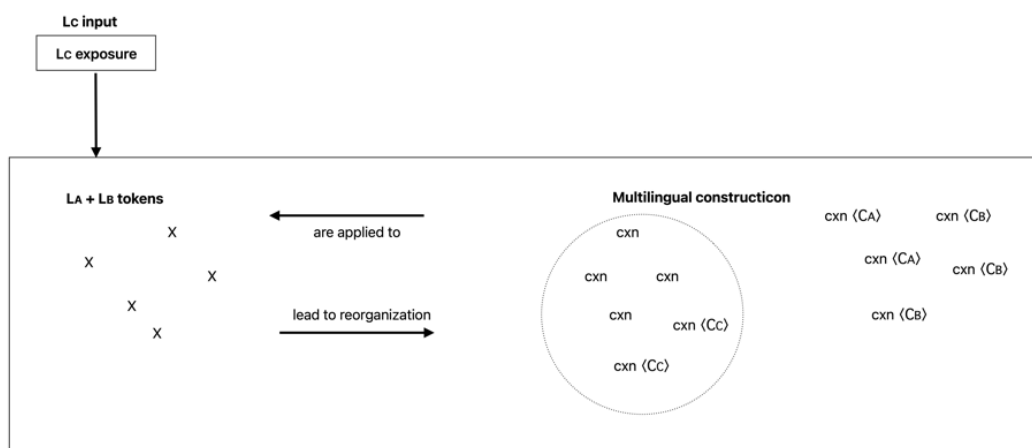


Figure 49. The emerging multilingual construction of Italian-dominant speakers

The last possible scenario concerns cases in which there is also an additional language in students' repertoires, identified as a heritage language. In fact, Leonide students belonging to this profile, while being grown up in a linguistically diverse family environment which also comprises one (or more) heritage language, have mostly received instruction in Italian (therefore attending schools having Italian as a main language of instruction). We can visualize this last scenario in Figure 50.

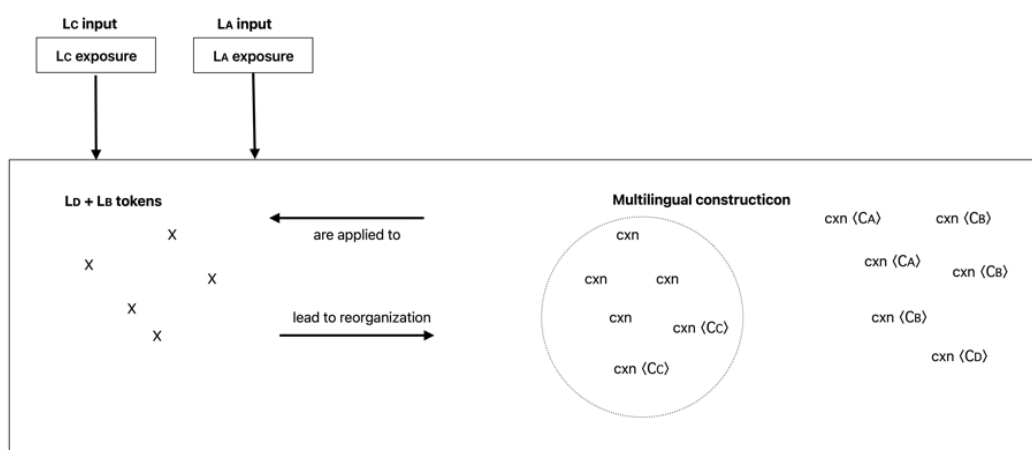


Figure 50. The emerging multilingual construction of heritage speakers instructed in Italian schools

This scenario has some analogies with the previous one, in a way that the heritage language (Language D) and Italian (Language B) should represent

highly entrenched pre-existing tokens within the multilingual constructicon, while German and English the language inputs they receive at school. Depending on several factors among which the degree of exposure and the age of onset, there should also be cases of students that had just started being instructed in Italian and are dominant in their heritage language: in these cases, the input they receive at school should also include Language B (Italian) as well, beside German and English, while Language D representing the only pre-existing language. Moreover, within the emerging multilingual constructicon and outside the LC knowledge there obviously remain constructions that belong specifically not only to Italian and German, but also to the heritage language (*cxn* $\langle CD \rangle$).

The multilingual constructicon across the different speaker's language profiles exemplifies how all linguistic structures inherent in a multilingual setting can be taken into account, depending on the imaginable degree of exposure that students prototypically receive from the input school. Looking at these idealized schemas, the question arises about how each profile of Leonide speaker behaves in combining his/her linguistic knowledge to instantiate progressive aspectuality and whether there are some observable patterns in their use depending on the input they receive and the configuration of their language profiles. The next section will focus on this and will explain how such abstractions can also be empirically observed in Leonide students' productions.

6.5 The impact of language background and additional language's input in students' emerging constructions: an empirical approach

The primary objective of this section is to investigate major quantitative tendencies of Leonide students, considering a) whether students behave in the same way in their constructions' usage to be aggregated in similar usage clusters, and b) whether (similar or different) behavior might depend on learners' related variables, including:

- the **degree of exposure** they receive at school. The exposure not only concerns English as additional language to which learners attending schools having Italian or German as main language of instruction are differently exposed in terms of age of onset (cf. Section 6.4), but also the main input they receive at school from the main language of instruction (dataset variable *student_school_language*) and the corresponding second foreign language they acquire.
- the role of the **classroom environment and instruction**. The input they receive at school might also depend on the type of instruction they receive from the teachers, therefore students belonging to the same classroom and familiar to a certain kind of instruction can behave similarly (dataset variable *student_class_id*).
- the **language profiles** of Leonide students that take into account the dominant languages they use in different contexts (cf. Section 4.5) (variable *student_DLC*). This helps to identify whether students having the same language background (operationalized in terms of dominant language constellations) behave in a similar way or whether there are differences among students having different language backgrounds.

I started by using a bottom-up approach to identify general patterns in the use of constructions among different Leonide students without predefined hypotheses. To do so, I employed Principal Component Analysis (PCA) to reduce the dimensionality of the dataset while retaining most of the variance, combined with K-means clustering to partition students' usage patterns (Ding & He 2004). The PCA dimension reduction automatically performs data clustering according to the K-means objective function: objects are classified into k number of clusters, defined by the nearest mean. Basically, the algorithm iteratively assigns each data point to the nearest cluster center and then recalculates the cluster centers based on the assigned points. This process continues until the cluster assignments no longer change. When combined with PCA, k-means clustering effectively grouped students with similar constructional schema usage, providing a first impression on data's inherent structure without pre-established hypotheses.

The first step conducted concerned the exploration of individual contributions by calculating the distribution of constructional schemas produced by individual students' ids: the data have been grouped by student ids (dataset column *student_id*) and constructional schema (dataset column *construction_schema*) to calculate individual contributions. This provided a matrix where each row represents a student, and each column represents a constructional schema. PCA was performed to reduce the dimensionality of the data and visualize patterns across all constructional schemas, while three main clusters were automatically determined for k-means.

The PCA plot visualizes the clustering of authors based on their usage of constructional schemas (Figure 51). Each point represents a student id, and the colors indicate different clusters. The two principal components capture the main variability in the data, providing a clear view of how students group together based on their constructional schema usage.

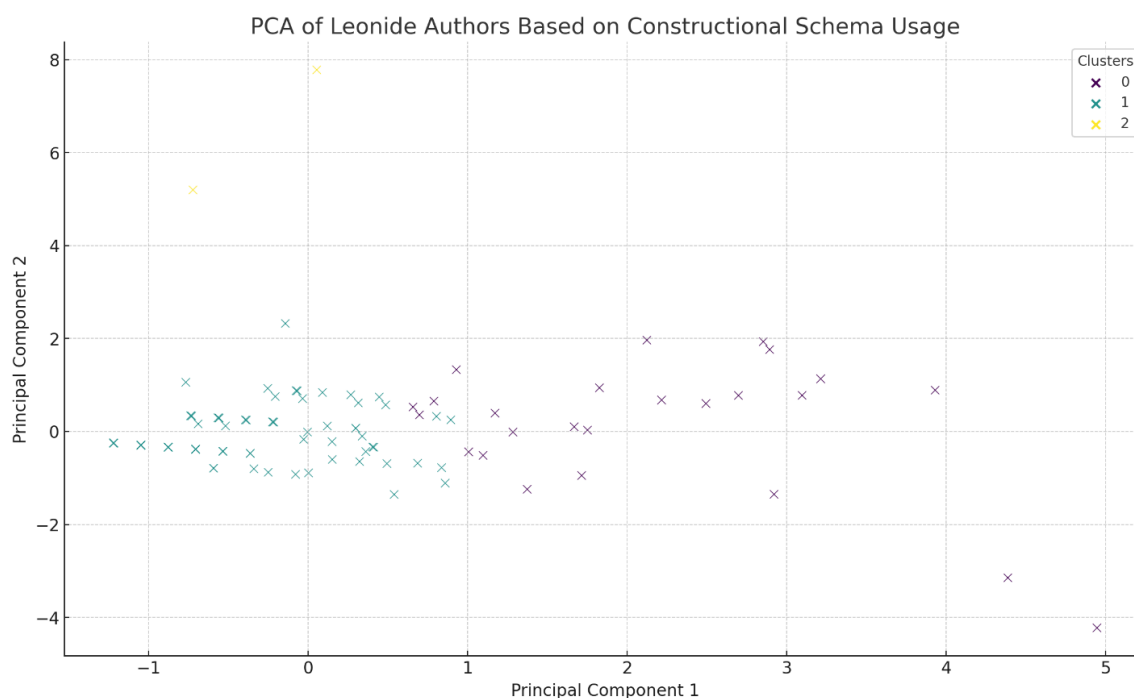


Figure 51. PCA results of constructional schemas within clusters of students

To explain the main characteristics for each cluster, the average usage of constructional schemas within each cluster is reported in Table 10:

Cluster	V+ADV	V1+and+V1	Vaux+V	VingGER	aspectual+V	beim+Vinf+sein	perception+V
0	0.640625	0.7421875	7.20703125	0.59765625	0.765625	0	1.2265625
1	0.300254453	0.089058524	4.307888041	0.063613232	0.129770992	0	0.20610687
2	1.454545455	0	0.454545455	0	0	2.545454545	1.090909091

Table 10. Average usage of constructional schemas within clusters of students

The main observations for each cluster result in:

- **Cluster 0:** it is dominated by high usage of $[V_{AUX} + V]$ (7.20) and sparse and moderate usage of other constructional schemas as well. $[beim+Vinf+sein]$ is never used within this cluster.
- **Cluster 1:** predominantly uses $[V_{AUX} + V]$ (4.3) like Cluster 0 with low usage of other schemas. Also in this case, no usage of $[beim+Vinf+sein]$ can be observed.
- **Cluster 2:** high usage of $[V+ADV]$ (1.45), $[beim+Vinf+sein]$ (2.54) and no usage of $[V_1 + and + V_1]$, $[VingGER]$, and $[V_{ASP} + V]$.

This first exploration suggests different observations: first, that students belonging Cluster 0 exhibits a great variation in the use of different constructional schemas. The great variation in the use of constructional schemas might depend for example on specialized used of certain constructions with respect to the function they encode and to their more or less stable degree of entrenchment. Probably, students belonging to Cluster 0 might possess a wide range of constructions in their multilingual construction that they employ depending on the meaning they want to express that are in course of being more or less firmly entrenchment. Students belonging to Cluster 1, instead, rely predominantly on the morphologically marked aspectual constructional schema $[V_{AUX} + V]$ compared to other constructional schemas. Students belonging to Cluster 2 show instead a high usage of constructional schemas that seems to be the product of processes towards the creation of diaconstructions (cf. Section 6.3). We can see for example students employing majorly the $[V+ADV]$ constructional schema and $[beim+Vinf+sein]$, schemas that result in a provisional diaconstruction modeled on the basis of German idioconstruction $[V + advgerade/jetzt]$ in the first case and in the directly transferred German idioconstruction $[beim+Vinf+sein]$ in the second case. Students belonging to Cluster 2 seems to possess less entrenched constructions compared to the first two clusters that needs more reorganization processes in future times.

At this point, I have investigated whether certain learners'-related variables actually might have contributed to the common behavior of certain groups of students emerged from this first exploration. I considered two main factors: the impact of students' language backgrounds intended as the dominant languages in which they mostly interact, and the input they receive at school, by looking at the type of instruction they receive in the two school languages in which they are instructed.

To do so, I conducted several tests to breakdown this relationship. First, a post-hoc analysis was conducted to identify significant differences in the use of constructional schemas found for progressive aspectuality among students belonging to different language profiles (*Dominant German, Dominant Italian, Dominant Heritage Language + Italian and Dominant German + Italian*), with corrections for multiple comparisons using the Bonferroni method. The results show that only the [$V_{AUX} + V$] constructional schema shows a significant difference across different language backgrounds (corrected p-value = 0.033), thus confirming the fact that students make use of the morphologically aspectual marked constructional schema in different ways. I have then inspected the specific contributions to the Chi-Square statistic to identify which combinations of students' language background and constructional schemas contribute most to the observed relationship. The contingency Table 11 represents the standardized residuals showing contributions to the Chi-Square statistic.

construction_schema	dominant german	dominant italian	dominant italian german	heritage language+italian
V+ADV	0.770851466	-1.315294674	0.161440884	0.270749301
V1+and+V1	0.846802138	-1.840864775	2.211034087	-1.061116218
Vaux+V	-0.042569541	1.147994015	-1.508492371	0.200987871
VingGER	-0.396315026	0.84109789	0.114155944	-0.474792694
aspectual+V	-1.435945658	0.459928738	1.765487339	-0.29180696
beim+Vinf+sein	1.019304591	-1.10199492	1.160265871	-1.098588436
perception+V	-0.350155716	-1.584119154	1.518539879	0.691048706

Table 11. Standardized residuals for language profiles

The standardized residuals provide insights into which specific combinations of constructional schema and language profile contribute most to the Chi-Square statistic. Residuals greater than 2 or less than -2 indicate cells that significantly deviate from what is expected under the null hypothesis, therefore we will focus on the most relevant contributions. The schema [$V1+and+V1$] (std. resid. 2.21) is used significantly more often than expected by students having both German and Italian in their dominant language repertoires, probably because it is a common diaconstruction that

both languages have in common to express progressive aspectuality. On the contrary, $[V_I + \textit{and} + V_I]$ is used less often by students having only a monolingual Italian dominant profile (-1.841) but more often than expected for students having only a monolingual German dominant profile (0.84). This aspect suggests that despite this constructional schema is common to both languages, learners having Italian as dominant language might prefer constructional schemas that rely on different strategies, for example by using more often periphrastic constructions like $[V_{AUX} + V]$ (std. resid. 1.14) and $[V_{ASP} + V]$ (0.45). On the other hand, the German dominant cluster seems to use significantly more often than expected other strategies like verb duplication like in $[V_I + \textit{and} + V_I]$ (0.84) or lexical means like in $[V + ADVP]$ (0.77), and less periphrastic constructions like $[V_{ASP} + V]$ (-1.436), $[V_{PERC} + V]$ (-0.35) and $[V_{AUX} + V]$ (-0.04). This aspect seems to follow the same observations about the clusters identified in the PCA, more specifically the behaviour of Cluster 2. However, the Cramér's V value calculated for the correlation between language background and constructional schemas is approximately 0.082, suggesting a weak association between them. This indicates that the language background has a minimal impact on the constructional schemas produced by the students, but that specific combinations do show notable deviations from expected values, indicating that language backgrounds might influence the use of particular constructional schemas to a certain extent.

When conducting the correlation test between constructional schemas and the main language of instruction, instead a Cramér's V value of 0.715 suggests a strong association between constructional schemas and the language of instruction. This indicates that the use of certain constructional schemas is significantly related to the main language of instruction students receive at school, more than the language background of the students.

I have subsequently conducted a post-hoc analysis to investigate the role of the language of instruction in students' usage behavior to identify significant differences among Leonide learners of English attending two different schools having either German or Italian as language of instruction. The analysis involved pairwise chi-square tests between different school language of instruction pairs (German vs Italian) for each constructional schema, with corrections for multiple comparisons using the Bonferroni method. The results show significant differences only in the use of the $[V+ADVP]$ constructional schema between the German and Italian schools (corrected p-value 0.032) with standardized residuals of 1.90, suggesting that this schema is used more often by students receiving instruction in German than expected. The same observations made for the Dominant German language profile in the previous post-hoc analysis seems to follow the same patterns for the impact of German as main language of instruction: it seems that constructional schemas like $[V_I + \textit{and} + V_I]$ (standardized residuals 1.67) and $[V+ADVP]$ (standardized residuals 1.90) are used more often by these students. Therefore, not only students' language profiles as a comprehensive system of the languages most used in the interactions but more importantly the input they receive at school has an impact in learners' use and creation of a construction for progressive aspectuality.

7. Summary and discussion

In Section 3.9, we formulated three main research questions that guided the analyses, namely:

- (1) How do learners of English express the content category of progressive aspectuality?
- (2) How do learners' prior linguistic systems interact with the newly emerging system of the English when expressing progressive aspectuality?
- (3) How does this network system change depending on learners having a similar language background, the exposure to the English they receive at school, and the year of instruction?

As far as (1) is concerned, progressive aspectuality has been investigated on different, but interacting, levels of language, conceived as symbolic units (i.e. constructions) that are organized in nodes of an integrated network. As the investigation was onomasiologically motivated, I have started from the meaning side of the constructions used by learners, showing for which purposes and intended meanings learners express progressive aspectuality. The literature about progressive aspectuality has supported the idea that progressive aspectuality and its various linguistic realisations is remarkably polysemous in its usage, while allowing for a unified semantic content analysis. Therefore, I have concentrated first on the semantics of learners' productions, by identifying the different meanings of progressive constructions that could have been systematically related to one another for shared properties of meanings. In line with the classical inheritance models of CxG, the meanings identified in the corpus have been represented in a semantic network of nodes connected by specific types of associations. For progressive aspectuality it has been identified a core meaning of ongoingness

which refers to event construals typically emphasizing an action or state as being in progress. In line with De Wit & Brisard's (2014) account for the English progressive, this also seems to be the core meaning for frequency expressed by Leonide students to refer to progressive aspectuality. This result also supports Paulasto's study results (2014) (the only one having investigated the different meanings expressed by learners of English) who showed that learners are more inclined to use the core meaning of ongoingness (or action-in-progress) when they are less exposed to a rich learning environment.

However, from the core meaning of ongoingness, different meaning subtypes emerge as nodes characterized by lower frequencies, in which aspect-temporal meanings are extended to refer to specific aspects of events, for example giving more prominence to its internal duration (i.e. duration) or to the routinization of the events (i.e. habitual). The role of adverbials is crucial in expressing the different nuanced meanings when they co-occur with other elements, thus supporting the idea that aspectuality is a multi-level content category linguistically realized on different elements. This seems to be the case of occurrences in which adverbials occur with specific constructions as markers of non-aspectual meanings, also called intersubjective connotations, as for example in emphasizing speakers' perspective on a certain event. This gives support to previous studies (De Wit et al. 2013; De Wit et al. 2020) that have accounted for a unique meaning for progressive aspectuality that goes beyond purely motivated aspect-temporal meanings. However, these studies have only attested such uses in English native corpora, therefore the question whether learners of English are also able to convey more peripheral meanings had never been addressed before. In line with Klein & Perdue (1992) and Dietrich et al. (1995) studies, it was shown that Leonide students of English actually make use of progressive

aspectuality to express additional meanings beside aspect-temporal meanings and that adverbials not only represent a core element, but sometimes a strategy to overcome less entrenched constructions expressed by verb forms.

If on a first place we focused on the functional aspect, we then moved to the form side of the constructions to arrive at a comprehensive network of constructions intended as form-meaning pairs. There are several observations to be made in this regard. The concept of progressive aspectuality has shown a great variation in the different meanings and sub-meanings that encodes: we have observed the same variation also in the form side of the constructions. Empirical evidence of learners' usage coming from Leonide data gives a heterogenous picture of the different constructions they employ to encode progressive aspectuality, that range from a) using morphologically marked constructions expressed by verbal periphrases having an advanced degree of grammaticalization. This is the case of the English *to be + Ving* verbal periphrasis; b) using constructions formally realized as verbal periphrases but having a lower degree of grammaticalization, for example aspectual periphrases like *continue + Ving*; c) relying on other constructions in which progressive aspectuality is expressed mainly by lexical means like adverbials. These findings support the fact that, theoretically, progressive aspectuality should be intended as a semantic notion in its whole semantic-functional space, which extends across different types of constructions, independently of their degree of grammaticalization. This aspect is particularly relevant for a call for more meaning-oriented studies on the topic: the fact that we assist to a proliferation of studies concerning learners' acquisition and use of the English progressive mostly focusing on grammaticalized constructions leaves out all the other possibilities that learners might use to express such concept. In Leonide, progressive aspectuality is not expressed by learners exclusively by verbal periphrases

and this confirms what Klein & Ping (2009: 1) clearly explain, that is that “the temporal information which the speaker wants to convey is encoded by a combination of various means, including adverbials, inherent temporal features of the verb and discourse principles”. In the present investigation a strong focus was on the role of verb predicates (and their arguments) and adverbials when they occur in specific constructions and play a central role for language learners, who use them as strategies when they lack stable entrenched constructions. This is the case of the *V+ADVP* constructional schema in which a verb predicate that is not morphologically marked for progressive aspectuality co-occurs with adverbs or adverbial phrases that behave as the core elements for encoding such concept. As already stated, this aspect needs further investigation in a way that multiple linguistic aspects are taken into account simultaneously.

Moreover, if we consider the main acquisitional theories about aspect, it seems that learners are sensitive to inherent semantic properties of verb predicates when they acquire an additional language and that progressive is mostly used with verbs denoting dynamic events, usually belonging to the semantic domain of activity (cf. Aspect Hypothesis). Our findings seem to support this hypothesis, as verbs employed in the different progressive constructions found in the data are mostly activity verbs. However, some progressive constructions seem to be spread to other verb classes that are inherently “non-progressive”, like stative verbs. This supports other studies conducted on several learners’ populations showing that learners do extend in certain contexts progressives to stative verbs as well (cf. Dose-Heidelmayer & Götz 2016; Fuchs & Werner 2018b; Zeng et al. 2023). As it has been demonstrated by several studies also conducted on the diachronical extension of the progressive on verb classes (Mair & Hundt 1995; Leech et al. 2009; Rautionhao & Fuchs 2021), this weakening of restrictions on the

inherent semantics of verbs has gone hand in hand with the extension of the functional scope of the progressive to non-aspectual meanings. It has also been said that Leonide learners of English also use progressive with other categories of verb classes that are not inherently dynamic. But why do learners use such semantic classes of verbs with a progressive reading? Much depends on the reason why learners actually use it: for example, the lemma *sit* which is typically considered a stative verb, is used in learners' data in the progressive to provide backgrounding context of the narration in that specific context. Thus, we should not only consider verb classes of lemmas occurring in the progressive, but we also should reflect on the reason why a construction is used and for which purpose. This much depends on other factors, as it is the case of the task type: for the case of verb *sit*, it is employed exclusively in the picture story task, in which there are actually two characters sitting at a table in the first picture. The extension of the duration of the event provided by the progressive gives a narrative effect to *sit* and a backgrounding effect to the story telling. In this case, the impact of what is expected from the task and the way in which students conceptualize and express the events is what influences the use of verb predicates. Therefore, when making any assumption about how learners use verb predicates in the progressive and why do they use it, we should also consider the way in which the task affects their production and, consequently, how the description of the events is told to us (cf. *Discourse Hypothesis*, Bardovi-Harlig 1994b). Progressive also often occurs as part of a very salient discourse structure, whereby it is typically in topicalized position as part of a biclausal construction, involving either co-ordination, parataxis, or relativization (Pfaff et al. 2012). This aspect would need further investigation for a follow-up study, by focusing on the progressive and discourse principles of textual organization.

As far as (2) is concerned, we have demonstrated that Leonide learners' emerging knowledge of the English results in the form of mappings between elements from English and elements in the languages part of their language repertoires. The process of mappings (also called "interlingual identification"), is a process according to which speakers are able to match something from their pre-existing languages which looks similar to something in the newly acquired language. To some extent, this similarity lies in the eye of each speaker, therefore a great variation of Leonide learners' usage shows that learners differ in their ability to draw parallels across their repertoires of languages. The way in which such mappings create a newly emerging system of the English is subject to different learning mechanisms that involve not only identification processes with the pre-existing systems but reorganization of all of them, thus interacting and constantly changing as new input and new exposure to English occurs. In this respect, DCxG has offered insights "into the possible mental architecture of shared diaconstructions and language specific idioconstructions, highlighting potential connections among constructions, paying attention to different levels of schematicity in the construction, and factoring in the notions of cognitive entrenchment and social entrenchment" (Onysko 2021: 82).

In line with holistic models of language discussed in Chapter 2, it was demonstrated that it is possible to conceive the linguistic knowledge of multilingual speakers starting from an empirical analysis of the data, which offer a window on speakers' multilingual and integrated systems in their original forms. Speakers' systems are integrated and multilingual in the sense that they comprise constructions that can be language specific if encountered by students for just one language present in their repertoires or they can also share some of the properties. A network of constructions is the one sketched

from the data: not only, following Construction Grammar's principles, taxonomic, horizontal and symbolic links between constructions as they emerged from the data have been determined, but also the investigation has been extended by applying Diasystematic Construction Grammar's principles to make this network multilingual in a perspective of language contact and multilingual acquisition. This results in an imagined linguistic knowledge of progressive aspectuality modeled in the form of an integrated multilingual network of constructions in which their relations are determined on different levels of abstraction and symbolization.

Leonide learners of English show a diasystem in which an arrangement of multiple systems of the English, Italian and German is determined with partial similarities and correspondences between them. To determine such similarities and correspondences and to include all morphological, syntactical, semantic and pragmatic relations, I relied on Multilingual Constructicography's principles. One of the main reasons has been to account for the typological differences across the three language systems that could have explained cases of interlingual identification and transfer by learners as emerged from the data.

On the basis of the data, several assumptions have been made that shed light on the fact that Leonide learners' emerging constructions operate on the basis of different processes and associations. The first of these is the establishment of diasystematic links that result from interlingual identification processes across different languages and that lead to the association of such constructions. This association gives rise to a new type of node in the construction (called diaconstruction) that represents abstraction over two or three language specific constructions, and that allows speakers to view them as "instantiations of the same category" (Hilpert 2019: 238). These diaconstructions have a considerable structural variation and can take a

variety of shapes, therefore giving rise to lexical innovations (in the form of cross-linguistic influence or transfer) found and explained by the data. In other cases, processes of idioconstructions formation (i.e. language-specific constructions) results in occurrences found in the English data in which no generalization has been made by the learners and a construction of a pre-existing language is directly used in the English data. Moreover, some of the constructions used by learners when Leonide was collected, seem to show the effects of typological characteristics on learners' use of constructions (for example in the case of the *V+ADVP* constructional schema modeled on the basis of German). This gives support to the tendency of forming diaconstructions based on the typological distance of languages in the repertoires (cf. for DCxG. Höder 2012, 2014a, 2018; but also the hypothesis of typological similarity by Rothman 2011, and linguistic proximity by Westergaard et al. 2017). Moreover, the fact that constructions can be formed relatively freely in English data supports Perek & Hilpert's (2014: 295) notion of "constructional tolerance", that is "the general openness that English typologically exhibits with regard to verbs and their constructions", and that can modulate learners' use and learning of English.

An additional aspect that could be further investigated concerns the disposition of the multilingual construction to be activated in conscious or unconscious conditions, depending on the degree of entrenchment and the level of schematicity of constructions. Recent theoretical advancements (cf. Onysko 2021) are going into the direction of formulating models that try to explain the way in which the multilingual construction might be activated depending on speakers' disposition of activation, language modes and subsequent contact phenomena of transfer resulting from possible language contact.

As this multilingual construction is constantly dynamic and changes, the impact of some of the factors identified in the literature that can contribute to such changes in a way that they are relevant for groups of students sharing the same attributes, has been accounted to provide an answer to (3). Among these factors, the impact of students' language background and the input they receive at school seem to contribute more. These are aspects that have been investigated by looking at similar trajectories in Leonide learners' behavior as they emerged from the English data, taking into consideration similar language profiles of students and attending the same educational systems. At this respect, the membership of Leonide students to prototypical language profiles has been determined on the basis of a cluster analysis that has simulated constellations of language repertoires based on students' language usage in different contexts (*Dominant Language Constellations*, Aronin 2019). This important analysis has not only generated prototypes of speakers as culturally-bounded in the South Tyrolean environment (that make use regularly of different languages in certain contexts), but also supported the claim that speakers' repertoires should be seen holistically (cf. Berthele 2021).

Using speakers' language profiles, the most relevant results showed that participants being exposed to German as their dominant language and attending German schools rely on emerging constructions expressing progressive aspectuality modeled on the basis of the typological characteristics of their dominant language. They seem to use significantly more often than expected other strategies like verb duplication [*VI+and+VI*] or lexical means like in [*V+ADV*], and less relying on periphrastic constructions. Vice versa, students with a dominant background in Italian and attending Italian schools seem to prefer the morphologically aspectual marked form to express aspectuality in English, modelled on the

basis of the pre-existing Italian idioconstructions and typological characteristics. A limitation of this study concerns the heritage languages of the speakers, that of course should be integrated into such a system whenever present in students' repertoires. However, for necessity of preserving speakers' anonymity (and therefore not revealing these languages) it has not possible to determine the influence of the other languages present in Leonide speakers' repertoires. We have, however, limited our attention on emerging patterns that heritage speakers have, showing that heritage speakers having a high degree of exposure to the other languages of the territory behave in the same way of their peers, usually perceived as "native speakers" of one or the other language. While a predominant influence of students' dominant languages has been showed, special cases of lexical innovations offer interesting examples into learners' creative usage of multiple languages, in which constructions from different languages are transferred into English applying word-formation rules, or completely new words are formed using a combination of different elements (cf. Callies 2016).

Many of the constructions found in the data can be explained to exist for processes of change, in a way that learners' constructional knowledge is constantly re-organized between strongly entrenched constructions and temporarily entrenched constructions that in future times will be either strongly entrenched or replaced and deleted. In this regard, the longitudinal exposure to English across the three years of instruction has proven to also affect the learning curve of some of the formally realized constructions (compare for example *to be + Ving* and *Ving*), in a way that a U learning curve towards prototype forms could be sketched for only some of the constructions found in the data. Due to limitation in the dataset, it was not possible to establish a significant development for all the constructions, but

only for the most frequent ones, namely *Ving* and its prototype construction *to be + Ving*. When approaching the progressive construction prototype *to be + Ving*, some learners demonstrate partial familiarity and mastery during the first year of school. This often results in usages where, for example, the auxiliary *to be* is omitted, leading to the use of a *Ving* construction. We should also consider that this construction as a whole typically embodies three elements comprising an auxiliary, a base verb, and the *-ing* suffix. Among these, the *-ing* suffix is the most prominent feature, as it is directly affixed to the verb stem, creating a morphological unit that signals ongoing action. Conversely, the auxiliary tends to be less central functionally, often varying in form, and for these reasons it might not always be explicitly expressed. Learning to produce the full construction involves students gradually recognizing the necessary relationship between these parts, which also appear in other grammatical forms. Over time, these elements become integrated into a cohesive pattern, reflecting Goldberg's (1995) concept of constructions as abstract form-meaning pairings that learners internalize through exposure and practice.

Other variables have been found to play a role in construction's usage, among these the task seems to have a major impact compared to the year of instruction. This aspect gives support to other studies that have investigated the impact of the task on students' production of the progressive (Blomberg 2001; Comajoan 2005; Ayoun & Salaberry 2008; Muñoz & Gilabert 2011; Dose-Heidelmayer & Götz 2016; Rautionaho & Deshors 2018). Also in Leonide data, it seems that picture stories trigger a different use of progressive constructions than argumentative texts, likely due to the description of characters and settings in the narrative essays.

8. Limitations and future directions

Building on the findings and results discussed, this study presents several limitations that could not be incorporated within this scope, but that represent areas for further investigation. In the chapters dedicated to the theoretical foundations, it has been explained that there are potentially many other linguistic levels in which the linguistic representation of progressive aspectuality occurs, which were not incorporated into the analysis. For example, a systematic examination of connectors, discourse principles and additional structuring elements needs to be incorporated to the study of progressive aspectuality.

Moreover, it has been already acknowledged that the learner corpus used for this study relies on a small set of learners, and that students' productions and occurrences considered for the analysis were also sometimes too short or very few. Therefore, the data used in this study are not appropriate for developing new, broadly applicable theories regarding our understanding of the progressive aspectuality, which is one of the main goals usually pursued by corpus-based research, such as Römer's extensive 2005 study on the English progressive. Moreover, while demonstrating some possible trends in students' emerging construction over time, to truly account for developmental differences, the longitudinal data set should have had more data points, instead of only one per year. Only this type of design would be able to describe real changing dynamics in learners' knowledge building.

The influence of the learning context is also one of the aspects which would require more careful examination. It was not possible for me, for example, to retrieve information about the teaching materials used by teachers during the data collection, how progressive aspectuality was taught and addressed to students, and which kind of input students received. Addressing such

limitations would require, for example, a comprehensive longitudinal study, in which learners' spoken and written output is systematically collected over time, and that data on teaching materials is also provided, together with more information about learners' exposure to English, not only inside, but also outside the classroom.

Another area for further improvement concerns expanding the use of other methodologies to account for the individual variation of students' language use. For the current analysis, I have relied (whenever possible and only on parts of the sample) on association measures or multiple regression models. To enhance the analysis, mixed-effects models that include random effects and fixed effects could be employed (see for example Gelman & Hill 2006), however the current data set was not provided with the necessary preconditions to run such models, due to the low number of observations and amounts of missing data in the dataset.

As far as future research and extensions of the present investigation are concerned, one might think of expanding the investigation on English data to the other two subcomponents of the Leonide corpus, as it allows to make comparisons with the same two tasks completed in German and Italian as well. By focusing our attention on Leonide English data only, we are investigating Leonide students' additional language they learn at school: more specifically, following the institutional order of the school system in South Tyrol, English represents the third language to which students are exposed at school. German and Italian represent either the first or second language acquired at school, depending on which of the two official school system students attended at the moment of the data collection. This does not mean that both languages are already pre-established systems, but students are also (differently) exposed to these languages, therefore they are also languages in the process of being learned. This aspect would definitely need

further investigation in the future, in order to extend the present investigation to the other two subsections of Leonide (Italian and German data), so that a full picture of the multilingual systems and empirical evidence from the data is provided by all the languages students learn at school. Then, I would be able to compare the features of students' dominant languages and the second language acquired at school: in such a way, I would be able to substantiate the claims about the stabilization of constructions in the other two languages and generalization processes.

As outlined in the methodology section, the data analysis involved an extensive process of data annotation that required collaboration among multiple annotators and spanned several months of careful, manual work, including parallel analyses. Echoing Römer's statement "I knew what I was looking at [...] and to a certain extent what I was looking for [...], but I did not know what I was going to find in the data" (2005: 4, italics in original), I would like to highlight the importance of interpretation and of the "manual work" when dealing with unpredictable data produced by multilinguals. Such productions often present complexities that make it difficult to fully grasp what is being examined and how to interpret data, as it influences both the goals of analysis and the potential discoveries. Although automated data extraction procedures could be employed in future efforts, particularly for the German and Italian sections of Leonide, they should serve as complementary tools rather than replacements, as manual work and the interpretative work of linguists, especially for such creative usage of language, remains essential to capture the beauty of learner language.

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Data availability

To provide comprehensive access to all relevant materials used in this study, I have made them available in a public data repository on GitHub, instead of including them in an appendix. The repository contains Python and R scripts for the analysis of Leonide data, the dataset itself, and the scripts developed for the annotation procedures in EXMARaLDA. It is openly accessible at [olopopolo/Dissertation_repo \(github.com\)](https://github.com/olopopolo/Dissertation_repo) and includes detailed descriptions of all the materials provided.