Insights from Interlanguage as Revealed in Writing:

Toward the development of metalinguistic competences for Portuguese adult learners of English

María del Carmen Arau Ribeiro

Tese para obtenção do Grau de Doutor em

Letras

(3º ciclo de estudos)

Orientador: Prof. Doutor Paulo Osório

Co-orientador: Prof. Doutor S. Walter Best

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To my family, who played the loveliest music while I worked
so that we could sooner resume our adventures together.

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Preface

While learning Portuguese, becoming professionally experienced in higher education, and starting a family were my initial priorities as a new resident in Portugal, nearly two decades later, I find myself taking the final steps toward completing a Doctoral Thesis which has given me immense pleasure.

Teaching, deeply rooted in me, has taken me many places and opened many doors. Concurrent to graduate studies, I was invited to continue to work for the State of California based on a summer internship carried out at the Chancellor's Office of the California Community Colleges, dedicated to gathering experience for an honors thesis entitled *The Selective Society: An Inquiry into the English Language/Civics Provision of the Immigration Reform and Control Act of 1986*, where my work assessing and negotiating conditions for Amnesty students of English with the Immigration and Naturalization Services drew the attention of the California Department of Education, responsible for all English language education, public and private, for immigrants in the state. This felicitous combination of my further education and the opportunity to work with top language education professionals on educational standards and consulting marked my drive and gave me the opportunity to learn closely from Autumn Keltner and Sylvia Ramirez, dedicated teachers and consultants for improving language education and workplace success for immigrants in California.

Conclusion of my graduate studies led me to Madrid, to discover part of my family history, and then to Portugal due to my personal life. Following a year in Oporto, the Guarda Polytechnic Institute marked my embarkment on this teaching voyage in higher education in Portugal. Learning Portuguese as an adult while teaching English remains a dedicated adventure. Living in a number of countries has enriched me culturally and linguistically. Perhaps most importantly, working in an environment that is different from the one in which you were raised obliges you to constantly reassess your behavior, attitudes, and abilities and has contributed significantly to my choices at the time of selecting a thesis.

My interest in the interlanguage of my Portuguese students of English derives from my personal love of language. From the days when my grandfather would challenge me to find the original French expression of sayings also used in English and reading the intentionally creative spelling of my grandmother, who fought for phonetic orthography in English at UCLA during the Depression, I have cared about how language works and enjoy trying to understand exactly how students today are using words and structures. Both perspectives, of the user and of the target language itself, are relevant to me.

Writing this thesis coincided with a reality pointed out by Tagnin and Fromm (2009), which states that most language teachers tend to keep samples of their students' writing for posterior analysis; this additional corpus-based motivation has allowed me the unique opportunity to actually put portfolios to use in their afterlife for a relevant purpose.

Theoretically, the review of the literature is extensive, necessarily covering the acquisition of a first language and its influences on that of a second, examining the changing

view of language learners and their efforts to communicate, the advances in perspectives on their errors and the advent of the concept of interlanguage, almost half a century ago. Because the learner corpus is text-bound, writing is also explored as a skill to be learned as are the metacognitive and metalinguistic approaches in using an interlanguage, as well as the English for Specific Purposes context of the participants in this study from the Pharmacy Technician degree of the School of Health of the Guarda Polytechnic Institute (Escola Superior da Saúde do Instituto Politécnico da Guarda) in Portugal.

Methodologically, my technical skills with numerical data helped me to create the syntax to solve most statistical issues through Excel, coupled with an intensive and timely course of advanced SPSS at the IPG that broadened the possibilities for generating interesting and relevant correlations, among other descriptive data. Ultimately, examination of apparent errors, as expressions of learner interlanguage, may provide a better understanding of the metalinguistic competences at work in young adult Portuguese learners of English using the dynamic construct that is language.

Abstract

Based on a written corpus by 69 Portuguese learners of English, this study was designed to discover insights into the metalinguistic competences of young adult L2 users over three different sessions of a 30-hour a Technical English for Pharmacists at the School of Health of the Guarda Polytechnic Institute in Portugal. The longitudinal study effectively covered a total of 138 texts submitted as an initial and final report by each learner, written in conditions similar to those of the International Corpus of Learner English (ICLE). For the initial report, a portrait emerges of the written interlanguage of Portuguese science students after their K-12 course of study, with errors distributed among syntactic (43%), lexical (36%), and style and spelling (21%) sources. The written interlanguage analyzed consisted of 28,069 words, constituting 1,311 T-units, which revealed a total of 4,143 errors. The difference from the initial to the final report revealed an overall improvement of 6% less errors, from the pattern of 43-36-21% pattern for *syntactic-lexical-style & spelling* errors to 47-37-16%, after the 30-hour course. This was accompanied by a 42% growth in the number of words produced, and a corresponding increase of 17% in the number of T-units as well as a 23% rise in their mean length (MLT-U). These changes were further explored to determine that, of the three groups studied, one first and two second year groups, with average ages of 19 and 20.13 respectively, reveal age to be a significant factor for improvements, particularly in both the number of words and T-units. Error analysis determined an overall error recurrence of 45% syntactic, 37% lexical, and 18% due to style and spelling; further analysis found that, in six of the ten subclassifications, representing 57% of the written corpus, errors due to collocation, pronouns, Portuguese-influenced lexical choices, style, such as repetition and punctuation, and spelling showed patent improvement over the 30-hour course. The remaining 43%, distributed among four lexical and syntactic subclassifications in which more errors were revealed in the final reports at the end of the 30-hour course, lexical morphology and lexical choice as well as errors of distribution and production of verbal groups, were closely examined for insights into the metalinguistic competences of these subjects. Due to its exploratory nature, this study forged beyond L1 influence on errors, established at a total of 39% of the syntactical and lexical areas analyzed, to reveal a myriad of highly dynamic metalinguistic approaches to word formation and syntactic creation, the awareness of which can be productive for both learners and teachers. As such, the thesis concludes with a number of suggestions for best practice in the classroom based on the insights from interlanguage as revealed in writing.

Key Words: Interlanguage, Portuguese, English, Metalinguistics, Second Language Acquisition

Resumo Alargado

Baseando-se num *corpus* escrito por 69 estudantes portugueses de inglês, este estudo foi concebido para investigar as competências metalinguísticas de jovens adultos falantes de L2, ao longo de três sessões distintas de um curso de Inglês Técnico para Farmacêuticos na Escola de Saúde do Instituto Politécnico da Guarda em Portugal. O estudo longitudinal abrangeu um total de 138 textos submetidos sob a forma de relatório inicial e final por cada estudante, tendo sido escritos em condições semelhantes à do *International Corpus of Learner English* (ICLE). No que diz respeito ao relatório inicial, emerge um retrato da interlinguagem escrita dos estudantes portugueses da área das Ciências e Tecnologias, após o 12º ano de estudo, com erros distribuídos por fontes sintácticas (43%), lexicais (36%), e estilo e ortografia (21%). A interlinguagem escrita analisada consistiu em 28 069 palavras, constituindo 1 311 *T-units*, tendo sido revelados 4 143 erros. A diferença observada do relatório inicial para o final revelou uma melhoria global nos erros de 6% — do padrão de 43-36-21% para erros *sintácticos — lexicais —* e de *estilo e ortografia,* para 47-37-16% — depois do curso de 30 horas. Isto foi acompanhado de um aumento de 42% no número de palavras produzidas, e um correspondente incremento de 17% no número de *T-units,* assim como um aumento de 23% no cumprimento médio do *T-unit* (*mean length of T-unit [MLT-U]*). Estas mudanças foram adicionalmente investigadas, tendo sido possível determinar que os três grupos estudados, um grupo do primeiro ano e dois grupos do segundo ano, com idades médias de 19 e 20.13 respectivamente, demonstram que a idade é um importante factor de melhoria, tanto no número de palavras como no número de *T-units*. A análise dos erros apurou uma recorrência global de erros de 45% na sintaxe, 37% no léxico e 18% no estilo e ortografia; o aprofundamento da análise revelou que, em seis das dez subclassificações, representando 57% do *corpus* escrito, erros resultantes da colocação, pronomes, escolhas lexicais influenciadas pela língua portuguesa, estilo, como repetição e pontuação, bem como ortografia, evidenciaram uma melhoria substancial após o curso de 30 horas. Quanto aos restantes 43%, distribuídos ao longo das quatro subclassificações lexicais e sintácticas nas quais mais erros foram revelados nos relatórios finais no fim do curso de 30 horas — morfologia lexical e escolha lexical, assim como erros de distribuição e produção dos grupos verbais — aqueles foram cuidadosamente examinados de forma a apurar as competências metalinguísticas destes sujeitos. Em virtude da sua natureza exploratória, este estudo averiguou mais além da influência da L1 nos erros, observada em 39% da totalidade das áreas sintácticas e lexicais sujeitas a análise, revelando uma miríade de aproximações metalinguísticas extremamente dinâmicas nos planos da formação de palavras e da criação sintáctica, e cujo reconhecimento pode ser produtivo tanto para alunos como para professores. Deste modo, a presente tese conclui com um conjunto de sugestões conducentes a boas práticas em sala de aula, baseando-se nos conhecimentos da interlinguagem revelados na escrita.

Palavras-Chave: Interlinguagem, Português, Inglês, Metalinguística, Aquisição da Língua Segunda.

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Introduction

The Portuguese education system has recognized the imperative to study English, consecrating the opportunity to learn English as early as the first year of primary education. Moreover, according to the Bologna Convention, transversal competences, including English, have been incorporated into the study programs for many areas of study in higher education. This means, most often, that a module of English is offered for a short period of time to students from a wide variety of areas, although these classes are not necessarily directed toward the specific purposes of their studies.

Portuguese students in higher education, subsequently, are in a unique position to acquire further English language competence in classes of as little as 30 (thirty) hours to satisfy transversal requirements of their study programs. It is the position of this researcher that these English courses should provide specific cultural, linguistic, and, specifically, lexical competences to complement previous acquisition of language competences. For conscientious teachers, tailoring an English course to a study program certainly requires some study and effort on their part to provide a professionally-appropriate framework for the English language learning-teaching continuum, whether the classes are for future business professionals, electrical engineers, or pharmacy technicians, as is the case for this study.

Analysis of English language use by language learners reveals not just information about their first language but also about the acquisitional processes at work in the individuals' learning processes. The present study is based on the gathering and linguistic analysis of errors in the written texts produced in an initial report and a final report in English by Pharmacy Technician students in a 30-hour course. Taken together, the data provided by written samples of interlanguage manifested by these Portuguese learners of English should provide important insights into the elements of English that have been and/or have yet to be acquired and, even, metalinguistic designs for further acquisition.

In this project, the written expression of the interlanguage of Portuguese learners of English in a Pharmacy Technician degree at the School of Health, Polytechnic Institute of Guarda, will be analyzed critically from a linguistic perspective.

Specifically, the objectives of the research are multifold: (1) to determine a portrait of the written English performance of Portuguese students having concluded their 12th grade course in Sciences and Technology by classifying the results of the linguistic analysis of errors in their written texts; (2) to analyze the resulting classification scheme to determine the linguistic aspects of English which require special attention in the acquisition of English language competences for young adult learners, especially exploring the areas of greater linguistic difficulty; (3) to determine further possibilities for pedagogical practice aimed at Portuguese learners in higher education through proposed guidelines for teaching the English language in a short module in higher education.

This volume begins with an inquiry into the research on language acquisition, with a view

to better understanding the state-of-the-art in second language acquisition research, put forward in the wide-ranging perspective of the ever curious language enthusiast. Nevertheless, the approach to this review of the literature assumes prior knowledge on the part of the reader; given the nature of the advanced academic project at hand, references to prominent researchers, for example, should be expected, especially in parallel footnote discussions.

The second chapter presents a discussion of the methodological issues involved, concluding with a presentation of the taxonomy designed for the study of this written corpus, to garner the most revealing data on metalinguistic strategies and development in the young adult subjects. Based on the initial quantitative results, the more specific data to study was determined in the third chapter for the qualitative as well as quantitative study of this non-target interlanguage, serving as the focus of these results and their discussion.

The final chapter brings the ramifications of the results of the study into focus in terms of policy and pedagogy. The metalinguistic strategies revealed in the errors analyzed provide relevant information about teaching techniques and procedures to deal with structural and developmental conflicts in language learning. Although the interlanguage of the second language (L2) user is the focus of the study, the non-target structures revealed indicate assumptions at work. In looking for explanations for non-target forms in cognitive areas that go beyond the habit formation theory of learning, that of blaming L1 influence, the door is opened to finding a better understanding of learners as full participants in the production of language rather than as passive vessels, receiving and imitating the target language, and dodging the negative influence of their L1. From the perspective of the active learner, errors are normal and inevitable, revealing information about what the learner knows and does not know, at a given moment, both significant indications which are valuable for the creation of appropriate learning pedagogy and policy.

Chapter 1 —
Language and Language Acquisition

1.1. Understanding Language

It has been lamented that "linguists have not been good about informing the general public about language" (Bauer & Trudgill 1998: xv); therefore, in this light, and considering the "subtle sinews that bind language and thought" (Harris 1993: 3), the importance of understanding the nature of language and linguistics will blend this quest with the motivation for different approaches to explaining the nature of language[1].

Linguistics has been defined as the study of the links between symbolic sound and meaning (Harris 1993: 5), beginning with the Stoics[2] who proposed the first principle of linguistics: the formal and fundamental distinction between *the signifier* and *the signified* (Robins 1967: 16, in Harris 1993: 12). Since a language contains two systems that operate together as a a duality although both systems are composed of units that are "arranged in complex patterns, hierarchies and relationships" (Harris 1993: 12), this fundamental nature of language has been classified as a phenomenon that is doubly articulated (Martinet 1964).

This abstract division between sound, including the way that sounds are arranged into words and sentences, and meaning, whose very link is the product of conventions, consensus, and reason, was accompanied by a further distinction of the areas, phonetics, morphology, and syntax, appropriate for the study of signification. Empirical yet tolerant of dialectal variation, the Stoics, as anomalists having rejected the *one word:one meaning* equation, were in disputed controversy with the analogists, who favored the order and regularity of language. The stoic position was more of a reaction to the analogist camp, which tended to ignore inconvenient data in favor of over-generalization and prescription[3]. Later, in the first century B.C., Varro reopened research into this dispute but, like Russell (1912/1967: 35), who proposed that "[t]he business of science is to find uniformities", found that abstraction, the concept of finding patterns through systematizing and classifying, cannot coexist with illusory order. Indeed, on the premise that our brains detect patterns, language may be found to present regularities[4].

The term *formal*, as codified abstraction, is what permitted the Greeks' adaptation of the Phoenician alphabet, for example, setting the mote for favoring the sonic and graphic aspects of language[5] over the study of meaning until the advent of Scholasticism. The Modistae, whose name derived from the collected works entitled *De Modis Significandi*, were guided by the spirit of scientific rigor and the formal science of logic in their pursuit of significance,

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1 Householder (1952) distinguished the following tendencies: "The European asks: Is it true?, the American: Is it consistent?, the Englishman: Will it help?"

2 Note that Zeno, the head Stoic, was exposed to linguistic difference due to the fact that his native language was Semitic (Harris 1993:12).

3 A position defended by Harris (1993: 13).

4 Among the critical discoveries in language regularity made during this debate was the distinction between inflectional and derivational morphemes (Robins 1967: 19).

5 Indeed, this approach characterizes the Romans and Medieval grammarians (Harris 1993: 12).

looking for connections among reality, thought, and language[6]. Aristotelian interest in causation, coupled with formal logic applied systematically to the study of language, characterizes Modistic grammar, which set itself apart by not "settling for mere taxonomy when explanation was required" (Harris 1993: 14). In their quest to abstract general principles of language[7] through deductive methodology, they found conclusive evidence for an underlying universal grammar "dependent on the structure of reality"[8].

Phonemes (recurrent contrastive units in the sound system of a language), morphemes (minimal bits of discrete meaning), and the principle of contrast are now considered classical units of linguistics (Wardaugh 1993: 13-15). Thus, the principle of contrast accounts for the different inventories of sound systems that are possible[9], loosely grouped into styles labeled, in English, for example, as Texan, Cockney English, or BBC English. The result of articulatory events and (lack of) vocal cord activity before, during, or after articulation are also significant phonemic indicators as are the restrictions as to the combinations of the various phonemes in English, for example, defining the possible patterns revealed in omission and combination of sounds to form word shapes.

Complementarily to phonemes, meaning is revealed through occurrence and variation of morphemic constructions or processes which, in turn, defer to constituency structure and syntactic arrangements. An account of morphemic combinations reveals, among others, descriptions as in that of the English plural, indicated by nothing; by a vowel change; by different phonological shapes, or by the *-s* ending on the class of words called nouns, in addition to allomorphs, or different pronunciations of one morpheme[10].

Systemic descriptions of the language habits of all speakers of a language, rather an abstract language system, make up what Wilhelm von Humboldt, the 19th century German language scholar, called *innere Sprachform* and what Saussure (1916/1966) later called *langue*. Saussure contrasted *langue* with *parole*, individual instances, uses and variations of language, which may be situation-dependent as well as vary according to the individual in question. The nature of linguistics is such that, in some cases, instances of *parole*, observations of idiosyncratic uses of language, may serve the basis for a claim about *langue*, the grammar of a language. There is a tendency to use the distinctions traditionally attributed to *langue* and *parole* for the terms *competence* (knowledge and understanding) and *performance* (what one does with that knowledge and understanding), respectively,

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[6] These terms are found in Harris (1993: 14) as "*modi essendi* (the way things are), *modi intellegendi* (the ways we conceive them), and… *modi significandi* (the ways we express them)".

[7] In contrast, recall that previous scholars had sought to abstract general principles of *individual* languages.

[8] Bursill-Hall (1971: 35, in Harris 1993: 14).

[9] "At the very outside, we can really speak only of individual varieties of English as having phonemes" (Wardaugh 1993: 14) and the numerous varieties all exhibit slightly different systems of sounds. Around 40 phonemes in English have been identified, 23 or 24 of which are consonant phonemes, according to Kreidler (1989).

[10] See Huddleston (1988) for an extensive description of the English plural as well as the past tense of English verbs.

whereby the knowledge system, or inner form, assumed of all competent users of a language is contrasted with the performance, or outer substance, in attempting to use that linguistic knowledge in communication on specific occasions[11]. Beyond the components of formal language descriptions, developmental social communicative competence is an integral part of the human interactive condition.

1.1.1. Defining Linguistics

Greek interest in language, literature, and rhetoric seems to explain the world's earliest recorded study of written forms of language as well as the arts of persuasion[12]. Influential Roman grammars, resulting from the application of Greek thought on the subject to Latin, notably the Donatus' *Ars Grammatica* and Priscian's *Institutiones Grammaticae*, set the tradition in language study, one which includes a tendency to view English as a *deficient* or *degenerate* variety of the standard Greek or Latin[13], much like the Latin Vulgate of the Roman Empire and the later changes into Medieval Latin or French, Spanish, Italian, and Portuguese, the various vernacular languages.

In some aspects, "the study of grammar has become the study of correctness, the learning of arbitrary rules the observance of which and the breaking of which can have important consequences for individuals", while the focus on issues of the points of usage seem to be dismissed as "not relevant to understanding how [language] works in any interesting way"[14]. In this sense, prescriptivism in linguistic matters can be considered a "conscious effort… to halt or reverse the degenerative processes that seem to be at work in languages"[15]. Note that, while the Académie Française has governed linguistic standards for French since 1635, English attempts to create one were never met. Distinguishing the social peril of a language from the linguistic[16] reminds those who take the defensive nature toward the linguistic preservation of their language(s) that, due to the functional framework of any language, countervailing forces are always at work to keep a language system out of danger of dissolution as long as these performative functions "are important to the survival of those who speak the language" (Wardaugh 1993: 5).

Poetics and rhetoric are specific approaches to studying language, but philology, and particularly linguistics[17], is especially associated with the "methods, goals, and results of science" (Wardaugh 1993: 10). The concise but not uncontroversial definition of linguistics as *the science of language* derives from language as the clear object of study and scientific as it

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[11] Cf. Wardaugh (1993: 19) and Chomsky & Lasnick (1993, in Chomsky 1995: 14)

[12] See § 1.7.1. for a discussion of the rhetorical strategies developed in this period.

[13] Wardaugh's (1993: 2-3) example is the ambiguity of the word *stone* in *an old stone wall*, noting the imperative to call upon its classification of *stone* as an intrinsic form — be it an adjective or a noun — that is here used in a modifying function rather than as a complement.

[14] Wardaugh (1993: 4). See Thornbury (2009a) for a historical perspective on grammar in second language learning approaches.

[15] Wardaugh (1993: 4). For more recent paradigms of prescriptivism, see O'Conner (1996), Truss (2003) and Taggart & Wines (2009).

[16] Breton in France and Gaelic in Scotland are examples of languages in social peril.

[17] *Philology* has never had this association in North America (Harris 1993: 10/261 fn 1).

relates to a spirit of investigation, based on William Whewell who, in 1837, proposed both the terms *linguistics* and *scientist*[18]. From another perspective, "[o]ur world consists of two grand phenomenal domains, matter and meaning. The science of matter is physics; the science of meaning is linguistics" (Halliday 2002: 9). Taking the more historical definition, the denomination of linguistics as the *science of language* places it more in the investigative tradition of the continuum of academic pursuits with sciences, the likes of physics, biology, and chemistry, in opposition to humanities, such as literary criticism, history, and philosophy[19]. Indeed, even Chomsky, according to Barsky (1996), "despite his innumerable contributions to social sciences research, generally in the form of political analysis, philosophy or historical research, […] adamantly declares that his only contributions to the advancement of knowledge are made in the linguistic realm, deemed scientific".

1.2. Language Acquisition in Theory

The basis of all second language acquisition (SLA) theories, nevertheless, is research in child language acquisition for, indeed, language teaching theory and practice begin in the research dedicated to understanding language. Commonly recognized as L1, referring to the speaker's first language, academics have yet to unravel the complexity of the communication tool that is language.

Berger (2004: 3) pointed to the role of the American philosopher, Charles Sanders Peirce (1839-1914), who baptized his system *semiotics* while Saussure created the science of signs he termed *semiology*[20]. While the term *semiotics* is "now generally used to refer to both systems […b]oth are concerned with how meaning is generated in 'texts'"[21]. Despite the centrality of Saussure's *signifier* and an arbitrary *signified* for the development of semiotics, Peirce's focus on three dimensions of signs, iconic, indexical, and symbolic, still influence semioticians, today, in their treatment of "texts as being like languages, in that relationships (rather than things *per se*) are all-important" (Berger 2004: 6). Overall, semiotics provided scholars with tools to identify sign, understood as a combination of signifier and signified, as well as the

[18] These terms were borrowed from the German although the Germans later settled on the term *Sprachwissenschaft*.

[19] Harris (1993: 11) argued, however, "not to emulate [science] too closely or too blindly" because, although language itself, under study, is treated as an observable, natural object, be it social, mental, or both, it must always be "allowed to guide the analysis", differing significantly from objective treatment of, for example, a quark, a molecule, or a liver.

[20] Peirce, America's foremost structuralist, favored the analytical approach that separates content and form, arbitrarily and temporarily, to focus on the system of signs presented, coinciding with the affirmation of semiotics as "[a] science that studies the life of signs within society is conceivable; it would be a part of *social psychology* and consequently of *general psychology*; I shall call it *semiology* (from Greek *semeion* 'sign'). Semiology would show what constitutes signs, what laws govern them. Since the science does not yet exist, no one can say what it would be: but it has a right to existence, a place staked out in advance" (Saussure 1915/1966: 16).

[21] Berger (2004: 2). He also quoted Saussure's students' class notes (1915/1966), which read, "the linguistic sign unites not a thing and a name, but a concept and a sound-image… I call the combination of a concept and a sound-image a sign, but in current usage the term generally designates only a sound-image" (Berger 2004: 66-67).

understanding that nothing has meaning in itself. In this way, the resulting relationships among signs are crucial; analogous to words and grammar, meaning is determined by combining words. Correspondingly, language is a social institution which dictates the way words should be used while speech, based on language, is an individual act. Narrative, as text, then, is informed by codes and conventions that imbue the signs with meaning and shape the actions (Berger 2004: 16).

Another concept adumbrated by Saussure (1915/1966: 79-80) includes the distinction between two approaches to linguistics: static (or synchronic) and evolutionary (or diachronic) distinguishing between "(1) the axis of simultaneity…, which stands for the relations of coexisting things and from which the intervention of time is excluded; and (2) the axis of successions…, upon which are located all the things on the first axis together with their changes".

Learning a language, then, involves the complex and abstract knowledge that allows for the acquisition of a repository of words, their meanings, and grammatical categories (taken together as a lexicon) as well as the mastery of the grammar of a language, consisting of a system that not only combines sound and meaning (phonology) but also combines units of meaning into well-formed words (morphology) and sentences (syntax). Along with this lexicon, phonology, morphology and syntax, children also use language to communicate competently in society, using their pragmatic or communicative competence, actively negotiating meaning while producing an infinite number of linguistic expressions.

1.2.1. First Language Acquisition Theories

A review of the literature on L1 acquisition[22] would cover traditional philosophical linguistic thought and historical-comparative linguistics, moving on to the still prevalent perspective of language acquisition as an associative habit and the structuralist view of language. The study of cognitive development in learning with its array of cognition-based theories of language acquisition include essential aspects of nativism in Chomskyan theory, such as the distinction between competence and performance, as well as areas of significant contention, such as universal grammar, language universal, linguistic universals, and aspects related to age. The review would also include perspectives on a functional view of language, sociocultural interaction, and information-processing, like domain-general language learning and connectionist networks. Instead, the present review will briefly cover issues related to the introduction of cognition and metacognition in L1 to better understand second language acquisition (SLA), initially proposed in contrast to behaviorism[23], which explained a

[22] New publications norms for the UBI Doctoral thesis made available in summer 2010 required dramatic restructuring of the review of the literature for this study, including removal of an extensive review of L1 acquisition theory. What remains is a truncated version to facilitate the discussion of more relevant L2 research.

[23] While Skinner (1953, 1957, 1974) published the most defining, well-known studies in behaviorism, the 1957 publication was entitled *Verbal Behavior*.

perspective of language as a set of structures, the acquisition of which is due to habit formation, drawing on the linguistic environment and any stimuli encountered therein[24]. Language was an automatic habit "that learners were expected to develop and maintain" (Hinkel 2005: xvii) through the mechanical repetition of stimulus-response (S-R) (Lado & Fries 1943; Fries 1952). The characteristic behavioral disdain for nativism in mentalistic accounts of language acquisition is, as will be shown, absent from some contemporary connectionist models of language acquisition, such as parallel distributed processing (PDP)[25], focusing on memory, reinforcement effects, and self-efficacy[26]. Another cognitive perspective, from a second cognitive revolution eschewing the nativist language faculty, provides more of an active role for language learners interacting within a given context.

1.2.1.1. Structuralism

In Europe, at the beginning of the 20th century, French scholars had tended toward the new discipline of sociology on which to base linguistics[27], while others adopted a more purely linguistic stance[28], characteristic of structural linguistics. Approaches to structural sentence analysis drew largely on the aforementioned Saussurean (1915/1966) opposition *langue*/*parole* as well as *langage*, as both the sum of *langue* and *parole* and language as a human universal capacity[29]; he had also demonstrated that "a language is not just a collection of linguistic objects like speech sounds and words; instead, it is a highly structured system in which each element is largely defined by the way it is related to other elements" (Trask & Stockwell 2007: 248-249).

The Swiss linguist Piaget (1962) was opposed to the stimulus-response model of language acquisition, which he believed to follow a motor-sensory routine coupled with the child's manipulation, observation, and production of symbols — sounds, words, and other units of

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[24] In current research on metacognitive strategies in second language acquisition, Lam (2007: 58) described SR, or stimulated response, as "the retrospective technique based on retrieval cues, which may entail audio and/or visual prompts (for example, video play-back). With the help of such prompts, the participants are expected to be able to recall thoughts they had while performing a task".

[25] Graham (2010: part 5). This perspective will be taken up in § 1.2.1.5.

[26] Cf. Graham (2010) for a cogent presentation of continuing work in the behaviorist vein. Albert Bandura is an example of behaviorist scholarship of note; as the David Starr Jordan Professor of Social Science in Psychology at Stanford University and having received his sixteenth honorary degree in 2004, Bandura's recent work ranges from self-efficacy theory to mechanisms of human agency, perceptions of self-efficacy, and moral justification as a disengagement mechanism (Pajares 2010).

[27] Meillet (1906, in Graffi 2001: 66) concluded that "le language est éminnement un fait social", reflecting the position the socio-historical situations determine linguistic change through psychological and physiological laws. As early as 1921, Vendryes (in Graffi 2001: 66) rejected the perspective of "language acquisition in the child as recreation within the individual of a phenomenon characterizing mankind as such" in favor language acquisition as a simple product of imitation.

[28] Jesperson and Buhler were most noted for the purist approach to linguistics (in Graffi 2001:16).

[29] Daneš (1994: 117), however, alerted that, "[e]ven though the Saussurian dichotomy of la langue (the language system) and la parole (the speech) belonged, in principle, to the theoretical-methodological equipment of the Prague Circle, the conviction that only the former aspect of the overall phenomenon of le langage, that is, the system of language, should represent the object proper of linguistic science, was never fully accepted". Skalička (in Daneš 1994: 117), a typology scholar, argued later, in 1948, for "the need for a linguistics of *la parole*".

language, much like little scientists discovering their properties and ultimately passing through several stages of mental evolution as identified in his highly influential theory of child development[30].

While Piaget focused on cognitive development, as demonstrated in his four stages of development, in Russia, Vygotsky (1934/1962/1986: 57), contending that all learning develops from internalization derived from social interaction, wrote, "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological), and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All higher functions originate as actual relations between human individuals". Building on what a child already knows, Vygotsky's Zone of Proximal Development (ZPD) was "the distance between the actual developmental level as determined in independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky 1934/1978, in Adamson 2009: 86). As will be demonstrated, this seminal work on cognition plays an important role in views on second language acquisition.

American structuralists, largely represented by Bloomfield (1933), however, were not interested in meaning or function, but rather in the view that "[t]he grammar of a language consists of devices that signal structural meanings… All the structural signals in English are strictly formal matters that can be described in physical terms" (Fries 1952: 56, 58)[31].

1.2.1.2. Functionalism

In tandem with immediate constituent analysis, a trademark of American/Bloomfieldian structuralism, the Prague functional sentence perspective was the most influential approach to syntax in Europe. Functionalism, as it has been associated with the Prague School since the 1930s, studies the performative functions of language, notably cognition, expression, and conation. Thus, these functions, like relating information, indicating mood, and exerting influence, are studied to determine their grammatical and phonological contribution.

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[30] Yang (2006: 17). He also sketched a clear account of the October 1975 academic encounter between Chomsky and Piaget in which Chomsky draws a distinction between the accommodation and adaptation required of the child in Piaget's system, drawing on a general process, and his own proposal of an independent language acquisition faculty that is not used in other cognitive systems.

[31] Despite current interest in "looking at categories and subcategories through the lens of the constructions words can and cannot occur in, and though a great many linguists now draw their data from corpora, Fries' work is scarcely known" (Zwicky 2006: 1). Greenbaum (1988: Ch. 6) devoted an entire chapter to Fries' work, concluding with a call for a revival of interest in his model of English grammar, particularly given the prevalence of computer programs and computational processing of language texts. In his autobiography, prepared for the Philological Society, Quirk noted that "whatever its obvious deficiencies, [Fries'] book on *The Structure of English* (1952) gave me a huge buzz" (in Brown and Law 2002: 243). The conflation of dates — bad timing — is perhaps, in part, responsible for the fact that Fries' work is less than widely known. The year prior to Roberts' (1956) presentation of his teacher's guide to Fries' system, Chomsky (1955) published *The Logical Structure of Linguistic Theory*, followed by Chomsky's (1957) *Syntactic Structures*, marking the birth of generative grammar and Universal Grammar.

Mathesius (1938, in Daneš 1994[32]: 117-118), a forerunner of contemporary text linguistics and president of the Prague Circle until the end of World War II, characterized functionalism as follows: "The new linguistics conceives language as something living; underneath the words it sees the speaker or the writer from whose communicative intention they have resulted. It realizes that in a large majority of cases the words are aimed at a hearer or reader". Recognizing the instrumental character of language for, notably, social interaction (Lyons 2002: 227), functionalism emphasizes the several interdependent semiotic functions, not just descriptive but also expressive and social, to determine the structure of natural languages.

Mathesius co-founded the Prague School with Jakobson and others; Jakobson pioneered structural analysis, influenced by Saussure's synchronic approach and turning away from the diachronic approach of the Neogrammarians. Founding the first discipline in phonology, his primary ideas of linguistic typology, markedness, and linguistic universals are still part of contemporary linguistics[33]. Stylistics, or linguostylistics, as set forth by Havránek (1932, in Daneš 1994: 120)[34], makes use of such relevant terms as *notational terms* — like *genre* and *functions* — and *functional languages* – the equivalent of *registers* (Halliday et al. 1964). Thus firmly opposed to generativism[35], functionalism, in its axiomatic form originated in 1960 by Mulder, "continues the Saussurean, semiotically oriented, tradition as well as that of the Prague School, and French functionalism" (Auroux et al. 2006: 2010).

A systemic-functional approach, so designated due to the paradigmatic organization of language, is the basis of Hallidayan grammar[36]. Halliday (1973, in Peters 2009: 59) proposed three social functions of language at an early age, regulatory, interpersonal, and interactional, which motivate first language acquisition because they contribute to giving children control over getting others to do as they want; to establishing relationships with other individuals; and to encouraging others to do things with them.

Functionalism also seems to be at the inception of seminal neurological language acquisition research by Lamb (1999), who carried through Hjelmslev's (1942/1961, in Halliday

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[32] Daneš (1994) serves the dual purpose of presenting an interesting history of the Prague Circle and the background of current text linguistics.

[33] Jakobson's notable life as a Russian defector includes his life in then Czechoslovakia, Denmark, Norway, Sweden, and finally the US, where, in 1949, he became a Harvard scholar until his retirement in the 1970s, followed by the position of honorary Professor Emeritus at MIT. His astonishing variety of fields of study, beginning in Linguistics and Literary Theory, but influencing Communication Studies and Anthropology (Boas saved him from being repatriated and his collaboration with Lévi-Strauss, formed the Saussurean methodological foundations for structural anthropology, considering culture as a system of symbolic communication and analyzing identities based on family and tribal relations that had not before been recognized).

[34] In Daneš (1994: 120). See also Enkvist (1973).

[35] This opposition is further illustrated in Edelman's (1992, in Halliday 2002: 3) affirmation that "the brain is more like a jungle than like a computer [so that] it disfavors representations of grammar and phonology that are influenced, however indirectly or subconsciously, by the way that computers happen to be being designed and operated at this particular moment in technological history".

[36] Cf. Packet (2010), just one of other contemporary English professors in Portugal who advocate a systemical-functional approach to grammar for teaching.

2002: 4-6) systematization of language in the *Prolegomena*[37] to describe the language system through the perspective of the brain. Lamb (1970; 1999) is the father of stratificational theory, a theory of relational network language that is described as a viable alternative[38] to Chomsky's transformational–generative grammar.

1.2.1.3. Cognitivism

In the context of the post-World War II affirmation of life came the advent of Artificial Intelligence, with its application of concepts of computation to the mind (Pinker 1998: 202-205), and Chomsky's (1955) paper leading to his (1959) affirmation of the innate perspective of language as cognition. The publication of Bruner, Goodnow, and Austin's (1956) *A Study of Thinking,* also in the same year, was the defining moment of the invention of the term cognitive science[39], contributed largely to the success of Bruner's efforts to introduce the cognitive perspectives of both Piaget[40] and Vygotsky to American psychology. In the new 1986 preface, the authors of *A Study of Thinking*[41] [42] recognized their work as "a precursor in the Cognitive Revolution […which] was implicitly an attack on behaviorism and stimulus-response learning theory, much as Chomsky's anti-Bloomfieldian linguistics" (Bruner & Goodnow 1986: xv) was. As they put it, "the original insurrection was aimed at casting off the shackles of anti-mentalist behaviorism and recapturing the functionalist idea of mind as an instrument operating not blindly but with intention". The subjects of the research were seen as constructive problem-solvers as opposed to passive media working in a stimulus-response context; thus, their strategies were also studied to determine, for example, which cards were

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[37] Halliday (2002: 5) described the high point of the overall construction of language as a system based on Saussure and culminating in Hjelmslev, whose work was revised and refined by Lamb, who "set out quite explicitly to model language in terms of neural structure and neural processes and, having been ignored or rejected by mainstream linguists for many decades, […] has now come into his own". Halliday further noted "how essential it is to model the linguistic system as a whole if linguistics is to be taken seriously among the sciences rather than being set aside as a somewhat eccentric pastime for grammarians and philosophers of mind".

[38] Lamb (1999: back cover) was acclaimed by Dörnyei, Hockett, and Halliday as a neurocognitive masterpiece, linking neuroscience and linguistics.

[39] A more constructive 9-11, September 11, 1956 (Miller 1979, in Pinker 1998: 2003), "at a conference in Cambridge at which [George] Miller, [Noam] Chomsky, [Alan] Newell and [Herbert] Simon, among others, spoke".

[40] Karmiloff-Smith (1986: 167) pointed out that Sinclair (1967) was actually the first to take, "Piagetian structural descriptions as the framework for explaining language acquisition"

[41] The transoceanic connection of original authors researching at the Institute for Advanced Study in 1951 and the remaining years at Harvard — Bruner from New York University; Goodnow from the School of Behavioural Science, Macquarie University of Australia and Austin, who died at 32, the year before the work was published (Bruner & Goodnow 1986: xx) — was itself a sign of changing times, where communication and transportation were sufficiently advanced to favor regular collaboration around the globe. Indeed, for the first two years of the research leading to the book, and before her two years as a Lecturer and Research Associate at Harvard, Goodnow's career position is listed as Research Psychologist for the United States Army in Munich, Germany (Smith 2003).

[42] Oppenheimer (1958, in Bruner, Goodnow, & Austin 1956: x), in his review, noted that the authors "make discriminating and frequent use of perception, of concept formation, of linguistics, and of learning. […] [T]he book has a unity of view and a fervor of conviction which makes it point to the future". Oppenheimer had been the Director of the Institute for Advanced Study where work on the research the book reports had begun.

requested in demonstration of concept attainment and how their hypotheses were framed and/or modified. Thus, from the early moments of the cognitive revolution, a renewed, deep interest in connecting linguistics and psychology became paramount as did the linguists need to master the tools of symbolic logic while the logicians became interested in natural language[43].

Following the *Annus Mirabilis*[44], Chomsky (1957), fruit of his work at the Harvard Society of Fellows between 1951 and 1955, contained a senseless, original, sentence, created from a finite repertoire of words/expressions, *Colorless green ideas sleep furiously*[45], with which he "prove[d] the existence of a grammar in our heads [and,] more importantly show[ed] that grammar is generative" (Yang 2006: 95).

His demonstration that meaningfulness is not a reduction of grammaticality meant that language could not be tied to a memorized, fixed set of responses. Chomsky's (1959) criticism of Skinner's (1957) work on behaviorism as an explanation for language acquisition was fundamental in establishing this nativist theory, whereby children master their L1 by means of a uniquely human, language-specific learning device: the language acquisition device (LAD), now called a *language faculty* (Chomsky 1995).

The initial notion of innateness was based on Lenneberg[46] (1954; 1956; Brown & Lenneberg 1954), whereby linguistic competence or knowledge is a factor that enters into linguistic behavior that is not explainable *via* external variables of behavior control[47]; Chomsky was not accusing Skinner (1957) of incorrect epistemology but rather arguing for "a theoretical factorization of the components that might explain our linguistic behavior", while "neglecting the biological structure of the organism" (Collins 2007: 648-649).

From the perspective of language development as a linguistic process within evolutionary psychology, Chomsky (1965) postulated a Universal Grammar (UG), pertaining to the language rules that may be followed by all speaking humans. UG theory seeks to account for the fact

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[43] Graffi (2001: 6). As an example of the interconnectedness created from the inception of the cognitive revolution, Graffi pointed to coining of the term *psycholinguistics* at a conference at Indiana University in 1953. Halliday (2002: 1) also noted the beginning of the 20th century, which "began by erecting walls between the disciplines", which only began to be deconstructed in the second half of the century.

[44] Pinker (n.d.) conflated Chomsky's (1957) *Syntactic Structures* into 1956, based on the precursor 1956 article. Bruner, as Co-Director with George Miller, of the Center for Cognitive Studies at Harvard University, had been able to invite collaborators of Vygotsky and Piaget — behavioral scientists who had never been constrained by behaviorism — on a regular basis.

[45] Yang (2006: 95). Testament to the level of popular knowledge of Chomsky's contributions to the science of language, this quotation is listed in *Bartlett's Familiar Quotations*. Note that the British Council, challenging Chomsky as to what is described as the "well-known fact that we will always assume that there is meaning in everything people say or write, even if it appears to be nonsense", has launched their Chomsky Challenge page on the Internet, http://www.britishcouncil.org/learnenglish-central-chomsky-challenge.htm, where, given his idea that it is possible to create a sentence that is grammatically correct but impossible, they propose to find a context for any and all sentences.

[46] Collins (2008: 126-127), Chomsky's most contemporary interpreter, clarified that it was Lenneberg's influence on Chomsky that was foremost, while his appeal to the field of linguistics, psycholinguistics, and language studies was to reconstruct old theories as empirical theories, using rationalist/Cartesian thought such that the explicitness enables empirical testability.

[47] Chomsky (1959: 577 fn 48; 1962: 529 fn 2).

that children also produce language that they have never heard before, also called the *poverty of stimulus* argument (Hoff 2003: 181). The insufficiency of input in the learner's environment in accounting for language acquisition is, for generativists, explained through a UG, to which all humans have access as a fundamental human endowment. Having since identified a regularized series of stages of language development during which children acquire the ability to not only understand but also to produce grammatical speech, UG is postulated to be true cross-linguistically and cross-culturally[48].

Chomsky's scientific contributions have placed him at the forefront of linguistic thought for more than half a century, setting the agenda for research design. This dominant paradigm has declared "the heart of the discipline [a]s the issue of trying to define what language is and why it must be so" (Wardaugh 1993: 25), leading to a highly theoretical bearing in research on the process of language acquisition and the structure of the human mind[49]. Perhaps due to the computational style of his expression, Chomsky's compelling arguments are described as both accessible and elusive, defining the fundamental aspects of human behavior, such that some researchers believe that linguistic creativity and language acquisition are impossible without his innovations.

1.2.1.4. Performance/competence dichotomy

Fodor's (1975, in Smolensky 2001) abstract notion of *language of thought* in tandem with a computer metaphor of the mind, whereby "[j]ust as a program is an abstract higher-level description of a computer, a mind is an abstract higher-level description of a brain" (Smolensky 2001: 323) suggested the levels of abstraction that Chomsky identified as relevant to the mental processes in all the versions of his language acquisition model: competence and performance[50]. A competence theory reflects on "the mental system underlying language behavior while a performance theory reflects on the *internal* mental *processes involved in* language behavior" (Gregg 1996: 53, in Lyons 2002). Generative grammar posits this essential differentiation between competence and performance, which is close to Saussure's distinction between *langue* and *parole*[51]. Linguistic competence is defined as

> that part of a speaker's knowledge […] of the language-system […] by virtue of which he is able to produce the indefinitely large set of sentences that constitutes his language. Performance, on

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[48] Note that, in the case of deaf children, visual signs take the place of grammatical speech. In L1 acquisition, Guasti (2002: 3) has made it clear that, based on extensive research, corrections, called negative evidence, are rare and "they do not seem to improve children's linguistic behavior". Thus, relying on positive evidence, an abundantly available resource, is the "best chance to succeed in acquiring language"[48].

[49] Note that in tandem with Chomsky's notable linguistic scholarship, his campaign to engage world politics in libertarian anarchism is renowned (cf. Herman & Chomsky 1988, Chomsky 2002). Chomsky's inspiration and reliability as a scholar has led to offers on the Internet, paying out $50 to those to can expose an uncorrected factual in his political works (cf. Swartz 2005).

[50] Whereas competence has been the domain of generative linguistics, psychology has been considered to be the study of performance (Cf. Adamson 2009: 10).

[51] Cf. Lyons (2002: 233-234) and Collins (2008).

> the other hand, is language-behavior; […] determined, not only by the speaker's linguistic competence, but also by a variety of non-linguistic factor including, on the one hand, social conventions, beliefs about the world, the speaker's emotional attitudes towards what he is saying, his assumptions about his interlocutor's attitudes, etc. and, on the other hand, the operation of the psychological and physiological mechanisms involved in the production of utterances. (Lyons 2002: 233)

It is relevant to note that the cognitive paradigm, with or without nativism, sustains the metaphor of the mind as a computer, and *vice versa*, processing input and output[52], to give rise to an approach toward language use and acquisition "as constrained by the operations of a limited capacity information processing system"[53]. One such limitation may be the qualitative differences in competence, as in the influential critique that "roughly the same computational and representational systems are shared by individuals of all ages and that what develops is an increasing ability to use these systems in a wider and wider range of tasks"[54].

1.2.1.5. Connectionism

Connectionism, based on inductive learning, can be viewed as an extreme form of cognitive nativism, without any innate principles for guidance (O'Grady 2003: 53-58). The theory of grammar as an emergent phenomenon, just one of the theories based on a connectionist network for language acquisition, is exemplified in current work by psycholinguistics like Larsen-Freeman (2010) and Ellis (2006). Gell-Mann (1994[55]) and Holland (1998, in Ronald et al. 1999: 18) posited the basic idea that certain systems are more than the sum of their parts, and that systems of great complexity can be generated from a small number of rules or laws[56]. More specifically, Gell-Mann affirmed that, "[i]n an astonishing variety of contexts, apparently complex structures or behaviours emerge from systems characterized by simple rules"[57].

Halliday (1978: 19, in Larsen-Freeman & Cameron 2008: 115), defining language in a

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[52] See also Thornbury (2009a), who pointed out that terms such as *input* and *output* are actually derived from the field of electronics.

[53] Skehan (1998: 86). Skehan, however, did preface his work with the following caveat, which demonstrated aptly that his personal perspective is not limited to this view: "there are many areas which are neglected. Sociolinguistic influences barely get a mention. Nor is there explicit concern with the nature of the language system *per se*" (Skehan 1998: vii).

[54] Fodor (1972, in Keil 1986: 144). Cf. Rozin (1976).

[55] In Ronald et al. (1999:18-19). For language lovers, in Gell-Mann (1994), readers learn that the word for one of his three sub-subatomic particles — the quark — could have been *kwork*, based on the sound; but he liked the sound-spelling fit in the phrase *Three quarks for Muster Mark* from James Joyce's *Finnegan's Wake*.

[56] James (1884; 1892) had already connected mental stimulus, for example, by identifying them with connected processes, such as perception and emotion, identifying the stream of consciousness, among other mental concepts.

[57] Gell-Mann (1994: 253, in Ronald et al. 1999: 18-19). Thornbury (2009a) illustrated this complexity with the metaphor of the formations of a school/shoal of fish! He also mistakenly attributed this quote to Holland (1998) when, in fact, Holland was citing Gell-Mann.

functional perspective, had pronounced that "[l]anguage is as it is because of what it has to do; an emergent perspective is [l]anguage is as it is because of *the way it has been used*"[58]. As such, complex systems, as applied to language acquisition (cf. Van Geert 2009[59]; Larsen-Freeman & Cameron 2008), recognized the butterfly effect inherent to chaos theory, whereby infinitely small differences between initial-states lead to significant differences; accordingly, differing conditions of initial-state language acquisition can account for significant variation in linguistic competence.

This type of dynamic systems theory breaks away from what Van Geert (2009, in de Bot & Schrauf 2009) described as the "representational stance of information processing theory", whereby form is mapped to meaning while phonological and orthographic forms from words and speech acts are connected to mental meanings. Instead, focus is on the "*embodied* interactions of brain and environment that change both brain and environment over short-term time intervals and bring about *development* (through more complex interlinkings with many other brain environment interactions) over longer intervals" (de Bot & Schrauf 2009: 8).

An example of a connectionist network at work can be found in a theory of vocabulary building, one of the foundations of language learning (Kaufmann 2010). Kaufmann cited Lewis (1993) as "one of the pioneers in pointing out that you learn language in chunks, or lexical phrases", with the goal of finding comfort in using at least 10,000 words. Lewis's (1993) Lexical Approach involves two principles: grammaticalized lexis and collocation in action, since "language is grammaticalized lexis, not lexicalized grammar" Lewis (1993, in Islam and Timmis 2003); in this sense, meaning is created through lexis while grammar "plays a subservient managerial role".

Miller (1956) may have laid the foundations for this research on chunking, based on elasticity of the brain and recoding of incoming information, in which human information processing was shown to be constricted to 7±2 chunks[60]. Miller (1976; 1987, in Wong Fillmore 2000: 18) later found that "between ages 1 and 17, children add 13 words per day to their growing vocabulary", for a total vocabulary count of 80,000 words, mostly without caretaker-intervention or dictionary use; instead acquisition occurs in context and meaningful topics.

The theory of how language is acquired according to collocation derives more recently from corpus linguistics studies. Language acquisition, in this perspective, is explained based on Stubbs' (1996) affirmation that "[t]here is no boundary between lexis and grammar: lexis and grammar are interdependent" (Stubbs 1996: 36, in Thornbury 2009b), which is intertwined with Hoey's (2005, in Thornbury 2009b) *priming*. According to this theory, "[w]hat we think of as grammar is the product of the accumulation of all the lexical primings of an individual's lifetime" (Hoey 2005: 160-161, in Thornbury 2009b).

As Lewis (1997: 204) explained the process, "[i]nstead of words, we consciously try to

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[58] Italics added.

[59] In de Bot & Schrauf (2009).

[60] Note, here, Miller's prescient summary testimony that "the kind of linguistic recoding that people do seems to me to be the very lifeblood of the thought processes" (Miller 1956: 95).

think of collocations, and to present these in expressions. Rather than trying to break things into ever smaller pieces, there is a conscious effort to see things in larger, more holistic, ways". The brain is understood as looking for arbitrary patterns in linguistic convention, collocations[61] and expressions, including institutionalized utterances, sentence frames, and heads.

Current understanding of how the mental lexicon is organized[62] means that words take on more meaning when connected to other related words. Oldfield (1966, in Lété 2003: 188) developed the concept of lexicon, proposing the "notion of a mental dictionary [and raising the question of] how the meaning of a word is recovered". Prior to pioneering work by Rumelhart and McClelland (1981, in Rumelhart, McClelland, & the PDP Processing Group 1986) on connectionism, also known as parallel distributed processing (PDP) networks, the classical view had been that "the lexicon is a passive data structure and the look-up process needed to access the knowledge in it largely constrains its organization in many models"[63]. With the new insight, the internal organization of the lexicon "is no longer the main issue because the lexicon is content addressable, and concepts are an emergent property of relations existing in an interconnected lexical network" (Lété 2003: 188), with the PDP view described as "particularly appropriate for symbolizing how knowledge and processes are learned and implemented by the brain… mak[ing] use of a simple but essential idea that all learning is based on a stimulus-response association and that the mind records the statistical patterns of events in the environment"[64].

"Apparently rule-like behavior may be generated by systems which do not embody explicit representations of these rules" (Hulme, Snowling, & Quinlan 1991, in Lété 2003: 191), a statistical learning argument, while learning is identified as frequency-sensitive in PDP models, resting on the assumption that learning is incremental and occurs through successive trial and error of exposure to input, then strengthening/weakening interconnections as associative interconnections are altered.

1.2.1.6. Non-nativist cognitivism

Research in the area of cognitive linguistics and psycholinguistics has found that a holistic conceptualization of language (Lakoff[65] & Johnson 1980; Talmy 1985; Langacker 1987) challenges Chomsky's (1995) modular conception. The neo-Whorfian notion that language and

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[61] Defined as "the readily observable phenomenon whereby certain words co-occur in natural text with greater than random frequency" (Lewis 1997: 8).

[62] See Aitchison (1994) for a thoughtful presentation on the mental lexicon.

[63] Cf. Forster (1976) and Paap, Newsome, McDonald, & Schvaneveldt (1982), both in Lété (2003: 188).

[64] Also note that large language corpora and linguistic software have spurred a revival in lexicon studies and resulting in computational models of psycholinguistic phenomena based on corpus studies. For more on this topic, see § 1.9.

[65] In a practical application of cognitive linguistics to politics, Lakoff established the Rockridge Institute with colleagues from UC Berkeley and UC Davis during the George W. Bush administrations (2000-2008) to help progressives build a stronger frame for their Nurturant Parent Model in contrast to the conservatives' Strict Father Model. His student, Joe Brewer, then opened a consultancy firm in Seattle to carry based on the original non-profit work of the Rockridge Institute.

knowledge representation, or concepts, interact is a cognitive view of language that does not rest on a language faculty, but rather on a concept of language as a tool which is affected by culture-specific cognitive precepts.

For example, Bates and MacWhinney's (1982[66], in Year 2003[67]: 1-2) Competition Model a cognitive model, based on lexical functionalism with a focus on performance over competence, "assumes that language processing is an interactive process of form-function mappings mediated by competition and cooperation among lexical items". Contributing significantly to the understanding of language acquisition, MacWhinney and Snow formed CHILDES (the Child Language Data Exchange System) in 1984, the first electronically archived samples of L1 speech development, in which Batoréo's (1996) pioneering work on cognitive, psychological, and anthropological linguistics, particularly for lexical spatial primitives in Portuguese, for example, was essential to the creation of the corpus *Portuguese — Batoréo* for the acquisition of European Portuguese (in MacWhinney 2000: 343-344). Spatial lexical patterning has revealed typological descriptions involving semantic notions of *path* or *manner* of motion, for example, have been determined for Germanic and Romance languages, such that English is a satellite-frame language, using particles to add path of motion to the manner of motion expressed by the verb, while Portuguese is a verb-frame language, where specific verbs of motion directly encode motion path to the eventual exclusion of manner (Talmy 1985)[68].

While language universals are related to cross-linguistic frequency of surface features, linguistic universals for nativists correspond to underlying rules (UG) reflecting parameters of a core grammar and based on the construct of markedness. From a contrasting cognitive perspective, drawing on cultural and social perspectives, linguistic universals in humans

> derive from the fact that all humans everywhere: (1) conceive nonlinguistically of agents of actions, patients of actions, possessors, locations, and so forth; (2) read the intentions of others, including communicative intentions; (3) follow into, direct, and share attention with others; (4) imitatively learn things from others, using categorization, analogy, and statistical learning to extract hierarchically structured patterns of language use; and (5) process vocal-auditory information in specific ways. (Tomasello 2003, in Tomasello 2009: 471)

Instead of positing a UG[69], "the evolution of human capacities for linguistic communication

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[66] According to Year (2003), the formal presentation of the Competition Model by MacWhinney & Bates (1989) was also foreshadowed by MacWhinney *et al.* (1984), whose study of grammatical subject identification by English, German, and Italian speakers revealed varying patterns of identification. For the German speakers, morphological agreement, stress, and the animacy status of noun referents were the linguistic cues that provided meaning in the language. For the English speakers, word order was the cue whereas the Italians used agreement and stress to derive meaning.

[67] See Year (2003) for a thorough review of the multiple perspectives of the Competition Model from 1982.

[68] See the recent, conflicting results of research on motion events by Boroditsky (2011) and Bohnemeyer et al. (2007).

[69] In no uncertain terms, the title of Tomasello's (2009) article is *Universal Grammar is Dead*.

draw[s] on what was already there cognitively and socially ahead of time, and this is what provides the many and varied 'constraints' on human languages". On this basis, Tomasello (2009: 471) further affirmed that "it is not the idea of universals of language that is dead, but rather, it is the idea that there is a biological adaptation with specific linguistic content that is dead". Tomasello did, however, concede that, while the languages in the world have "things in common, […] these commonalities come not from any universal grammar, but rather from universal aspects of human cognition, social interaction, and information processing — most of which were in existence in humans before anything like modern languages arose".

Historically, the theories proposed by Vygotsky (1934/1962/1986) and, later, by Piaget (1962) constitute the basis for current cognitive theory on language, pioneered by Bruner[70], considered the father of the aforementioned cognitive revolution and responsible for launching the educational reform movement of the era[71], of which his affirmation speaks: "We teach a subject not to produce little living librarians on that subject, but rather to get a student to think … for himself, to consider matters… to take part in the process of knowledge-getting. Knowing is a process, not a product" (Bruner 1966: 72).

Bruner's (1975) perspective on language acquisition was drawn, in part, from Vygotsky's (1934/1962/1986) view that adults (parents, caretakers, and community) enable children through interaction and by *helping* them do things in their Zone of Proximal Development (ZPD), not by *telling* them to do things. Bruner's Language Acquisition Support System (LASS)[72] was proposed to enable the Language Acquisition Device (LAD)[73]. The LASS, understood as the child's social support system for language development, allowed for internalization of contextualized language use and associated meaning *via* scaffolding; similarly, manipulation of objects and negotiation of meaning in familiar situations leads to the formulation of hypotheses, which are then tested and revised, about the language structures and patterns for their use[74].

In a similar vein, while most scholars have understood the ZPD to mean strictly that learning builds on previous learning (Adamson 2009: 167), Wood, Bruner, and Ross (1976) suggested that *scaffolding* could be understood as more than the LASS, it would be the means by which learning involves filling in gaps, or necessary background information, to be able to understand new concepts. Still in another cognitive approach, Macnamara (1972) had simply eliminated the LAD in his theory that children are capable of understanding and learning language with ease because they have an innate capacity for reading meaning into social

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[70] Pinker's (2004) *The Language Instinct*, inspired by Brown's (1957) *Words and Things: An introduction to language*, the first book on the psychology of language coming out of the cognitive revolution (Pinker 1998: 204), defended the cognitive view of language acquisition as an instinct.

[71] DiPrima & Hickson (2006) cite Bruner's (1960) *The Process of Education* as a trigger.

[72] Bruner (1975, 1983, in Brooks 2006: 18).

[73] "Every LAD needs his LASS" was a joke attributed to Bruner (in Brooks 2006: 18).

[74] According to Mitchell & Myles (2004: 200), "[f]rom a social-cultural perspective, children's early language learning arises from processes of meaning-making in collaborative activity with other members of a given culture".

situations.

Sharwood Smith (2002) has also tentatively proposed eliminating LAD as a separate facility, including it instead in a parser, in a paper entitled "Losing LAD and Getting MAD: On acquiring parallel language systems", where his MAD is a metalinguistic acquisition device, constituted of conceptual structure such as the syllable, word, clause expression, passive, noun, and verb.

In contrast to native language acquisition which has been discussed, Evans and Levinson (2009: 447) recently proposed an altogether different, albeit strong, nativist perspective which stipulates that "[c]ognition is less like the proverbial toolbox of ready-made tools than a machine tool, capable of manufacturing special tools for special jobs. … Culture provides the impetus for new tools of many different kinds — whether calculating, playing the piano, reading right to left, or speaking Arabic".

A scientific approach that blends cultural perspectives with cognition, however, requires a reorientation for cognitive studies, "[e]mbedding cognitive science into what is, in a broad sense including cultural and behavioral variation, a population biology perspective, is going to be the key to understanding these central puzzles" (Evans & Levinson 2009: 448). This would reconcile cultural variations with universal attractors, resulting from cognitive constraints and recognize the reciprocal relation in explanations from cognitive and culture perspectives, which could enhance the value of "the study of cultural phenomen[a] such as languages, writing systems or norms of politeness" in the quest to understand the workings of the brain. In a similar perspective, Tomasello's state-of-the-art research on chimpanzee cognition, language acquisition, and early social cognition at the Max Planck institute is cited as a prime example of a comprehensive account of the phylogeny and ontogeny[75] of language, without recourse to a language instinct or a universal grammar[76].

For the view that language development is the result of a social process, a social-pragmatic account deals with grammatical and lexical development. This perspective also emphasizes the way in which social uses of language are acquired (Hoff 2003: 184). Sociocultural theory (SCT) draws essentially on the extensive research of Lev Vygotsky (1896-

[75] Defined, in Givón (2009: 9), for the purposes of language acquisition studies, as "the interaction between genetic endowment and external input".

[76] Cf. Tomasello (2000, in Hauser 2000). A decade later, news of the August 10th government raid on Hauser's Harvard lab, and his subsequent year-long leave of absence, has left academia waiting for an explanation of the scientific misconduct under investigation (Wade 2010; Johnson 2010, Bartlett 2010), which could cast doubt on some of Hauser's contributions to evolutionary psycholinguistics, cognition and language acquisition. Bartlett (2010) reported the following update on August 20: "A letter from Michael D. Smith, Dean of Arts and Sciences at Harvard University, confirms allegations against Hauser, saying, 'It is with great sadness that I confirm that Professor Marc Hauser was found solely responsible, after a thorough investigation by a faculty investigating committee, for eight instances of scientific misconduct under FAS standards'". For our purposes, Hauser, Chomsky, & Fitch (2005: 116n) referred to one of the three articles that has been retracted in *Cognition* (cf. Smith 2010), by Hauser, Weiss, & Marcus (2002), on the ability of nonhuman primates to discover abstract rules at a local level (of particular consonant-vowel (CV) sequences).

1934), in the area of language acquisition[77], the publication of which was only made more generally available in English translation after 1978 (cf. Vygotsky 1934/1978, 1981, 1986, 1997a, 1997b)[78]. As has been demonstrated, cognitive views of language acquisition have also drawn heavily on Vygotsky.

The view that language development results from domain-general learning draws on the nature of infants' learning mechanisms and connectionism to challenge nativism and provide plausible models for phonological, morphosyntactic, and lexical development. For instance, general capacities for problem-solving, perception, and production, whereby children must match the target language given their articulatory constraints, have been defended to explain phonological development (Ferguson & Farwell 1975; Macken & Ferguson 1981). Evidence in domain-general research also supports various factors important to morphosyntactic development; for example, language data input in huge amounts must be processed in an internal data-sifting mechanism that is domain-general, of which the resulting information is then used in learning language. Standard syntactic development contrasted with the properties of child-directed speech (CDS) [79] is still further evidence that the value of input is independent of its communicative function.

Duarte (2001: 118-121) also explained that lexical creativity could actually be "frozen", along with their semantic operations, in the sense that the original meanings of metaphors, metonymy, or synecdoches which were once at the base of broader meanings of lexical items have been lost from the collective conscience of any group of native speakers; logical contradiction and disregard for contextual properties of lexical items as well as polysemy and homonymy, on the other hand, are reliable semantic properties for the production of lexical creativity. Errors occurring even in native language production, as a result of overgeneralization, show lexical creativity in coherence with derivational rules of the language.

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[77] Interpretation of Vygotsky's sociocultural theory of mind and its implications for SLA will be based primarily on Lantolf (2000).

[78] Nevertheless, MIT Press did publish Piaget's (1962) comments on Vygotsky's critical remarks in *Thought and Language* as well as his work on aesthetics (Vygotsky 1971). Vygotsky (1997b), considered his most important pedagogical work, is an example of his writing that, up until 1988, had only been available for consultation, with special permission from the KGB, at one Moscow library (in *Vygotsky — A Reawakened Star*). On a personal level, having studied for my M.A. in Applied Linguistics at the University of California, Davis, between 1989 and 1991, I encountered neither Vygotsky nor Luria nor Sakharov's work, perhaps due to the academic effects of the Cold War, which only ended with the fall of the Berlin Wall in 1991.

[79] See also Saxton (2009) on the inevitability of child directed speech, the term most commonly used in the literature, substituting the proliferation of terms including "baby talk, motherese, caregiver talk, cartaker talk, input language, linguistic input, verbal stimuli, exposure, language and infant-directed speech, among others" (in Foster-Cohen 2009: 62-63). Chomsky (1984, in Gregg 1993: 276), for his part, delivered a perfunctory sting to research and researchers in this area of study: "It has produced no significant results, predictably. The reason people do it is that it is easy to do. You can do it if you know nothing".

1.2.2. Error in Second Language Acquisition Theories

Developing an overall second language acquisition (SLA) theory that accounts for all the variables involved and discovery of a stable morpheme order in English as a Second Language (ESL) has from the very onset become "somewhat of a Holy Grail of SLA research" (Goldschneider & DeKeyser 2001), and "at least forty[80] theories of SLA have been proposed" (Larsen-Freeman & Long 1991: 227)[81]. Inspiration from first language (L1) language learning theories has contributed to this plethora of influential SLA theories, paralleling advances in science in general. Despite these numbers, Gregg (1984) proclaimed the creation of something of a vacuum as far as theory is concerned. Notwithstanding this criticism, SLA theories can be separated into three orientations – nativist, environmentalist, and interactionist. As has been demonstrated, an innate biological endowment supports language acquisition for the nativists, while environmentalists focus instead on the context of parental language or classroom instruction and interactionists maintain that both nature and nurture are contributors to SLA.

A number of theoretical frameworks and research methods underlie the study of how second languages are learned in light of the fact that the area of second language acquisition (SLA) is covered by at least the domains of sociology, psychology, and linguistics. While each of these areas influences the way in which the question is formed such that it corresponds to certain theories and methods, most contemporary language theories do recognize a learner interlanguage (Selinker 1972), the theory of which rests on the earlier Lado's (1957) Contrastive Analysis Hypothesis (CAH) and the subsequent theory of Corder's (1967) error analysis (EA); thus, it is to these theories that our theoretical review will now turn.

1.2.2.1. Structuralism and the Contrastive Analysis Hypothesis

Both behavioralists and cognitivists popularly embraced Lado's (1957) CAH, an important adjunct to Structuralism, as late as the 1970s. At the time of Lado's proposal, student errors were considered negative and language teachers and linguists aimed, somehow, at reducing their number. Intolerable and deviating from the target language, they were considered to be the result of interference with the structures of the L1.

According to CA, if the structures of L1 and L2 are identical or similar, whether phonetically, morphologically, syntactically, or lexically, these similarities will work in favor of the L2 learner due to positive transfer. Conversely, the greater the difference between the

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[80] Long (1993, in Gregg 1993) later reported 60. Gregg (1993: 289) imagined that "most […] are not in fact really theories, but rather either descriptive, non-explanatory frameworks for L2 research on the one hand, or else metaphors for organizing one's thoughts on the other".

[81] Thornbury (2009a) remarked that this was not for lack of adequate data but rather that every researcher seems to want to make his or her mark. Hinkel (2005: xix) noted, however, that in verifying any SLA theory, "none of the prevalent L2 research methods were specifically developed for investigating L2 teaching, learning, or acquisition, and all were created and perfected in other disciplines, such as anthropology, education, psychology, or sociology", yet another testament to the polyvalence of the area of applied linguistics.

languages, the more difficult it will be to learn the L2 due to negative transfer and interference (Lado 1957: 2). By systematically comparing the synchronicity of linguistic systems of the L1 and L2, it was thought that errors and areas of learner difficulty could be foreseen. Fries (1945) and Lado (1957) forged these trails of structural linguistic analysis while others laid out the theoretical bases[82]. As errors are predicted primarily in the areas of greatest L2 difference from the L1, teaching would focus on these areas. A simple transfer of the L1 articulatory and structural habits from the L1 phonological system is expected for sounds and structures that are similar in L1 and L2.

For linguist supporters of CA, learning was seen as both a positive and negative transfer of habits; in this perspective, an L2 could be learned through mechanical memorization of a series of structural schemes designed to point out interlinguistic contrasts. Conceptions of error, for behavioralists, were based on the notion that errors resulted from L1 interference and were, therefore, just a habit transfer while new habits could be taught to the language learner. Errors themselves were not particularly interesting but rather something to be eradicated.

Doubts relating to the CA arose during the 1970s and 1980s as empirical studies in linguistics were carried out showing incontrovertibly that L1 interference was not the only source of L2 errors. For example, Dulay and Burt (1974) concluded that just 3% of learner errors resulted from interference while 85% were denominated *developmental* and the remaining 12% were idiomatic. Other theories, notably generative grammar, also conflicted with CA, beginning with Chomsky's (1959) position on nativism and Universal Grammar[83]. In another case, Richards (1971) attributed evidence of areas of difficulty beyond the scope of CA to general learning strategy factors. In the case of English L2, these difficulties include, for example, attributing the 3rd person singular final *-s* to modal verbs and overgeneralizing of the regular past tense with irregular verbs[84].

Although CA was criticized for its limits in considering the causes of error and for failing to consider issues of a sociolinguistic and/or cultural pragmatic nature, it was significant in the historical development of applied linguistic research in which, for the first time, the student became the focus of the analysis, a perspective which opened new paths for developing the future areas of error analysis and interlanguage. And while the CAH could neither explain nor describe L2 learner language, its most valuable feature, the study of language transfer, paved the way, first, for error analysis (cf. Corder 1967), which complemented the CAH by finding that the rules of the L2 are subject to faulty inferences, and then for interlanguage studies

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[82] Cf. Haugen (1953), Weinrich (1954), and Weinreich, Labov, & Herzog (1968).

[83] Wardaugh (1970), for example, is recognized for, although not alone in, having rejected the predictive quality of the CA hypothesis. Instead, he proposed a rationalization of errors in learner output, rather a *post-hoc* perspective (Sato 1990: 2 – italics introduced). This perspective deemed it unacceptable to account for developmental patterns based on the differences between the first and the target language; as a result, later research in markedness theory found "empirically substantiated, potentially explanatory treatments of L1 transfer" (Sato 1990: 3).

[84] Sato (1990: 2) provided the following examples, including the italics: "*Jack can*s* sing well. *Yesterday, I go*ed* to school".

(cf. Selinker 1972), focusing most specifically on the acquisition of language structures and grammatical morphemes.

The weaker version of the CAH, given the relative demise of the view that language learning is simply habit formation, suggests that the sources of learner errors can be *facilitated*, although not necessarily predicted, by an L1/L2 contrast. As has been demonstrated, CA predictions have not, in large part, been borne out in actual learner data (Tarone 2005: 492) often resulting in a predication of far fewer errors than those that are actually detected since L1 itself may not even be the primary source of errors. In fact, similarities between L1 and L2 systems have given rise to more errors than differences at different moments over time, representing different levels of learning problems. Thus, another different, moderate version of the CAH recognizes that similar phenomena across L1 and L2 are more difficult to learn because, from a psycholinguistic perspective, they are harder to distinguish, resulting in non-learning; grossly different sounds from L1 to L2, on the other hand, are more easily acquired due to their perceptual saliency.

Overall, the CAH has been described as static and product oriented, seeking to explain a psycholinguistic phenomenon[85] through analytical procedures. The analysis was strictly descriptive, comparing linguistic features, analyzing the first and target languages, each as a whole[86] and researchers were ill-equipped to account for identified language features in learner language, both emerging and persistent, but unrelated to the target language. These characteristics, added to the limitation of having ignored the psychological dimensions revealed in the learning process, served to illustrate the need for a new guiding theory and related methods.

1.2.2.2. Cognitivism and error analysis

Corder (1967) is recognized as the father of error analysis (EA). His proposed theory consisted of an attempt to examine, expressly, learner production in contrast to relying on the CAH's prediction of learner production based on their L1. The model of error analysis (EA) supported by Chomskian theorists, cognitivists and mentalists was considered a new model of second language learning, characterized by a different characterization of the error. Rather than violators of the linguistic system of the L2, errors were observed from a different perspective.

Corder's (1967) proposal of systematic analysis of errors in L2 meant that, whereas the CAH compared L1 and L2, EA studied real learner production of L2, both oral and written, also known as *idiosyncratic dialect*, *approximative system*, and *interlanguage*. This linguistic system used by the L2 learner presents not only characteristics of the L1 and L2 but also other idiosyncratic characteristics. In this perspective, error is a systematic variation that

[85] Despite the stated objective regarding the explanation of language, the methodology could not examine nor account for the psychological component in learner perception, organization or use of target language input (Sato 1990: 3).

[86] The term *full forms* of language distinguishes from "the particular L1 variety of the learner or the particular L2 variety that s/he may have focused on as a target" (Sato 1990: 3).

affects the standard L2 norms yet is, at the same time, altogether essential and useful, reflecting transitory competence in the process of L2 learning.

Although Corder (1967) recognized the transfer effects of L1 revealed through CA, he introduced a new mentalist conception into SLA, one which values errors[87]. In this perspective, since errors provide evidence of the learner's current linguistic system, this makes them interesting as proof of rule formation, or the attempt by the learner to figure out the L2 and its underlying rule-governed system. The rules learners induce are revealed through the strategy of altering the L2 to a more manageable, or simple system (Corder 1967: 169). Despite the demonstrated differences between L1 and L2 acquisition[88], Corder (1967: 166) proposed, the "working hypothesis that some at least of the strategies are adopted by the learner of a second language are substantially the same as those by which a first language is acquired. Such a proposal does not imply that the course or sequence of learning is the same in both cases".

Corder (1967) posited that the same process is present in both L1 and L2 acquisition for the following reasons: (1) the innate predisposition for language acquisition with which humans are born; (2) the ability to use the mechanism for language acquisition is lost if not used leading up to puberty[89]; the use of the mechanism for L1 acquisition prompts its availability for L2 acquisition; and motivation.

As applied to SLA, and recalling the distinction between competence and performance, L2 learners may or may not meet the target structure postulated in the competence theory for language acquisition; the very likelihood of this divergence requires a place in the performance theory[90]. To study performance, "one basic research method is to collect examples of the learners' speech or writing and to analyze them. Hardly surprisingly, the original intention was indeed to study the learners' speech to establish the learner's own

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[87] Corder (1967: 165) claimed that "[w]ithin this new context [mentalism] the study of errors takes on a new importance and will I believe contribute to a verification or rejection of the new hypothesis".

[88] Among the differences between L1 and L2 acquisition, Corder considered that the following aspects do not have implications as to the processes involved in L1 and L2 acquisition: success rate; L1 acquisition as part of a growth and maturation process as compared with learning an L2 in different age circumstances; the existence of an pre-established linguistic system based on L1 when learning L2.

[89] Cf. Lenneberg (1967).

[90] See Adamson (2009: 83) on attempts to create a language theory that includes probabilistic statements as one of the pursuits of psycholinguists. Specifically, updated connectionist networks may more accurately present a model that accounts for performance. The modifications include, respectively, a total of five modules involved in language production, in order, — conceptualizer, lexicon, formulator, monitor system, and articulator — and inclusion of stratification that deals with morphophonology, syntactic lemmas, and lexical concepts.

language system through so-called error analysis"[91], after which the researcher would determine whether the root or causes for the learner's system are related to L1, the L2, the situation, or some other factor in the learner's mind.[92]

It has, however, been affirmed that "SLA research can justifiably use native speakers' language as one perspective on the language of L2 learners"[93], despite differences among individual and dialectal native speakers, since the target language provides a fixed and relatively universal benchmark for the comparison needed to produce quantitative results in data collection and analysis of empirical research. This monolingual bias[94] has implications for L2 pedagogy in terms of "distinctive knowledge, abilities, and learning criteria of multicompetent language users …including his suggestions that attitudes be adjusted and techniques be found to place greater emphasis on the successful L2 speaker in the classroom"[95]. Cook (1999: 193) asserted that "the minds of L2 users differ from the minds of monolinguals in several respects", including sociolinguistic context and practical expectations, as well as distinctiveness that may be cultural, ethnic, experiential, or cognitive. Despite measuring themselves against and even aspiring to native speaker abilities, learners may be not only actively aware of their distinctive status but also proud of it. The monolingual fallacy (Phillipson 1992) has been dispensed with (Atkinson 1987) since banning the L1 could deprive teachers of this valuable resource (Cook 1993; Frankenberg-Garcia & Pina 1997; Frankenberg-Garcia 2000, 2005; McBeath 2009). Kramsch (1993) has further argued the loss of meaning of the generic *native speaker* since the notion has become so diversified, insisting that the concept of native speaker be questioned both linguistically and pragmatically.

Because errors are not seen as something merely to be eradicated in this perspective, he

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[91] Cook (1989). Note that Cook's reference to "so-called error analysis" simply illustrates the passage of time and research, which now also recognizes error analysis as performance analysis, or even multicompetence analysis or variation analysis, depending on the inter or intralingual perspective. Nearly two decades prior, Corder (1971: 163) himself had argued that "everything the learner utters is by definition a grammatical utterance in his dialect". Error analysis and the independent grammars assumption thus differ in that learners do not err; instead, they construct sentences that differ from the target. Performance Analysis has become the preferred description because, "if […] we call [the learner's] sentences deviant or erroneous, we have implied an explanation before we have ever made a description" (*Ibid.*).

[92] According to generative grammar (Guasti 2002: 8-10), constraints, on form — which encode the linguistic information as to the ill-formation of a sentence — or on meaning, guide linguistic behavior.

[93] Cook (1999: 190).

[94] Phillipson (1992) identified a series of fallacies, one of which was the monolingual fallacy – the tenet that English should be taught monolingually. Dodigovic (2005: 26) attributes its origin to the 1961 Commonwealth Conference on the Teaching of English as a Second Language, which took place at Makerere, Uganda.

[95] Cook (1999, in Kwon 2004: 5). His classroom suggestions include, specifically, that classroom goals ought to be appropriate to L2 learner, as opposed to native speakers; that teaching materials, models and situations should prominently feature typical L2 situations and L2 users; that, when possible, methodology ought to recognize the contribution of the distinctive learner L1; and that descriptions of the way multicompetent users learn/use the L2, rather than native L1 norms of the target language, should be the basis of teaching. Kwon (2004: 5) noted, nevertheless, that "many of the specific strategies that Cook proposes were already in practice in various curricular programs".

emphasized a distinction between mistakes and errors (Corder 1967: 167), such that the first should not be considered the object of analysis. Whereas he defines a mistake[96] as a sporadic, one-time event that can be corrected by the learner, an error is systematic and idiosyncratic, such that it is not recognized as an error by the learner and hence, affects the learner's competence.

Norrish (1983: 7) then proposed the following distinctions between mistake and error, even adding a new category: *lapse* — a deviation due to extralinguistic factors; *mistake* – an inconsistent and random deviation; and *error* — a systematic deviation[97]. According to James (1998: 1), yet another decade later, an *error* is an instance of unintentionally deviant language that is not self corrigible or even "an unsuccessful bit of language". A *mistake* can be (un)intentionally deviant and self-corrigible whereas a *slip* — of the tongue, pen, or keyboard — is easily detected and can be self-corrected. Explicit and implicit error have also been described, respectively, as grammatical and usage errors[98]. While L1 learners make developmental errors, L2 learners additionally make interference errors. Nevertheless, both L1 and L2 learners produce what can be referred to as errors of omission and of commission.

Error classification can, then, be based on criteria which are any combination of linguistic, etiological, communicative, and pedagogical, as demonstrated in Appendix 1a. Richards (1971/1974: 173) found several types of errors that "do not derive from transfers from another language" and are intralinguistic or based on either interference or development. Some of these errors are characteristic of having learned the rules with incorrect generalizations or incomplete applications while the intralinguistic errors are explained by an internal conflict with the rules of the L2; these are produced in the contexts described in Appendix 1b. For Richards (1971/1974), errors due to interference are the result of the use of elements of an L2. Two types of development errors are underproduction and overuse: in the first case, L2 learners avoid linguistic structures they perceive to be difficult due to differences between L1 and L2; in the second, learners apply rules in contexts that are not permitted. Further terms to distinguish types of errors have been proposed (Burt & Kiparsky 1972; Hendrickson 1978, both in Fakrha 2009: 42), respectively *global* and *local*, then replaced by *communicative* and *non-communicative* (or *linguistic*), all in an attempt to determine the communicative importance of errors, where global/communicative errors lead to greater misunderstanding or incomprehensibility.

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[96] Johnson (1998, in Ellis 2003: 172), however, pointed out that "from the perspective of skill-learning theories, mistakes are important phenomena because they *show what learners have learned but not proceduralized*" (italics added). This caveat will be important when the discussion turns to corrective feedback in a written context.

[97] Note, however, that Corder (1961: 162) had warned that "it is misleading to refer to the idiosyncratic sentences of the second language learner as *deviant*".

[98] Cf. Coşeriu (1962, in Tămâianu-Morita, Vîlcu, & Ciubăncan 2007). These authors further describe a prerogative on the part of the learner to suspend incorrectness in Coşeriu's model, whereby, "[f]or instance, the speaker can willingly simplify rules of his/ her language in order to be more easily understood by a foreigner; or he/she can give a give a metaphoric, meta-linguistic or even extravagant sense to the references of his/her text-discourse" (Tămâianu-Morita, Vîlcu, & Ciubăncan (2007: 79).

One of Corder's (1967) founding observations in applied linguistics distinguished between *input* and *intake*, understood respectively as the available target language and the input that actually is used in some way by the learner, echoed later in Hatch (1983) and Swain (1985, 1995), as will be presented. Some linguistic forms, although readily available to the learner in terms of frequency, recency, or context, simply do not get into the learner intake (Ellis 2006:18). For example, although Klein and Perdue (1992, in Van Lier 2005) found three basic L2 learner varieties/stages based on their longitudinal cross-linguistic study of adult immigrant learners representing a variety of source and target languages[99] — Nominal, Infinite, and Finite Utterance Organization[100], Van Lier (2005: 201) affirmed that many studies of adults[101] show "very little grammatical improvement over time and even studies of exceptionally successful learners show a process that takes several years".

Corder (1971, 1972) later modified part of his theory, which, until then, had focused exclusively on studying errors that affected the learners' grammatical competences, to include all of the learners' linguistic systems. The proposed objectives were also altered to focus on improving teaching material and correcting breaches that would offer learners all the data required to improve their communicative competence. Corder (1981) further proposed that, when L1 is formally similar to the target language, the learner will acquire the language more rapidly. According to Keung (2007), this premise conflicted immediately with Eckman (1977, in Keung 2007), whose Markedness Differential Hypothesis (MDH) held that the less statistically frequent features of the world's languages are considered *marked* while the more frequent are considered *unmarked*; subsequently, according to the Eckman's (1977, in Keung 2007) MDH and his more recent (1991, in Keung 2007) ISCH, the unmarked features will be acquired before the marked features, which are deemed to cause difficulty. Eckman (1991, 1996, both in Keung 2007) further developed his Universals and MDH[102], which stated that "the universal generalizations that hold for the primary languages hold also for interlanguage studies" (Eckman 1991: 24, in Keung 2007: 16), and the Interlanguage Structural Conformity Hypothesis (ISCH), which pointed here to the empirical and scientific nature of the MDH/ISCH, according to which learner difficulties were first derived from a systematic comparison of L1 and L2 grammars to determine their markedness relations[103] posited in Universal Grammar (UG).

In an example specific to the Portuguese phonology of Brazilian learners of English, for

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[99] Source languages: Punjabi, Italian, Turkish, Arabic, Spanish, and Finnish; Target languages: English, German, Dutch, French, and Swedish.

[100] NUO represents unconnected nouns, adverbs, and particles (ex. *Daughter's dad no job*); IUO represents a prevalence of the structuring power of verbs, connecting agents, and affected objects (ex. *Charlie get up first*); FUO represents the stage when the difference between finite and nonfinite verbs has become clear.

[101] Huebner (1983); and Ioup et al. (1995, in Van Lier 2005: 201).

[102] Keung (2007: 8, 16) noted that Eckman (1977) was trying to salvage the CAH by adding universal markedness to form the MDH.

[103] Keung (2007: 9-10) reported that markedness has been defined over time by Greenberg 1966; White 1987; and Klein 1993), among others, like Macken & Ferguson (1981), who characterized an unmarked item with the terms *normal, natural, to be expected,* and *easy to acquire*.

example, Major (1996, in Tarone 2005: 492-493) showed that "the final consonant clusters conformed to predictions of the MDH" and that, while the MDH could not account for *all* the data, the ISCH, in fact, could[104]. In more general terms, the implicational hierarchy for the Markedness Differential Hypothesis[105] has established that IPA [r] is more marked, and thus more easily acquired, than [l][106]. Also according to the predictive capacity of markedness in language universals theory, English L2 learners across the world may acquire the unmarked initial voiceless alveolar /t/ before the marked, and therefore less common, initial voiceless interdental fricative /θ/[107].

According to this line of argumentation, Keenan and Comrie's (1977) Noun Phrase Acquisition Hierarchy (NPAH) has explanatory power, in terms of interlanguage, for the acquisition of relative clause formation, acquiring those relatives at the top of the hierarchy first. As an example of the predictive power of language universals theory and its application to teaching practice, Gass (1979, 1982), Eckman, Bell, and Nelson (1988), and Doughty (1991) found that targeted instruction at the lower levels of the NPAH, for example, in the formation of object of comparison noun phrases, generalizes to acquisition of the top levels of the hierarchy. In addition to research on NPAH, language universals have also been found in question formation (Eckman, Bell, & Nelson 1988)[108].

More recently, arguing against the notion of markedness and based on an exhaustive review of the literature, Haspelmath (2006) has proposed that frequency explains most of the observed phenomena associated with markedness: the more frequent structures in a language tend to be smaller, an observation early noted by Greenberg (1966, in Haspelmath 2006: 16-17) to be "an ever present and powerful factor in the evolution of grammatical categories". Haspelmath (2006) argued that the least-effort principle, aligned with frequency of use, provided a better explanation, making *markedness* unnecessary and less transparent than this useful concept need be[109]. Nevertheless, the term *markedness* will continue to be used to better reflect the original propositions of the research.

Pica (2005: 271) noted three theoretical views of L2 learning according to linguistic universals:

> (1) SLA is like acquiring an L1, where the unmarked parameters and principles of UG are

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[104] With its claim that interlanguages, just as all natural languages, obey all primary language universals rather than just markedness universals, Eckman was clearly drawing on universal grammar (UG).

[105] Greenberg (1978, in Keung 2007: 10 and 3n) was the first source on implicational relations hierarchy in a study of 104 of the world's known languages.

[106] Note that [r] accounts for approximately 5% of all liquids while [l] accounts for approximately 42% (Major 2001: 42).

[107] This explains, for example, the overwhelming likelihood of finding English L2 learners who say *I tink* rather than *I think*…

[108] Specifically, an implicational order was found beginning with Wh-fronting, followed by Wh-inversion then yes/no inversion; in ascending order of difficulty of acquisition, examples of these typological universals in question formation are *Who he is?, Who is he?,* and *Does he read books?*

[109] Haspelmath's (2006) review of the literature provides a commendable, cogent analysis of the redundancy of the term.

> accessible to the learner, such that interlanguage first reflects unmarked parameter settings rather than parameterized core grammar; (2) When confronted with marked features that conflict with the learners' L1, the parameterized core grammar is reset for the L2 data; and (3) Instead of resetting the parameters of their core grammar based on UG principles, learners apply cognitive principles of learning to their L2 development such that learner errors result from attempts to manage and control interlanguage grammar, rather like a conscious, problem-solving activity.[110]

Despite these conflicts in a booming literature, EA, as an empirical and scientific procedure for analyzing learner L2 production, raised the status of the error and broadened the spectrum of contributing causes. In addition, this procedure statistically showed the areas in which learners were likely to have more difficulty and led to the production of L2 teaching material which was intended to directly benefit the L2 learner, not just the L2 teacher, as had been the case for CA.

The methodological problems in error analysis, which arose from the beginning, were due to several aspects. Most typologies are limited to what linguistic data reveals and there may be difficulties in classifying errors. Whereas an error could be classified as a relative clause error, might it not be the result of inappropriate use of topic-comment structure. Thus, determining the sources of errors can be problematic because, in one instance, the use of the correct forms could simply be the result of a sampling error or, in another, be due to both inter and intralingual factors. Furthermore, learner production, limited to speaking and writing are the only data for error analysis since learner reception, in both listening and reading, cannot be analyzed through error analysis. Finally, avoidance, whereby a learner does not use a form that makes them uncomfortable and just one example of learner communicative strategies, cannot be analyzed in this context. Schachter (1974), for example, found that some learners avoid difficult or new constructions, using them rarely and with care. For these and other reasons, interlanguage, considered to be a more wide-ranging approach to learner language, came into the research spotlight.

Yet while the focus of error analysis changed from the errors themselves to a broader understanding of errors, given the name interlanguage, error analysis itself has continued to be a relevant tool for understanding what learners actually do. Current focus-on-form teaching methodology (cf. Long 1991, 2007; Doughty & Williams 1998; and Ellis 2003) especially continues to give relevance to the study of errors as do other researchers who will

[110] In a concise discussion of the difficulties of applying perspectives on linguistic universals to SLA research, Pica (2005: 271-272), referred to the complexity of explaining learner interlanguage as follows, "The question remains as to whether the learners who say *is raining* are doing so because they are observing the unmarked setting of the pro-drop parameter, have chosen to omit the semantically empty it as an agent in their message, or have not yet perceived it in the L2 input around them". Note that the pro-drop parameter reflects whether or not pronoun referents are needed in subject position, as in *She has two dogs… They are ugly*.

be discussed in the chapters dedicated to Methodology as well as Results and Discussion[111]. In other fields such as Mathematics, error analysis has also been an effective tool in making inroads toward changing more traditional content-centered methodology to a more promising pedagogical perspective based on learning from the students' errors (cf. Noronha Cury 2007).

1.2.2.3. Interlanguage

The term interlanguage, as the learner's own language, was first established by Selinker (1969[112]), whose proposal permanently altered research in applied linguistics. Understood as a linguistic system used by the L2 learner throughout the different steps of acquisition, three objects of study form the basic sets of data in this method of linguistic research: student production in the interlanguage, in L1 and in L2. The factors he identified beyond L1 influence are of a cognitive nature, such as overgeneralization of the rules of the L2[113], transference from teaching, as well as both learning and communication strategies. Thus, in the throes of an area dominated by language teaching methods related to neo-behaviorist learning theory[114], interlanguage was proposed. The theoretical turn in SLA research represented by IL corresponded with the identified failures of CA, instead centering research on the learners and their unique learner production rather than on the features of their first or target languages. First, Corder (1971) proposed focus on the *idiosyncratic dialect*; Nemser (1971) then suggested examining the learners' *approximative systems* with Selinker (1972) identifying these as learner *interlanguages*. Although Selinker (1992) admitted that none of the researchers specifically knew that they were interested in a dynamic rather than the static system of language, the common theoretical underpinning is the view of the learners having a cognitive role, who "actively and continually revised their underlying grammatical systems as they moved towards the TL... [and whose] efforts to restructure an abstract system of rules that ultimately, given favorable environmental circumstances, would approximate that of the target system" (Sato 1990: 3).

Interlanguage can be taken as two opposing aspects: systematicity and variation. While in the first case, interlanguage presents a set of coherent linguistic and sociolinguistic rules which may or may not coincide with the L2 rule, Dickerson (1975) noted the variety of

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[111] Even as this doctoral thesis is being checked for final submission, Daubney & Nunes (2011) have just published an article on language awareness in Portugal that rests on the very principles of error analysis.

[112] While Selinker (1972) is most commonly cited as having coined the term, Lakshmanan & Selinker (2001: 394 fn 1) cite Selinker (1969 fn 4) as having been the first use of the term, although Selinker himself had previously credited Watkins (1970, in Selinker 1992: xiii) as having first referred to an *IL Hypothesis*. Further query reveals two earlier sources of the term *interlanguage*: Weinreich (1953), in his seminal *Languages in Contact: Findings and problems, with a foreward by Martinet*, and Reinecke, a distinguished pidgin/creole scholar (1935/1969: 115, in Larsen-Freeman & Long 1991: 74 fn 4), which seems to be the earliest source of the term. Due to common understanding, however, this study will refer to Selinker as responsible for the introduction of the term *interlanguage*.

[113] It is clear, here, that Selinker was not the first to consider errors as cognitive; what was new was the concept of referring to their context as a legitimate construct.

[114] The Audio-Lingual Method, for example.

systematic rules of an interlanguage. In practical, methodological terms, linguistic research includes both errors and non-errors, according to the basic principles outlined by Tarone (1988):

- determine the informant's profile
- determine the type of analysis (longitudinal or sectional)
- design the task that is most appropriate for the objectives
- establish the criteria for causes of variation in interlanguage
- analyze data based on the criteria of the required contexts.

Ueda (1994) proposed a translingual method, for example, applying these principles, in which, rather than compare L1 and L2, the research compares the L2 (object language) and learner interlanguage. In general, an interlanguage perspective views manifestations of the learned language as a linguistic system. The systematic rules in the natural language of the learner's interlanguage imply that a learner is never using an imperfect version of L2. In addition to language level, study of the interlanguage includes language use norms (interlanguage pragmatics). Studies in these areas have continued to reveal important components of linguistic universals in SLA.

Of particular relevance to interlanguage is Ellis' (1994) distinction between *order* — the pattern of different language feature acquisition, and *sequence* — the pattern of acquisition of a specific language feature. Here, once again, the relevance of L1 acquisition studies has been fundamental for theorists testing the identity hypothesis, asserting that L1 and L2 acquisition conform to identical patterns. Contrary to this hypothesis, L2 learner states of cognition and affect differ from those of children learning their L1, making the suggested patterning more unlikely, despite some resemblance in L2 orders of acquisition.

In the area of Interlanguage (IL), four significant issues have been identified[115]: product v. process; the nature of function-to-form mapping; the interdependence of linguistic levels, and the role of conversation. Sato noted that while initial focus was on the product of SLA, the true object of inquiry, the process of IL development, has recently come to the forefront.

Despite the uniqueness of each learner's system, the learners are all able to access resources, including language transfer, transfer of training, generalization, and various forms of simplification/complexification. Theorists posited both systematicity in development of individual ILs and an underlying common process[116]. Data collection, initially, followed the tenets of error analysis (EA) methodology, attempting to generate hypotheses regarding the

[115] Sato (1990: 1). An Associate Professor at the University of Hawaii in the Department of ESL from 1992 until her passing in 1996, Charlene Junko Sato was one of the world's foremost experts on pidgin and creole languages and second language acquisition, focusing primarily on her own heritage in Hawai'i Creole English (HCE).

[116] The common errors encountered were largely related to the emergence of linguistic subsystems in the formation of relative clauses, interrogatives, and negation as well as common error types in general.

nature of these processes[117]. But the fact that the focus on errors provided only a partial account of learners' ILs led Schacter (1974) and Schacter and Celce-Murcia (1977) to argue for research into where learners were getting it right. To this criticism was added the accusation that EA, focusing as it did on learner production, did not recognize avoidance behavior and other strategies on the part of the learner.

As has been demonstrated, the CA hypothesis cannot account for learner errors that are not derived from L1; conversely, CA overpredicts errors in L2 based on L1 (Lightbown & Spada 2006). In this context, according to Larsen-Freeman and Long (1991), the environment is imposing while the passive role of the learner is merely caught between the contrasting L1 and L2. Contrastingly, they proposed that the perspectives on errors resulting from cognitive theory, whether error analysis or interlanguage, make errors a valuable source of information. With both perspectives perceiving errors as "an inevitable part of learning" (Dulay, Burt, & Krashen 1982: 138), the analysis of errors provides data to improve teaching and better understand the L2 acquisition process. As for the learners, their role (Larsen-Freeman & Long 1993) is clearly active as they process input and generate hypotheses which are tested and refined based on this information.

Research in error analysis has led to the development of taxonomies of error in writing with no set boundaries to various categories, like "error types based on linguistic category, surface strategy taxonomy, and communicative effect taxonomy" (Dulay, Burt, & Krashen 1982: 146). Their surface structure taxonomy predicted that misinformation and omission are the main modifications to target forms, while addition of elements and misordering occur less frequently[118]. Regardless of the type of error, however, the EA and interlanguage perspectives, including those which include the benefits of revision, have thus validated the attempt to understand learning through the study of error. Selinker's (1969, 1972, 1992) interlanguage, previously defined as the dynamic linguistic system developed by L2 learners, containing elements of both L1 and L2 as well as language systems in general, views errors as the result of L2 learning strategies. Richards (1971/1974) further pointed out that errors — be they interlingual, intralingual, or developmental — can also reveal the acquisition stage of a given learner.

1.2.2.4. Morpheme acquisition order studies and performance analysis

In tandem with this target orientation of error analysis, another approach to learner language was developed, the study of order of acquisition of morphemes[119], which sought to

[117] Richards (1971) suggested four causes for intralingual and developmental errors: "(1) overgeneralization; (2) ignorance of rule restrictions; (3) incomplete application of rules; and (4) false concepts being hypothesized by the learner" (in Sato 1990: 4).

[118] Note, however, that their taxonomy was based on oral English data whereas the present study is concerned with strictly written data.

[119] Steeped in the tradition of first language acquisition, the order of acquisition methodology was largely fed by the emergence of bilingual studies. Due to this influence, the research tended to be "more revealing of L1 issues than of the process of IL development" (Sato 1990: 4).

reveal the sequence of development of grammatical subsystems[120]. This performance analysis (PA) approach in SLA, for both child and adult learners, was stimulated by Bloom (1970), Brown (1973) and de Villiers and de Villiers' (1973) studies in L1 acquisition. Their seminal L1 morpheme[121] acquisition studies dealt with acquisition of functors – grammatical morphemes; these, with a number of L2 morpheme acquisition studies, whereas Dulay and Burt (1974) took on SLA work in cross-linguistic studies of children while Bailey, Madden, and Krashen (1974) and Larsen-Freeman, 1975) studied adults. Notwithstanding Dulay and Burt's (1974) rejection of the significance of L1 transfer in child SLA, more recently, "a thorough review of all the morpheme acquisition studies suggests that the learners' first language has a more important influence on acquisition sequences than some researchers would claim" (Lightbown & Spada 2006: 77). Thus, despite descriptions of "changes in conceptions of language acquisition and the nature of learners, from the behaviorist view of a first-language habit interfering with a second-language habit to the generative grammar view of active hypothesis testing" (Hakuta & Cancino 1977/1991: 74),

> there is no doubt in the minds of most researchers and teachers, however, that learners draw on their knowledge of other languages as they try to discover the complexities of the new language they are learning. [...] current views of first language influence emphasize that there is an important interaction involving the first language (or other previously learned language) some universal knowledge or processes, and the samples of the target language which learners encounter in the input. (Lightbown & Spada 2006: 85-87)

In another review of the literature, Gass and Selinker (2000) reported that, instead of interpreting studies in which a common order of grammatical morpheme acquisition occurred regardless of L1 as support for UG, two other possibilities could be considered: (1) that the innate biological endowment may, instead, simply direct the way people learn such that the morphemes are acquired in a given order; or (2) that the specific pronunciation, meaning, or form of the morphemes themselves are responsible for the order of acquisition. Another approach involves Schachter's (1974) avoidance strategy, conflating perspectives of L1 interference and an independent interlanguage, to describe learner perception of the distance and difference between L1 and L2 features[122].

Goldschneider and DeKeyser (2001) reported on a meta-analysis based on the data

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[120] For example, in SLA research, Milon (1974) identified common stages in the acquisition of English negation.

[121] As the smallest meaningful unit of language, function-based grammatical morphemes are acquired after meaning-based lexical items (Brown 1973). The two basic categories of grammatical morphemes: (1) freestanding words and (2) bound morphemes, attached to words, can be derivational, where the morpheme alters the word's part of speech, or inflectional, which "adds some element of meaning required by the grammar and changes the form of a word without changing its basic part of speech" (Celce-Murcia & Larsen-Freeman 1991: 52).

[122] To the exclusion of metaphorical uses of words and idiomatic expressions, the perception of similarity as a prerequisite for risk-taking was found in Kellerman (1986). He reported reluctance in Dutch learners of English to accept straightforward translations that were more idiomatic or unusual.

collected between 1973 and 1996 in twelve of an initial 25 studies on grammatical morpheme acquisition order in ESL for adults and children, involving oral production data from 12 studies, from a total of 924 participants. They found that, despite the commonality of a supposed natural order of acquisition for these learners, five determinants — perceptual salience (phonetic substance/number of phones, syllabicity, and sonority), semantic complexity, morphophonological regularity (both the number of phonological alternations and homophony with other grammatical functors), syntactic category, and frequency — explained "a large portion of the variance" (Goldschneider & DeKeyser 2001: 34) in acquisition order for six grammatical functors. These were restricted to the most common cross-study functors — present progressive *-ing*; plural *-s*; possessive *'s*; articles *a/an/the*; 3rd person singular present *-s*; and regular past *-ed* — using the *suppliance in obligatory context* (SOC) scoring system developed by Brown (1973). Goldschneider and DeKeyser (2001) concluded that the data support a connectionist view of language learning[123] such that, notwithstanding task type and NL, statistically viable patterns were found and confirmed[124] in longitudinal studies, regardless of even instruction-based and natural learning.

As a result of the original morpheme studies, Krashen (1977) posited a common underlying learning process in both first and second language development, namely a natural order hypothesis. The Acquisition/Learning Hypothesis (1976, 1982) was the first of his hypotheses proposed between 1976 and 1985, composing the Monitor Model as an overall theory of SLA with implications for L2 teaching. To wit, the Acquisition/Learning Hypothesis distinguishes between what arises in the informal environment of acquisition[125] and the formal environment of learning. The hypothesis further posits that acquisition, as a subconscious process similar to L1 acquisition, contrasts with the conscious process of learning or "knowing about language" (Krashen 1982: 10). Although the Acquisition/Learning Hypothesis was described as "potentially the most fruitful concept for language teachers that has come out of the linguistic sciences"[126], it has also been labeled "either clearly false or trivially true" (Gregg 1984, in de Bot, Lowie, & Verspoor 2005: 141).

The Monitor Hypothesis (Krashen 1981: 3-4) posited that an individual's monitoring activity is dependent on the time available to practice a variety of mental activities, such as consideration of utterance to be produced, knowledge of L2 rules, and focus on form. Further, the monitor exists to, indeed, monitor and edit utterances that are produced through the process of acquisition (Krashen 1982: 15). Despite Krashen's developing theories,

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[123] The studies all ignored type of instruction or exposure to English and were all ESL, but not EFL learners.

[124] Sato (1990: 5) noted that Hakuta's (1976) Japanese study is the exception.

[125] According to Ellis (2001), however, perspectives diverge in defining the term acquisition: the first characterizes the initial introduction of new forms to be produced by learners, while the second makes grammaticality judgements, evaluating both comprehension and production, despite the absence of an adequate way to measure these simultaneously. Krashen, Butler, Birnbaum, & Robertson (1978) used the terms *feel* and *rule* to respectively describe grammaticality judgements for subconscious and conscious acquisition.

[126] Stevick (1980: 270, in Gregg [1984, in de Bot, Lowie, & Verspoor 2005: 141]).

criticism of the morpheme studies[127] revealed a fundamental problem with the theory on the nature of the learning process. Due to the influence of previous L1 research focusing on particular morphemes, the L2 studied reflected only a small portion of the target language, largely ignoring previous IL research results. Furthermore, due to the multiplicity of possible native and target languages, neither systematicity nor cross-linguistic generalizability could be achieved (Sato 1990: 5). In terms of process, SOC analysis completely ignored target functions in favor of target forms. This focus precluded the existence of a mechanism for eliminating from the study any production of premature forms[128] and even of cases of learner production of target forms "without a true understanding of the forms' target functions" (Sato 1990: 6), resulting in misrepresentation of the learners' developmental level. According to Brown (1983), transitional stages of development are also not represented by SOC analysis employed in PA since neither the initial appearance of morphemes nor their development are traced, further obscuring developmental patterns since no distinction is made among morpheme context, function and use[129].

With their target orientation, the theoretical approaches supporting CA, EA, and PA failed to generate research methods that could provide information on the way in which learners enter the L2; neither could it speak to the learner strategies used to reach this objective, with the resulting inability to describe any transitional communicative competence. Here, Hatch and Wagner-Gough (1976: 53) explained succinctly: "We are so prone to think about linguistic description that we are blind to the psycho-linguistic processes; we pay little attention to what the learner really does".

1.2.2.5. Variation studies

Variation theory was proposed in the 1960s (Labov 1969) to explain the relationship between different varieties of the same language. Most important, perhaps, was Labov's finding that alterations are usually systematic and not random. In its original form, variation theory was connected to generative grammar, through Chomsky's (1965) Standard Theory, the syntax-driven model that derived surface structure from deep structure to follow lexical insertion and phonological rules in accordance with phrase structure and transformational rules. Labov (1969) first recognized that, central to a valid theory of language, language itself is inherently variable. As a precursor to this now generalized perspective, Weinreich, Labov and Herzog (1968: 100) stated that "[l]ong before predictive theories of language change can be attempted, it will be necessary to see language — whether from a diachronic OR a

[127] For a comprehensive discussion, see Rosansky (1976, in Sato 1990) for problems with the methodology at the base of the morpheme studies — primarily, that analysis based on suppliance in obligatory context (SOC) would reveal an "apparent systematicity for groups of learners while obscuring variability in individual performance" (Sato 1990: 5).

[128] Wode, Bahns, Bedney, & Frank (1978, in Sato 1990) included in these premature forms those which have been revealed to precede internalization of the distinction between lexical and inflectional past, like went v. go*ed* or took v. *taked*.

[129] See Pica (1983) for a full discussion involving various uses of *the*, including the anaphoric *the*, and the resulting developmental sequences that should be revealed.

synchronic vantage — as an object possessing orderly heterogeneity". Labov's basic tenets are further elaborated by Bickerton (1973: 643), who affirmed that

> [l]anguage is then seen as a dynamic process evolving through space and time; 'leaky' grammars, variants that fit no system, conflicting native-speaker intuitions — all the problems that vexed previous formulations are now seen as the inevitable consequences of spatial or temporal segmentation of what is really a seamless whole. It follows that to speak of 'dialects' or even perhaps 'languages' may be misleading; these terms merely seek to freeze at an arbitrary moment, and to coalesce into an arbitrary whole, phenomena which in nature are ongoing and heterogeneous.

In addition, Bailey (1973: 21) identified two central aspects to the variationist perspective, on one hand, a "dynamic paradigm, which, in contrast with the static paradigm of both structuralism and transformationalism, includes time as a fundamental dimension of all analysis" and, on the other, a conceptualist orientation which "accepts as real and worthy of study both the flux of variation in data… and also the reality and suitability for study of abstract relations among data variants".

Schumann (1975, in Sato 1990) pioneered discussion in variation and dynamism[130] with his analogy between early SLA and pidginization. Variation was accordingly defined by its process orientation, describing and explaining linguistic systems by examining changes diachronously within synchronically defined moments of a language. Sato (1990: 8) noted the power of the concept that explicitly links variation with change in the dynamic paradigm, with the most relevant source of data based on pidgin-creole communities[131]. Extending Schumann's (1975) description of the pidginization process to a description of the early stages of the English target IL of a Spanish speaker, Schumann (1978) later spearheaded the extension of the domain of IL development in SLA[132]. Also reflecting the theoretical perspective of SLA as a multidimensional process, a model presented by Meisel, Clahsen, and Pienemann (1981: 128) aimed to determine "the way in which socio-psychological factors might influence a learner's position in the other two dimensions: development towards the target variety and use of a more or less restricted variety within each stage".

It is this process orientation, intentionally non-target oriented, that informs the most recent methodological innovation in IL analysis that illustrates, within the developing

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[130] The forerunners of creole linguistics and SLA were Andersen (1981), Schumann (1976) and Stauble (1978) although most of the theoretically framework was previously defined by Labov (1969); Labov, Cohen, Robins & Lewis (1968), Bickerton (1971, 1973, 1975), and Bailey (1971, 1973).

[131] The multilingual and highly heterogeneous social intercourse characterizations of these communities also include, as a result, accelerated linguistic change.

[132] Work in this domain was not limited to American scholars; in Europe, Pidgin Deutsh, a Heidelberger Forschungsprojekt, and the Zweitspracherwerb italienischer und spanisher Arbeiter (ZISA) Project are two such examples of projects which began as sociolinguistic studies of migrant workers acquiring German, focusing on variation issues whose increasing "concern with external factors was correlated with an increased need to describe the variation between learners and the varieties of the second language that they use, and the need to distinguish between developmental sequences and inter-subject variation" (Nicholas & Meisel 1983: 71).

grammar of language learners, the relationship between form and function. Thus, rather than measuring increasing target-like production of specific forms[133], two types of analyses work together for maximum effectiveness: a *form-to-function* mode of analysis —comprehensively analyzes the functional distribution of a particular form in learner IL in conjunction with a *function-to-form* analysis[134] which "documents the evolution of grammatical encoding of… [a] functional domain" (Sato 1990: 9).

Confirming the process-orientation of the variationist perspective, Bickerton and Givón (1976: 13) proposed three linguistic features to distinguish cases of variation linked to diachronic change since synchronic variation does not perforce reflect ongoing change. These features begin with *categoriality*, "whereby a rule that is optional in some environments either *must* or *must not* be applied in others"; then followed by *hierarchy*, in which "an optional rule is *consistently* applied more in some environments than in others"; and, finally, *implicational relationship* states that "application of an optional rule in one environment implies its application in others". These researchers further proposed a *diachronic hierarchy of environments*[135] to explain the frequency of rule application in varying semantic environments.

Kumpf (1982: 179) developed a function-to-form analysis method based on her premise that specific discourse functions motivate linguistic forms, whereby the use of a form is "indexed to a particular context in discourse"[136]; the evidence revealed that learners' "interlanguage reflects discourse structure in ways which are characteristic of native languages, and that their grammar can be seen as a function of discourse" (Sato 1990: 12). In the wake of applications of this method in target English IL, Flashner (1983: 89, in Sato 1990) found that "the base form of verbs is used for stative verbs with perfective meaning, for all the imperfective forms including the habitual, the continuous, the perfect, the anterior, irrealis forms, negatives and questions". Lynch (1983: 224) further pointed to the difficulty of "a description of the subject's tense-aspect system… because of the overuse of the base

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[133] Sato (1990: 9) described this as *form-only analysis*, drawing on the morpheme studies as examples. She particularly cites their constraints derived from their target-language orientation, deliberately omitting the consideration of not only the form's possible functional variation but also potential multiplicity of functionally or semantically similar forms.

[134] Limited production in early stages of SLA precludes the collection of a broad distribution of forms, so not all forms can be studied at any one time, resulting in an incomplete view of IL development. This limitation led researchers (cf. Andersen 1981; Hakuta 1981) to suggest that units of acquisition could not be limited to morphemes, words, and sentences but should instead include behaviors as units of analysis. To rework the perspective, in a function-to-form mode of analysis, the research considers the role, for example, of discourse-pragmatics to communicate meaning given the lack of linguistic encoding competence.

[135] The proposed diachronic hierarchy of environments accounts for the fact that, according to Sato (1990: 8), the "context in which a rule most frequently applies is also the environment in which it was first acquired; and where the rule applies least often constitutes its most recent environment of use".

[136] Beginning with the identification of discourse modes or genres in the data, ranging from narration to conversation and exposition, this is then followed with an analysis of the internal structure of each mode, analyzing the same by identifying and qualifying the coding points. At the next level, the researcher delineates the internal structure according to "a variety of linguistic coding devices, like clause types and mode, tense-aspect category, verb type and verb form" (Sato 1990: 12).

form", corroborating Kumpf (1982) who posited that, in the face of little morphological marking in the early stage of IL development, features of discourse or interactional context can account for the absence of morphological coding. By extending functional analysis beyond the level of the clause, function-to-form complements form-to-function analysis by describing pre-linguistic means of meaningful communication. The contrasting complexities involved in form-to-function mapping of language development, have been considered in Andersen (1984: 79) in the One-to-One Principle of IL construction, which

> specifies that an IL system should be constructed in such a way that an intended underlying meaning is expressed with on clear invariant surface form (or construction). By 'meaning' is meant primarily relational meanings such as *possession, agent, patient, negative, plural, definite, punctual,* etc., which are encoded through morphology and syntax (among other means) in languages. By 'form' is meant both a surface grammatical morpheme and a serial construction – word order. The 1-1 Principle is thus a principle of one *form* to one *meaning*. [137]

Central to the developing insights into IL is its systematicity beneath a superficial chaos[138], reflecting the dynamic perspective on IL development. In addition, the commitment to a multi-level analysis is supported by the function-to-form mode of analysis in its examination of "the entire repertoire of strategies and linguistic coding devices exploited by the learner" (Sato 1990: 14).

1.2.2.6. Phonological aspects

Learners' phonological interlanguage systems can account for spelling and morphosyntactic structures. Several key issues are addressed by the research: the difficulty in acquisition of certain L2 sounds; the characteristics of those L2 sounds and/or features that are more difficult to acquire; the role of L1 transfer in acquisition of L2 phonology; the involvement of other possible linguistic factors. Major and Kim (1996, in Major 2008: 74) proposed that the difficulty of acquisition discussed in earlier theories was, in fact, the wrong notion; instead, claims ought to be made as to the *rate of acquisition*. Thus, their Similarity Differential Rate Hypothesis (SDRH) proposed that "dissimilar phenomena are acquired at faster rates than similar phenomena".

Major's later model (2001), the Ontogeny Phylogeny Model (OPM), dealt with the interaction of various factors in interlanguage, posited as parts of L1 and L2 in addition to

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[137] Andersen's (1984: 87) perspective is that, based on a review of the results in studies of IL syntax, including negative placement, basic word order, and tense-aspect marking, the one-to-one Principle is one among other possible principles that determine a learner's final IL. In addition, this principle holds true for discourse-pragmatics (meaning/form) and for semantics (function/form). Nevertheless, conflict between semantics and pragmatics, specifically the process of encoding in linguistic form, leaves questions as to the way in which lexicalization or grammaticalization is expressed based on shifting discourse-pragmatic strategies.

[138] Huebner's (1983) study of a Hmong learner of English in a form-to-function mode of analysis revealed the shift from pragmatically-based use of the Hmong article *da* to grammatically-based information organization using English articles.

parts of universal grammar which neither exist in the L1 nor L2, combining similarity of rate, universal grammar and markedness, and L1 transfer. Thus, it is to be expected that the more similar and marked an L2 sound is (compared to an L1 sound), the more slowly it will be acquired. A Chronological Corollary to the OPM also affirms that interlanguage has a chronological development pattern, whereby "L2 acquisition increases, L1 transfer decreases, and universals increase and then decrease" (Major 2008: 74). The Similarity Corollary of the OPM states that, for similar phenomena, the chronological development pattern in interlanguage is that L2 acquisition proceeds slowly, transfer persists; consequently the role of universals is relatively small compared to "normal"[139] (phenomena that are neither similar nor marked). For marked phenomena, the Markedness Corollary of the OPM, as explained by Major (2008: 74) affirms that the role of universals plays a greater role, whereby L2 increases slowly, L1 decreases then decreases slowly, and universals first increase rapidly and then decrease slowly.

Flege's (1995, in Major 2008) Speech Learning Model (SLM) proposed that learner perception before a particular sound determines the difficulty of L2 acquisition. Sufficiently dissimilar L2 sounds, by this model, will more readily establish new phonetic categories in the learner's interlanguage; conversely, perception of less dissimilar sounds makes acquisition difficult because there is no new phonetic category established since the L2 sound is classified as equivalent to the L1, subsuming the L2 segments with the similar L1 segments[140]. Best (1995: 193, in Major 2008: 75) proposed a model similar to the SLM, the Perceptual Assimilation Model (PAM), which differs mostly in nomenclature, like *segmental constellations*, and possibility of a speech sound not being heard.

Tesar and Smolensky (2000) examined the learning model of Optimality Theory based on listening, production, and cognition, framed within a PDP connectionist network and the structural analysis of overt linguistic forms, considering the challenge of "*how* to change the learners' grammar to one which more closely corresponds to what is heard" (Tesar 1997: 5), a problem which Tesar described as "non-trivial because (a) the overt form often does not uniquely determine the corresponding full structural description; and (b) the principles of the grammar available for manipulation crucially evaluate full descriptions". According to Tesar (1997: 5), the *mismatch* between a learner's interpretation of a surface form and the subsequent phonological production by that learner is specifically what triggers learning, especially in the perception and production of word and sentence level stress.

According to Tarone's (2005) review of the literature, Preston (2000) presented the most comprehensive [theory] to date in integrating linguistic, sociolinguistic, and psycholinguistic data (Tarone 2005: 498). Preston's theory of weaker interlanguage grammars involves the recognition of learners' creative use of their interlanguages through intentional choices in the performance of particular sociocultural identities. The notion of L2 learner agency in their

[139] Major (2008: 74).

[140] The SLM claims that this subsuming of differing L1 and L2 segments lead to "persistent accented production in L2 or even to shifts in L1 production" (Major 2008: 75).

interlanguage variation further recognizes and empowers learners rather than reinforcing the perspective that interlanguage happens to the learner.

1.3. Second Language Acquisition in Practice

Brown (1973: 51) clearly established the cognitive and affective differences between children and adults as well as the generally agreed upon distinction of puberty as the line between childhood and adulthood. Gathering the previous two decades of research, Cook, Long, and McDonough (1979) categorically contrasted the differential factors involved in learning an L1 and a second language (an L2). After examining the setting as a factor – including the number of native speakers with which the learner comes into contact, where the variety of types of people (*e.g.* nuclear family members *v.* teacher, or other native speakers) is greater for L2 learners; the type of exposure, ranging from culture to belief-limited[141] in the case of L1, or from random to highly structured in the case of L2 — they found that internal factors of identity, psychology, and age combined with external factors, such as input quantity and quality.

1.3.1. Identity

In searching for a comprehensive theory of social identity integrating both the learner and the language learning context, Block (2007, in Erdim 2009: 102) applied the curious approach of deliberately *misreading* earlier L2 studies[142] over thirty years of SLA research. He noted part of the post-structuralist views on identity formation, defined as "the discursive process whereby people are located in conversations as observably and subjectively coherent participants in jointly produced storylines" (in Block 2007: 18).

Gardner and Lambert (1972) noted that a speaker's identity relates to learning a language addressed in terms of motivation; for example, instrumentally motivated learners use English only for practical purposes, such as business, while integratively motivated learners aspire to make English-speaking friends and move socially in English-speaking circles. Gardner (2002, in Adamson 2009: 164) further noted that, "though self-identity is not explicitly identified in it, the concept of integrativeness involves the willingness to identify with the other language community". But identity has been shown to have a more continuously changing nature; to wit, "[a]pplied linguistics researchers have been drawn to literature that conceives of identity not as static and one-dimensional but as multiple, changing, and a site of struggle"

[141] The influence of a parent's belief in the way a child ought to be spoken to determines to a large extent the type of language with which the child interacts. This can include (or not) motherese — or child-directed speech.

[142] "A purposeful misreading of founding texts" was also the approach adopted by Selinker (1992: 3-5) in *Rediscovering Interlanguage*. This methodology is attributed to Garfinkel (1967, in Selinker 1992: 3), an ethnomethodologist, who recommended that "one must purposefully misread borrowed texts in terms of underlying assumptions and needs in one's own field… through the prism of key concepts". In Selinker's case, borrowed texts include those from the fields of contrastive analysis (CA), bilingualism, error analysis, theoretical linguistics, and both experimental CA and experimental mathematical psychology.

(Norton & Toohey 2002, in Adamson 2009: 116). This perspective seems to be compatible with Vygotsky (1934/1978, 1934/1962/1986) and Bakhtin's (1981, in Adamson 2009: 165)) belief that "learning a new language, or even a new discourse style or register, involved taking on aspects of a new identity".

1.3.2. Psychology

The internal factor of psychology in SLA is more difficult to quantify for study, as in the cases of learning a language for fun or in learners motivated by love or happiness. Rubin (1975) and Rubin and Thompson (1994) found, nevertheless, that successful learners are "willing and accurate guessers; have a strong drive to communicate; are often uninhibited; are willing to make mistakes" (in Oxford 2004), all quantifiable psychological aspects. Both communication management and language learning increase in effectiveness with a more positive learner attitude toward the L2 (Gardner & Lambert 1972) making attitude communicatively functional. Conversely, Schumann (1976: 40) describes a bad language learning situation as when the L2 (second language) learner group would consider itself subordinate.

In spite of the assumption that English as a native language or in a national level differs from English as an international language, as Widdowson (1994: 385, in Talebinezhad & Aliakbari 2001) asserted, "the very fact that English is an international language means that no nation can have custody over it. To grant such custody of the language is seemingly to arrest its development and so undermine its international status".

Research (Smith & Bisazza 1982; Smith & Rafiqzad 1979) has argued that native speakers ought to be trained in using English internationally, notably in the present condition of the world where "the range of the nonnative/nonnative interactions, if not far greater than the interactions among native/nonnative ones, is highly noticeable" (Aliakbari 2002: 5-6), resulting in his questioning of the widely held assumption that "native speakers are the most intelligible speakers of English… [since it] has not been validated empirically". Citing Smith and Rafiqzad's (1979, in Aliakbari 2002: 6) empirical study of the role of the native speaker's phonology, it was concluded that, "since native speaker phonology does not appear to be more intelligible than nonnative phonology, there seems to be no reason to insist that the performance target in the English classroom be a native speaker"[143].

1.3.3. Age

Just as Lenneberg's (1967) Critical Period Hypothesis figured in the discussion of L1 acquisition, it can be used to focus on whether or not age will be a constraint in SLA in adults. As applied to SLA, two complementary perspectives exist: (1) younger learners can acquire an L2 more successfully than adults because of the plasticity of their brains; and (2) the UG that is active in child L1 acquisition is no longer available after a certain age.

[143] Widdowson (1994: 397) later found that "the majority of those who are to the language born speak nonstandard English and have themselves to be instructed in the standard at school".

For example, believing that language learning is circumscribed by superior brain plasticity before the age of nine, when compared with that of an adult, Penfield and Roberts (1959, in Zhao and Morgan 2004) not only claimed that children can learn two to three languages as easily as one, but also recommended specifically, that L2 teaching begin at an early age in school. Yet, although some research continues to support this perspective (cf. Johnson & Newport 1989), a wide review of the research on the issue led Bialystok and Hakuta (1994: 80) to claim that, although evidence is inconclusive as to the existence of a biologically significant critical period for SLA, "on average, there is a continuous decline in ability with age". In this vein, Hopp (2010) found evidence against the critical period in his cross-linguistic study of 59 post-pubescent L2 German learners[144], whose errors, specifically in case marking, subject-verb agreement, and gender concord, were systematically attributable to transfer from their respective L1s. The conclusion was that non-native (NN) and native (N) grammars and processing systems "are fundamentally identical, with L2 systems being computationally less efficient due to L1 influence".

A silent period at the beginning of the acquisition process has been reported[145] but Ritchie and Bhatia (2009: 386) pointed out that "silent periods have been reported in the literature only for children but not for adult learners". Furthermore, although Scovel (1988) reported that some researchers have attributed the age effects on L2 pronunciation to a critical period for phonological acquisition, "the connection between neurological maturation and the degree of L2 foreign accent is a tenuous one and has yet to be clearly established" (Flege 1999, in Ritchie & Bhatia 2009: 387).

From the view of education practice, it is of great importance to understand, as far as possible, how maturational effects interact with environmental factors in the acquisition of L2 (Wode 1981), since this interaction lends significant credibility to approaches to L2 instruction and has implications for foreign language learning. For example, full mastery is normal in children learning their L1 while the same is less likely for adult learners of an L2. Fossilization occurs when L2 development stops, for which several explanations have been offered. Cognitive arguments focus on the fact that the adult L2 learner missed the critical period. Pragmatics explains from the position that the learner who can communicate finds no tacit for full mastery of the language. Finally, from a social perspective, arguments can be made for an L2 learner who simply does not identify fully with the L2 speech community.

1.3.4. Input Quantity

Input quantity in SLA is a basic variant in many respects. Theoretically, it may be the factor that is most relevant to connectionism perspectives on SLA as have been presented. The connectionist approach proposed by Ellis' (2006: 100) Associative-Cognitive CREED, for example, required input quantity and claimed that "SLA is governed by the same principles of

[144] The subjects' L1s were English, Dutch, and Russian (Hopp 2010: 901).

[145] Lakshmanan (1994) provided a comprehensive discussion of the initial silent period in children acquiring an L2.

associative and cognitive learning that underpin the rest of human knowledge. The major principles of the framework are that SLA is **C**onstruction-based, **R**ational, **E**xemplar-driven, **E**mergent, and **D**ialectic". According to Associative-Cognitive CREED, both competence and performance "emerge from the dynamic system that is the frequency-tuned conspiracy of memorized exemplars of use of these constructions, with competence being the integrated sum of prior usage and performance being its dynamic contextualized activation". By reflecting L1 usage, which *tunes* learner attention to language, in general, these language attention skills are transferred to L2. And while L1 is thought to limit "the endstate of usage-based SLA", it is proposed that learner consciousness can create "a dialectic tension between the conflicting forces of their current stable states of interlanguage and the evidence of explicit form-focused feedback, either linguistic, pragmatic, or metalinguistic, that allows socially scaffolded development" (Ellis 2006: 100).

Another factor in input quantity varies according to learner setting: for example, L2 learners can be surrounded by the target language, as immigrants in a place where another language is spoken; learners can study the L2 in their own countries, at school or on their own, with less input, which can vary still with reference to their motivation, be it integrative or instrumental, additive or subtractive[146]. Educational research has shown that pedagogical techniques can increase motivation in the adult learner, especially learner preparation for the next lesson, a variety of activities, materials, and tasks, and cooperative rather than competitive activities[147]. Pimsleur et al. (1962, in Hadley 2002)) demonstrated a positive correlation between interest in the TL and achievement[148] while Guiora, Beit-Hallahmi, and Brannon (1972) reported a correlation between lowered inhibition[149] and language performance. Hadley (2002), however, noted that "it seems reasonable to say that motivation is nevertheless important for adult learners because, without motivation, it is difficult for them to continue the tedious and sometimes embarrassing task of learning a new language".

1.3.5. Input Quality

A great deal of research in SLA has dealt with the phenomena of L2 input[150], beginning as early as the Skinner (1957) and Chomsky (1959, 1965) debate over the stimulus of external factors *versus* an internal innate language faculty, expressing a Universal Grammar, that make language acquisition possible. However, Corder (1967: 165) alerted to a distinction between input and intake, as previously noted: "input is *what goes in* not what is *available*

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[146] Cf. Gardner & Lambert (1972), Skehan (1989), Crookes & Schmidt (1991), Dörnyei (2001) and Adamson (2009: 162, 164) for an across-the-decades *tour de force* on the robust topic of motivation in SLA.

[147] Crookes & Schmidt (1991, in Lightbown & Spada 2006: 63).

[148] In Guiora, Brannon, & Dull (1972: 114).

[149] Vodka was the disinhibitor in the test group of this infamous blind study of 72 American University students of Thai, confirming personal observations that college students who have imbibed, upon meeting their teacher at a venue or in the street, are more likely to engage and even take the initiative to strike up the conversation immediately in the target language.

[150] See Rast (2008) for a complete contemporary study.

for going in, and we may reasonably suppose that it is the learner who controls this input, or more properly his intake". This distinction has been particularly relevant for distinguishing the role "that this processed information will play in building internal language representations" (Rast 2008: 3-4, paraphrasing Hatch 1983). In a review of the research on input, Rast also found that "everyone, regardless of the theoretical framework, seems to agree on the importance of input in language acquisition". Certain models of first language acquisition that have been presented focus on the need for input, like connectionist architecture — whereby "the knowledge of the network resides in *the information given to these nodes* […] and the strength of the connections between the nodes [… and] the network learns by means of a system of feedback comparing the expected output with the real output" (Rast 2008: 5, 10, emphasis added).

Bates and MacWhinney's (1989, in Year 2003) Competition Model also "draws on connectionist modeling, and thus stresses the importance of frequency and the information value of linguistic input". According to this model, L2 learners do not rely on linguistic universals but rather on competing linguistic cues from which they derive meaning.

Contrastingly, the theory of Universal Grammar (UG) has specifically argued that "humans are innately (i.e. genetically) endowed with universal language-specific knowledge, or what Chomsky calls UG, with parameters that govern what is possible in human languages"[151]. When learning a first language, children "come to know certain properties of grammar that are not obviously learnable from input" (Gass & Selinker 2008: 170), forming sentences to which they have never been exposed[152]; generative approaches have used UG to resolve this problem and, as a result, "the role of L1 and L2 acquisition has been neglected for quite some time because it weakened the UG assumption" (de Bot & Schrauf 2009: 7). Adamson (2009: 6) synthesized the three contemporary positions on UG in SLA: (1) Bley-Vromann's (1990) Fundamental Difference Hypothesis[153], which posited no UG involvement based on proven failure of some students to acquire L2 (no access); (2) given the many successful cases of L2

[151] Larsen-Freeman & Long (1991: 228-230). Cf. Mitchell & Myles (2004: 94), who noted that, in SLA, rather than considering the learner as a social being, "[t]he Universal Grammar approach is only interested in the learner as a processor of a mind that contains language".

[152] Unsworth (2009: 29). See also Dekydtspotter et al. (1999/2000, in Unsworth 2009: 26-29) found that native English learners of French L2 had acquired discontinuous and continuous *combien*-question forms that could not be explained through instruction.

[153] Cf. Stewart (2003) for further inquiry into the impact of maturational constraints on SLA. Bley-Vroman's (1990, in Stewart 2003) Fundamental Difference Hypothesis (FDH) posited that the guidance provided by the principles and parameters of Universal Grammar (UG) in L1 acquisition is no longer accessible to older language learners; hence, his proposal of this fundamental difference between child and adult language acquisition. Recalling the proposed workings of UG, children acquire language in the passive recognition of parametric values in the target language, which are then set for the domain-specific mechanism of internal grammatical representations. Following Bley-Vroman's (1990) FDH, adults must rely on general problem solving skills in processing the L2 input to consciously derive a grammatical structure, resulting in less uniformity of acquisition in adults and more morphosyntactic difference from the target language. The FDH does recognize indirect access to UG through L1 grammar so that adults can recycle their L1 parameter settings in their interlanguage although they cannot reset these parameters in any way.

learning in adults, UG in adults must be at work as it is in children[154] (complete access); and the principles and parameters of UG used in L1 acquisition are the only ones available to L2 learners (partial access). Another possibility, of course, is (3) dual access, where the learners access UG through both their L1 and their L2. In the case of no access, learning by general principles may replace UG, the principles and parameters of which are no longer accessible with age. In the case of complete access, the UG principles may continue available to L2 learners, with L1 providing quick settings for L2 parameters that have the same value; in this case, SLA for other parameters proposedly proceeds as it would for L1 acquisition. For the case of partial access to UG, this may occur through the learners' L1, albeit without access to the learning principles through which L1 was acquired, although general learning strategies may allow the learners to reset some L1 parameters. In the case of dual access to UG, hypothetically, L2 learner use of general learning strategies partially blocks the access to UG.

Despite the possible perspectives on UG in SLA, several problems exist, beginning with the absence of a learning theory. UG applies to core grammar but does not deal, for example, with discourse structures, sociolinguistic competence, lexicon, or semantics. Other perspectives have been proposed for similar orders of acquisition and input quality, based on theoretical approaches eschewing UG. Usage-based approaches to SLA, applying sociocultural and connectionist network theories of first language acquisition, take the view that SLA takes place through a combination of general learning mechanisms, pattern recognition, and social cognition, which eliminates the need to fall back on a language faculty. Instead of attributing precocious learning in SLA to UG, just as in first language acquisition, complex systems and chaos theory can justify the development of complexity from simple mechanisms[155]. Linguistically relevant information in the non-linguistic environment has also been largely underestimated, providing cues about the links between linguistic signs and their referents. The working memory is also including in these aspects of daily life, as a child and as an adult, that will have "an impact on language development over the lifespan" (de Bot & Schrauf 2009: 8). In terms of input quality, for functionalist or discourse theory approaches to SLA (cf. Hatch 1980, 1983; Tomlin 1990[156]), the acquisition of a language, attributed to "circumstances of use and communication interaction"[157], is associated with causal relations produced among the various discourse phenomena — confirmation checks, clarification requests, scaffolding, and negotiation for meaning[158].

Notwithstanding these alternative views, the search for the specific parameters to be set

[154] Cf. Schwartz & Sprouse (1996) and Shi (2003).
[155] Cf. Ellis (2003) and Larsen-Freeman & Cameron (2008).
[156] Tomlin (1990: 155) concluded that "functional approaches to linguistics have a significant role to play in SLA studies".
[157] Tomlin (1990, in Gregg 1993: 286) and Hatch (1978, in Gregg 1993: 286)
[158] See Gregg's (1993) protest on the precise meaning of negotiation for meaning.

in UG has since been carried out by studying the grammars of languages around the world[159]. Pienemann (1984, 1989) reported that research has found universally similar patterns of acquisition for grammatical sequences of word order and question formation; at a more micro level, other SLA research studies the order of morpheme acquisition.

Nevertheless, and prior to the advancement of the connectionist view, based primarily on evidence from both L1 and L2 morpheme acquisition studies hypothesizing a universal order of acquisition, Krashen's (1985) Natural Order Hypothesis suggested a natural order of acquisition of L2 rules, independent of simplicity of form but subject to the influence of classroom instruction. Conversely, Krashen's (1985) Input Hypothesis, acquisition of the L2 is absolutely dependent on the learner's receiving comprehensible input, symbolically *i*+1, where *i* represents the learner's L2 level. Finally, through the Affective Filter Hypothesis (Krashen 1985), this comprehensible input may meet with a mental block or barrier to the acquisition process.

Krashen's (1985, 2004) varied versions of his Input/Comprehension Hypothesis, two in a collection of controversial hypotheses[160] that have greatly stimulated SLA research on the topic of input, are psycholinguistic approaches that stress the quest for the most effective input. Each of Krashen's hypotheses, in turn, has influenced directions in SLA research[161]. As a macro theory, his (1977, 1978, 1982) Monitor Theory[162], incorporating his hypotheses, involved a great number of the factors in SLA — classroom instruction, input, environmental influences, age, personality traits, the innate mechanisms of language acquisition; still, criticism found fault in the fundamental Acquisition/Learning Hypothesis, arguing that, while this theory hypothesizes that the Monitor is the only way to use learning and that the Monitor cannot be used under normal conditions, the need to advance two different paths to competence in an L2 is obviated (Gregg 1984).

Despite the criticism, the mental processes involved in dealing with the data feeding acquisition in Krashen's (1985) Input Hypothesis were treated in his alternatively named

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[159] Larsen-Freeman & Long (1991). As White (2003: 22) described it, "if it turns out that the L2 learner acquires abstract properties that could not have been induced from the input, this is strongly indicative that principles of UG constrain interlanguage grammars, parallel to the situation of L1 acquisition".

[160] *Krashen-bashin'* was an academic sport, so to speak, in the 1980s. Cf. Wheeler (2004: 126-127), who summed it up as such: "The slightest hint of sympathy for Krashen can bring out the most passionate comments". He also noted that "Krashen's theory, no matter how scientific anyone claims it to be or not (including Krashen), allows a great deal of *art* on the part of the teacher". Ciotti (1998) noted that Krashen was "an academic superstar, writing books and papers, consulting with school districts and jetting off to educational conferences where he's practically become the patron saint of schools of education" while, at the same time, Bill Honig (California State Superintendent of Education) blamed Krashen for 1994 state test results which rated California child immigrants' reading scores as the worst in the country (the USA).

[161] An informal testament to the degree of Krashen's influence is a search of the key words *Chomsky SLA* and *Krashen SLA*, which, respectively, returned 36,400 and 34,700 results (7 January 2011).

[162] See Gregg (1984) for a sharp criticism of the Monitor Theory, which de Bot, Lowie, & Verspoor (2005: 137) described as having an "abrasive tone" although he was among the first researchers to point out the logical principle of Occam's razor, that "one should not make more assumptions than the minimum needed", although "Gregg himself also appeals very much to anecdotal and subjective information to substantiate his own claims".

Comprehension Hypothesis (Krashen 2004: 1), which he described as referring to "subconscious acquisition, not conscious learning. The result of providing acquirers with comprehensible input is the emergence of grammatical structure in a predictable order. A strong affective filter (e.g. high anxiety) will prevent input from reaching those parts of the brain that do language acquisition".

Simplified, this hypothesis "states that we acquire language when we understand messages, when we understand what people tell us and when we understand what we read"[163]. Applied directly to teaching practice, Truscott (1998) and Krashen (2004: 2) concurred that, despite their separate reviews of the research claiming that grammar instruction is helpful, on the contrary, the modest gains in accuracy by highly motivated students occurred only in the context of focus on form. Although this could have been interpreted as suggesting that grammar should not be taught, instead, the point was that grammar teaching is relevant for the two purposes of language appreciation[164] and societal standards for accuracy, which, "especially in writing, are 100%"[165]. Krashen (2004) similarly comes to the conclusion by Truscott (1996) that correction[166] has no effect on grammatical accuracy. Instead, this linear perspective of language acquisition simultaneously establishes a cause and effect relationship between input and acquisition while predicting a given order for the acquisition of grammatical structures.

1.4. Other Contributing Factors in Interlanguage

Some SLA theories which look to a motive for developing interlanguage through external factors are sociocultural theory and acculturation theory, while other are derived from interactionist hypotheses and the Comprehensible Output Hypothesis.

1.4.1. Sociocultural Theory

Lantolf (2000: 1) affirmed that sociocultural (SCT) theory, firmly based on Vygotsky, is "very different from theories currently in favor in the mainstream SLA literature". SCT's central tenet as applied to SLA is that language learning is a socially mediated process while

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[163] Krashen (2004: 1). Similarly, he applied the Comprehension Hypothesis to literacy, claiming that "[o]ur reading ability, our ability to write in an acceptable writing style, our spelling ability, vocabulary knowledge, and our ability to handle complex syntax is the result of reading" (Krashen 2004: 1).

[164] Krashen (2004: 2) defined language appreciation as linguistics, including, for example, language universals, language change, and dialects.

[165] Krashen (2004: 2). He expanded on this, writing, "We are not allowed *mistakes* in punctuation, spelling or grammar. One public error, in fact, can result in humiliation. Even well-read native speakers have gaps, places where their grammatical competence differs from accepted use". Within the writing process, Krashen (2004) asserted that consciously learned rules, those that refer to language aspects unrelated to the communication of messages, ought to be used in "the editing stage of the composing process, when appealing to conscious rules will not interfere with communication".

[166] For more on correction see § 1.9.2.

language itself is a cultural artifact mediating activities that are social and/or psychological[167]. Sociocultural factors likely to affect the dynamic and non-linear interaction that may take place in SLA include sociocultural factors like the existence (or not) of an instructional setting, whether the L2 is a foreign or second language; affective variables of personality, attitude, motivation, or anxiety; and cognition-related factors – like aptitude in other cognitive systems, working memory, and processing speed (Lowie, Verspoor, & de Bot 2009).

Savignon (1983) and Wilkins (1976, both in Ohno 2002) proposed a sociolinguistic approach to communicative language teaching that stresses communicative competence according to the anthropologist Hymes (1972), such that language development is viewed in terms of its use within a society. Accordingly, the term *communicative competence* was defined as "a knowledge of the rules for understanding and producing both the referential and social meaning of language" (Hymes 1972, in Ohno 2002: 26). A model of communicative competence (Canale & Swain 1980; Bachman 1990, both in Adamson 2009: 154) proposed for SLA grouped the four basic competences into two: organizational (grammatical/discourse) and pragmatic (illocutionary and sociolinguistic). Of these competences, the teaching of sociolinguistic aspects, like how to use styles and registers appropriately, is the least developed whereas serious scholarly activity on teaching implications has surrounded the knowledge of the patterns of sentence organization, how to perform speech acts appropriately, and of how different discourses are organized, namely for basic writing and composition in higher education, under the auspices of rhetoric[168].

1.4.2. Acculturation Theory

Similar in its recognition of external factors, acculturation as an SLA theory is particularly relevant for immigrant L2 learners since it speaks to the social psychological state of the individual with respect to the other culture (Dion 1996: 1). According to Schumann's (1978: 29) acculturation model, SLA is the result of acculturation, defined as "the social and psychological integration of the learner with the target language (TL) group". Results from a ten-month study of the acquisition of syntactic aspects in spontaneous conversation involving six L2 learners[169] revealed that "the subject who acquired the least amount of English was the one who was the most socially and psychologically distant from the TL group" (Schumann 1978: 34).

Another related perspective is Berry's earlier (1970, in Berry 1998) four-fold model of acculturation, for the most part absent from SLA introductory textbooks (cf. Brown 1987; Larsen-Freeman 2000; Ellis 2008a) despite its direct bearing on motivation in L2 learning and its influence on posterior socio-psychological research. It is primarily based on the dual

[167] See Lantolf & Thorne (2007) for a further defense of SLA through the principles of SCT.
[168] See § 1.7.1 on the Classical Method and Grammar-Translation for a brief presentation of Greek approaches to different rhetorical strategies.
[169] The study involved two children, two adolescents, and two adults.

principles of

- contact-participation — defined as the extent to which learners look for opportunities to make contact with other groups, valuing and participating in day-to-day activities of the larger society; and
- cultural maintenance — understood as the extent to which learners value their cultural identity and their desire to maintain it (or not).

1.4.3. Interactionist Hypotheses

Given the apparent insufficiency of input to explain SLA, both Hatch (1978) and Long (1981, 1996) proposed interactionist hypotheses which conceive of language and language learning as social practices. For example, Hatch (1978: 404) proposed instead that "[o]ne learns how to do conversation, one learns how to interact verbally, and out of this interaction, syntactic structures are developed". In her view, structures are first learned and only after are they used in discourse. Long's (1981) empirical study of conversations between NSs and NNSs revealed less modification in NS input than modification in interaction between all speakers. Thus, rather than reject the positive role of modified input, his view was that the modifications found in interactions are characteristic of successful SLA. He suggested, in fact, that "negotiation for meaning, especially negotiation work that triggers interactional adjustments by the NS or more competent interlocutor, facilitates acquisition because it connects input, internal learner capacities, particularly selective attention, and output in productive[170] ways" (Long 1981: 451-452).

In Larsen-Freeman and Long's (1991: 266) assessment, interactionist theories, in their view of language as a matter of discourse instead of a matter of syntactic structures, derive more power for explaining SLA by invoking "both innate and environmental factors to explain language learning".

1.4.4. Comprehensible Output Hypothesis

In the context of French immersion programs in Canada and despite years of input resulting in less than expected grammatical competence, Swain (1985, 1995) proposed the Comprehensible Output Hypothesis to complement Krashen's (1985) Input Hypothesis. Based on the claim that learners have the opportunity to observe their own production through language practice, through observation, she hypothesized, "learners may notice a gap between what they *want* to say and what they *can* say, leading them to recognize what they do not know, or know only partially" (Swain 1995: 126).

Noticing here is postulated as essential to SLA while output fulfills the two functions of hypothesis testing and triggering reflection, identified specifically as a metalinguistic

[170] See Krashen's (1982) proposal for a weaker version of the Interaction Hypothesis, whereby interaction is understood as a potential source of comprehensible input.

function[171]. According to Swain (1995: 132), while learners "may output just to see what works and what does not", they also reflect on their language production during negotiation of meaning, since what is being negotiated is the relation between the language form the learner has produced and the meaning the learner had hoped to convey. Krashen (1998) took issue with what he perceived as the resulting Need Hypothesis, although he had never seen it defended in the literature but which he believed to persist in the SLA community[172], which basically stated that learners acquire language forms based on their perceived need to communicate. According to this posited Need Hypothesis, if learners are not forced to communicate, then L2 language forms will not be acquired.

Nevertheless, using think-aloud protocols with L2 writers, Cumming (1990: 490) found only 30% of verbal reports to be potential instances of language acquisition, as defined by the Comprehensible Output Hypothesis, simultaneously attending to form and meaning. Similarly, Krashen (1998: 176) had found it "unlikely that [these moments] play a major role in language acquisition; most of the episodes were writers searching for the right word, or searching for first language equivalents", identified as Newmark's (1966)[173] strategy of relying on L1 when competence is lacking in L2. Thus, although recognizing that, by placing the learner in a position to receive comprehensible input, the need hypothesis can be useful, Krashen (2003) also protested that the need hypothesis is useless without the presence of comprehensible input.

Scarcity of output, however, is an important conditioner of the validity of the Comprehensible Output Hypothesis (cf. Ellis, Tanaka, & Yamazaki 1994; Krashen 1998). In

[171] Swain & Lapkin (1995) studied the impact of output upon learner thought processes via a think-aloud protocol with similar conclusions about metalinguistic functions.

[172] Krashen (1998: 179) wrote, "I have never seen the *need hypothesis* discussed explicitly in print, but it is widely assumed to be true".

[173] Krashen (1983) himself had popularized Newmark & Reibel's (1968) article on necessity and sufficiency in language learning by adopting their position as an Ignorance Hypothesis. Referred to as Newmark's Ignorance Hypothesis from Newmark (1966, in Ellis 1994) where Newmark had originally dismissed behaviorist accounts of SLA. Ellis (1994: 314) related that Newmark had been "particularly primarily concerned with rejecting the view of language as an incremental process, according to which learners were supposed to acquire a language structure by structure, proceeding from the simplest to the most complex". While he saw interference as real, he argued that it was simply the reflection of ignorance. For example, Krashen drew on the notion of falling back on old knowledge for a lack of new knowledge, calling it padding. In the original, Newmark and Reibel (1968: 159) illustrated that although "the learner will be seen to be stubbornly substituting the native habits for target habits […,] from the learner's point of view, all he is doing is the best he can: to fill in his gaps of training he refers for help to what he already knows".

tandem with case studies showing that reading can promote language development[174], research has found that high levels of language proficiency can be reached without any language production (Ellis, Tanaka, & Yamazaki 1994), lending support to Krashen's (1998: 181) earlier conclusion that "[g]iven the consistent evidence for comprehensible input […] and the failure of other means of developing language competence, providing more comprehensible input seems to be a more reasonable strategy than increasing output".

Prior to this indictment, and in the second version of the Output Hypothesis, Swain (1995: 128) hypothesized that "output may stimulate learners to move from the semantic, open-ended nondeterministic, strategic processing prevalent in comprehension to the complete grammatical processing needed for accurate production". Swain and Lapkin (1995: 371) further encouraged complementarity of the Comprehensible Output Hypothesis with the Comprehension Hypothesis by explaining that "sometimes, under some conditions, output facilitates second language learning in ways that are different from, or enhance, those of input". Their results were based on a think aloud protocol study of 8th grade French immersion subjects who were asked to write and then edit one to two paragraphs. For the draft and editing stage combined, they identified "190 occasions in which students consciously recognized a linguistic problem as a result of producing, or trying to produce, the target language (Swain & Lapkin 1995: 384), amounting to an average of ten chances to improve through writing *per* day per student. With low results, similar to Cumming's (1990) study, only 50% of the decisions identified in the first draft were lexical, rather than grammatical, leading Swain and Lapkin (1995: 390) to conclude that there was no evidence that any of the episodes they described led to improvement.

Swain's (1985, 1995) Output Hypothesis, with its basis in the metalinguistic skills developed in language learning, has proven to be relevant in demonstrating how learners may be enabled for reflection, control, and internalization of linguistic knowledge.

1.4.5. Sociocultural/Ecological/Complex Systems

Just as Halliday (1990/2001) suggested an alternative type of discourse in a number of areas in the name of ecological linguistics, Thornbury (2009b) offered a consideration of current terminology in the sociocultural/ecological/complex systems paradigm for SLA. According to Thornbury (2009b), contemporary strategy for SLA involves only an incidental focus on form enveloped in maximum strategic exposure and scaffolded interaction in a

[174] Richard Wright, acclaimed author, and Malcolm X, world renowned political activist and leader of the Nation of Islam, are examples of the development of literacy solely through reading, as cited by Krashen (1998: 177). Nevertheless, in *Learning to Read*, a chapter in his autobiography, Malcolm X asserts of his copying of the pages of the entire dictionary, that "[b]etween what I wrote in my tablet, and writing letters, during the rest of my time in prison I would guess I wrote a million words" (X and Haley 1965), demonstrating that he was, in fact, generating enormous quantities of comprehensible output. In Wright's case, he continued his education, after leaving school, by reading books from the public libraries in Memphis and in Chicago (Wright 2008) although he had also graduated as valedictorian of his 9th grade class, leaving some doubt as to his literacy development deriving solely from comprehensible input in the form of reading.

communicative setting, such that, while the class syllabus is semantic, needs-driven, and aimed at maximizing learning opportunities, the teaching objectives respect the nature of language as dialogic but formulaic and locally-assembled and the nature of SLA as emergent and socially-mediated, thus co-constructed. In his proposed paradigm of vocabulary changes (see Appendix 1c), the terminology *English as a Lingua Franca* (ELF) substitutes *interlanguage*. Note, however that Breitender (2005: 1), however, affirmed that English as a European Lingua Franca (EELF) should be "taken to be not a 'learner language' ('interlanguage') but a 'user language' like any other". Discrepancy in the usage of terminology, still at its inception, seems inevitable at this time; Spichtinger (2000: 9-11), in a study of English in Austrian universities, provided a brief overview of the terminology usage and coinage post-WWII as well as a more careful distinction between terms, in which he suggested that "[r]ather than insisting on general bilingualism it would suffice to have extensive ESP courses which teach students everything they need to know to participate in international scientific discourse (Spichtinger 2000: 117).

Given the rather multilingual rather than simply bilingual reality of most young adult Europeans and "the majority of people in the world" (Cook 2002: 2), language learning models that account for multilingual proficiency are increasingly necessary, such as Herdina and Jessner's (2002, in Jessner 2008: 6) Dynamic Model of Multilingualism (DMM), which considers the "cumulative measure of psycholinguistic systems in contact, their crosslinguistic interaction and the influence that the development of a multilingual system shows on the learner and the learning process".

Thornbury (2009a) has advanced that the two perspectives of grammar as collocations and languages as emergent phenomena, in fact, form the most contemporary pair of theories for both language acquisition and language learning. In language acquisition theory which affirms that grammar is collocation, "[e]very word is primed for use in discourse as a result of the cumulative effects of an individual's encounters with the word" (Hoey 2005: 13, in Thornbury 2009a). This perspective of grammar as an emergent phenomenon can also be applied to SLA, as Larsen-Freeman (2006: 558-589) reported based on her study of Chinese learners of English: "Language is not fixed, but is rather a dynamic system. Language evolves and changes... [it] grows and organizes itself from the bottom up in an organic way, as do other complex systems".

According to the emergentist perspective, "grammar is not a prerequisite of communication, rather it is a byproduct of communication... Language learning emerges from participation in linguistic practices, such practices always being steeped in historical, cultural and institutional meaning systems" (Van Lier 2004: 88, in Thornbury 2010a).

1.5. Second Language Teaching Considerations

Aristotle (in Johnson 1996) may have been the first to formulate ontological dualisms which represent the dichotomy between theory and practice for teachers of foreign/second

language. These problematic dualisms between thinking and doing can also be found in Kessels and Korthagen's (1996) distinction between perceptual and conceptual knowledge[175] and favoring the former for teacher training. A decade earlier and in a similar vein, Buchman (1984: 422) claimed that "research knowledge is only a fragment of human awareness, precious no doubt, but not created for the purpose of actions, not sufficient to determine them", while Eisner (1984: 452) added that "theory and generalizations from educational research can provide a guide — but never a substitute — for the teacher's ability to read the meanings that are found in the qualities of classroom life"[176].

Nevertheless, as Schlessman (1997: 775) pointed out, terms such as these can be a problem for L2 teachers since they assume, in this context, "an unnecessary opposition to each other". According to this author, limits on the variety and number of opportunities to make sense of theory within the context of what teachers actually know about teaching can preclude the possibility of transforming theory into practice.

1.5.1. The Role of the Language Teacher

While it has been said that "[b]ecause linguistics is only indirectly applicable to language teaching, changes in linguistic theory or arguments amongst linguists should not disturb language teachers" (Spolsky 1970: 143-153)[177], this may be so because of the claim that "successful sciences divorce themselves from direct concern with practical application"[178]. Despite this disturbing pronunciation of the gap between theorists and practitioners, the L2 teacher who seeks to best understand the way L2 learning takes place can easily find ideas in a rich tradition of research.

Wong Fillmore and Snow (2000) prepared a paper for the US Department of Education's Office of Educational Research and Improvement in which they outlined just what a language teacher needs to know about language. In explaining why teachers need to know more about language, they pointed to the multiple roles of the language teacher: communicator, educator, evaluator, educated human being, and agent of socialization (Wong Fillmore and Snow 2000: 5-11). As L2 learners, they point to the workplace, where "being a competent user of Standard English and being fully literate" (Murnane & Levy 1996, in Wong Fillmore & Snow 2000: 4) is expected.

The role of the language teacher in correction is controversial and will be discussed in the

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[175] Their argument is based on conceptions of rationality per Plato and Aristotle — phronesis (perceptual knowledge) and episteme (conceptual knowledge) — the first of which was considered to be central for teacher education programs since in this form of practical wisdom, exploration, development and refining of teachers' perceptual knowledge reveals "what they are actually aware of so that they can articulate the particulars of their own classroom context [...] examine their own reactions, thoughts, and feelings and [...] account for the intricacies of their own teaching" (Johnson 1996: 766).

[176] As a Stanford professor and former member of the American Educational Research Association, Eisner brought a unique perspective in that, while he proclaimed that "educational research informs educational practice", he simultaneously asked "whether it can inform educational practice" (Eisner 1984: 447).

[177] Cf. Skehan (1998: 1).

[178] Gregg (1993: 289-290, paraphrasing Newmeyer & Weinberger 1988).

context of written interlanguage. Nevertheless, Wong Fillmore & Snow (2000: 7) note that a pedagogical approach to language development that insists dogmatically on correction is more likely to hinder than to help in instruction; instead, teachers need to "select material that will help expand their student's linguistic horizons and to plan instructional activities that give students opportunities to use the new forms and modes of expression to which they are being exposed".

The role of the teacher as a perfect example of the target language, in this case, a native speaker, has also been a source of great controversy, spiriting a great deal of research, particularly in the area of English as a Língua Franca (ELF), as has been discussed. *Native speaker* (NS) was historically defined by Bloomfield (1933: 43, in Davies 2003: 4) as follows: "the first language a human being learns to speak is his native language; he is a native speaker of this language" and later as an "ideal speaker-listener, in a completely homogenous speech community" (Chomsky 1965). Nevertheless, for teaching, the dichotomy of NS teachers and non-native English-speaking teachers (NNEST) has given rise to a body of relevant research (cf. Phillipson 1992; Medgyes 1994; Braine 1999; Cook 1999).

Kachru's (1986) description of the spread of English around the world as three concentric circles of English as a way to understand the uses and different ways English is being acquired "is widely regarded as a helpful approach" (in Crystal 2003: 61). Accordingly, the inner circle was exemplified by the USA and the UK[179]; the outer/extended circle was portrayed by India and Singapore[180]; and the expanding[181] circle was represented by China and Russia[182]. Nevertheless, Schneider (2007) proposed sociolinguistic phases of the spread of English based on identity rather than on historical factors.

Kachru (1986:16) also brought to light the irrelevance of British English *v.* American English *v.* other varieties of English for non-native learners of English with the claim that, in an international setting, NNS-NNS interaction is more common than NS-NNS interaction. In this international setting, Ellis (2008a: 298) highlighted the use made of interlanguage resources for impression management[183] and Blum-Kulka (1991, in Ellis 2003: 191).

Quirk et al. (1972: 73), however, described American English as "the linguistic centre of gravity for the English speaking world", while decades later others have noted the growing internationalization of World English (cf. Greenbaum 1986: 190; Trudgill & Hannah 1994: 56; Crystal 2002: 248; 2003: 60).

Halliday (2002: 2) referred to "that undervalued and under-rewarded group who has to be

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[179] As the traditional bases of English, countries where English is L1 also include Ireland, New Zealand, Australia, and Canada.

[180] These are countries in which English plays a role in the country's primary institutions as well as an L2 role, especially in the early phases of the spread of English.

[181] Crystal (2003: 61) noted that *expanded* circle now better reflects the contemporary situation.

[182] Among these nations which have not been colonized by the inner circle, recognition of English as an International language is the key characteristic, such that English is taught as a foreign language.

[183] Ellis (2008: 159-199) reviewed the literature on the pragmatic aspects of learner language. Nevertheless, Table 5.4, illustrating the cross-sectional studies of learners' production of requests, demonstrated the overwhelming assumption that learners are targeted to native language norms.

both scholars and practical problem-solvers, namely teachers". Overall, the role of the language teacher is immense and unending, including ironically the ability to distinguish when (and when not) to get involved in learner activity. As Ellis (2008a) attested over expansive encyclopedic chapters, teacher development in SLA methods, techniques, research, theories, and challenges is a constant professional responsibility.

1.5.2. Interlanguage in Context

Bley-Vroman (1983) coined the term comparative fallacy to reflect the explanation of a learner's language in reference to the system of the target language[184], rather than an explanation reflecting an "independent set of rules and performance characteristics" (in Kwon 2004). Bley-Vroman (1983: 15) also asserted that "any study which classifies interlanguage (IL) data according to a target language (TL) scheme or depends on the notion of obligatory contexts or binary choice[185] will likely fail to illuminate the structure of the IL".

Cook (1999: 189) further warned that "SLA research has often fallen into the comparative fallacy […] of relating the L2 learner to the native speaker", especially given that it has been established, in both empirical and theoretical SLA research, that, at best, native-like competence in an adult L2 learner is a near-impossibility[186]. By this standard, Felix (1987) claimed that failure for adult L2 learners is almost universal while Cook (1999) argued that L2 learner attainment of native speaker competence is a myth that has discouraging or alienating effects on the L2 learner. As noted by Sridhar and Sridhar (1986, in Cook 1999), the paradox of SLA researchers is that they "seem to have neglected the fact that the goal of SLA is bilingualism".

The comparative fallacy (Bley-Vroman 1983) highlights the competence/performance dichotomy, confronting the underlying linguistic representation and the way that representation is used for the understanding and production of language. White (2003: 37) found that "[p]eople often look at L2 performance, note that it differs from that of native speakers, and argue that this demonstrates essential defects in competence, or lack of UG (the comparative fallacy again)". Admitting the possibility that performance factors, like parsing or processing, may be to some extent hiding the underlying competence of an L2 learner (Schachter & Yip 1990), this finding drove the theory of interaction between L2 input

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[184] Labov (1969) had previously argued against discrimination from a sociolinguistic perspective, such that one group of should not be measured against the norm of another — that grammar is neither better or worse, just different —, thus laying the ground for Bley-Vroman (1983) to apply Labov's logic to SLA.

[185] This reference to a concept introduced by Brown (1973) was an important part of his research that influenced natural order studies in general. Suppliance in Obligatory Context (SOC) was a methodology whereby contexts were created, in which an adult native speaker would use a specific grammatical morpheme, to be tested on children acquiring the same L1. These obligatory contexts were divided into four categories — linguistic, non-linguistic, linguistic prior, and linguistic subsequent — but most research in SLA has used this concept, SOC has been used only with reference to linguistic context, beginning with Dulay & Burt (1974a).

[186] Cook (1989) recorded "a small gallery of quotations about L2 learners taken from well-known and well-respected SLA textbooks and articles of recent years to show the commonness of this assumption", the "failure" of L2 learners to become native speakers.

and interlanguage grammar to account for grammar development. As such, researchers have tackled learnability issues to examine them for learning principles, input triggers, the role of negative/positive evidence, and the possibility that grammar change is failure driven (White 1991; Trahey & White 1993; Schwartz & Sprouse 1996). In general, Cook (1997) has postulated that, although

> [c]ompetence belongs to the idealized native speaker in a homogenous community; it is an abstraction from the real person in the real situation. Dealing with people who know two languages would be too complex. Or, to use [a] metaphor of Chomsky's, if you want to study water, you look at it in its purest possible form, not taking samples direct from the Hudson River: the competence of the monolingual must be the norm for purposes of description, regardless of the fact that there are probably more people in the real world who know more than one language than there are monolinguals. Illich and Sanders (1988) claim 'From Saussure to Chomsky *homo monolingui*s is posited as the man who uses language — the man who speaks.' To reply to Chomsky's argument in an equivalent metaphor, you do not break water up into H_2 and O to study it, you look at the molecule H_2O; in other words, bilingualism is not just the concatenation of L1 and L2 but a state of its own.

Teachers' views of the nature of both language itself and second language learning have implications for the proposed teaching objectives[187]. These views, in turn, also affect not only the type of syllabus and the activities selected for classroom use but also the perceived role of the participants in the process, from teachers to learners and learning material.

Another concept affecting SLA is the integral role of communication in L2 learning, whereby despite early approaches that encouraged deferring communication, for the level of acquisition was supposed to be sufficiently elaborate and complex before moving to language production[188]. Trim (2007: 17) reported that the Council of Europe had called for "a re-orientation of […] language didactics from structural formalism to pragmatic functionalism". This approach, he affirmed, is in agreement with the following three political aims of the Council of Europe, among others:

> promote the personal development of the individual, with growing self-awareness, self-confidence and independence of thought and action combined with social responsibility as an active agent in a participatory, pluralist democratic society; make the process of learning itself more democratic by providing the conceptual tools for the planning, construction, conduct and evaluation of courses closely geared to the needs, motivations and characteristics of learners and enabling them so far as possible to steer and control their own progress; provide a framework for

[187] Cf. Richards & Schmidt (2002) and Thornbury (2009b),

[188] Trim (1979, in Lievois 2003: 236) in his research for the Council of Europe described the perception of language learning as a *gradus ad parnassum* or even a pilgrimage, ascending the mountain one step at a time, a straight and narrow path paved with difficulty and dangers leading to a distant objective, rarely reached without hard labor. Trim's reference harkens to instruction books in general, but also, perhaps, to a difficult though essential book of the same title for composers, a classic theoretical study of counterpoint by Fux (1725/1965), the Music Director of the Imperial Court of Leopold I.

> close and effective interactional co-operation in the organization of language learning. (Trim 2007: 18)

Curiously, Structured Immersion, by constitutional amendment, is the only legal method of English language instruction in the American states of California and Arizona. The source of this method[189] is frequently cited to be the Canadian city of Montreal.

Nation (1990: 52) proposed that the objectives of learning in language classrooms could be grouped into the following areas: Language, Ideas, Skill, and Text or Discourse. Later, to manage innovation in language courses, Nation (2007: 1) proposed a time-on-task equal division of strands[190] — what he called *fluency development*[191], *meaning-focused input*, *meaning-focused output*, and *language-focused learning*[192] based primarily on research on form-focused instruction[193] and the Input/Comprehension Hypothesis (Krashen 1985, 2004).

Researchers have proposed lists of pedagogical principles (Krahnke & Christison 1983; Brown 1993; Ellis 2005; Nation 2007), such as providing and organizing large amounts of comprehensible input through both listening and reading; boosting learning through comprehensible input by adding a deliberate element; supporting and pushing learners to produce spoken and written output in a variety of appropriate genres. Other principles relate to the regular provision of opportunities for cooperative interaction and of fluency development activities for the four skills – listening, speaking, reading, and writing as well as addressing the communication and language needs of the learners through analysis, assessment, and monitoring; (Nation 2007: 9-10). Teachers are also guided toward teaching language items and patterns in a manner that makes deliberate learning possible, including feedback and individual study and toward providing training in strategies that contribute to language learning. In addition to balancing the four strands equally in learner activities, teachers are encouraged to plan to recycle the most useful language items, covering them repeatedly. Final principles are related to ensuring that although instruction should allow learners to focus predominantly on meaning, they should also focus on form (Ellis 2005).

In the face of the challenge of finding contextualized opportunities for understanding language education theory, clear exposure of SLA theories and their corresponding methods and approaches is an important first step.

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[189] See Notes for Chapter 8 in Adamson (2009: 192).

[190] Nation's (2007: 01) saw these strands as "long continuous sets of learning conditions running through the entire language course". Citing Cunningham & Stanovich (1991), who found that the more time spent reading, the better readers became, Nation (2007: 01-02) claimed that this robust principle also showed that "those who write a lot usually become better writers" allthewhile recognizing that quantity should not supplant quality.

[191] Schmidt (1992) described the commonality among theories that explain fluency development as involving a growth in the language unit size with which the learners are working.

[192] Research has shown that the proportion of one part learner focus is on form and three parts learner focus is on communicating and receiving messages (Thorndike 1908; Webb 1962; Waring & Takaki 2003; Nation 2007: 8).

[193] Some of the many names for language-focused learning are *deliberate study/teaching*, *form-focused instruction, focus on form, learning* as opposed to *acquisition*, and *intentional learning*. See Williams (2005) for an analysis of the requirements for deliberate learning of grammatical features.

1.6. L2 Teaching Methods and Approaches

The Moravian scholar Comenius[194] is noted for having clearly defined that "[e]very language must be learned by practice rather that by rules, especially by reading, repeating, copying and by written and oral attempts at imitation" (in de Wilde 2010: 1). His was and is one of many methods and approaches that can inform pedagogy.

1.6.1. The Classical Method and Grammar-Translation

Although Comenius wrote in 1632, it was only in the 19th century that the teaching of foreign language gave its method the name of Grammar-Translation[195] (G-T), adding to the Classical Method its traditional deductive focus on grammatical rules to better translate from L2 to L1, the mental gymnastics of which were thought to promote greater intellectual skills and develop character in the upper classes of society.

In this teacher-centered method, grammar was the focus of teaching and reading – of letters and articles – for access to authentic discourse was only introduced at the advanced stages, along with composition, more precisely, imitation of classical writing in the L2. Pedagogical forms of Aphthonius' *Progymnasmata* include, for example, fable, narrative, anecdote, and maxim[196], which are being taught to this day as rhetorical strategies "to equip students with a foundation of invention, arrangement and style through explicit instruction, variable contexts, and deep cognitive processing" (Stahl & Fairbanks 2006, in Selby n.d.).

Although it "offered very little beyond an insight into the grammatical rules attending the process of translating from the second to the native language", Thanasoulas (2002: 1) claimed that "[i]t is widely recognized that the Grammar Translation Method is still one of the most popular and favorite models of language teaching, which has been rather stalwart and impervious to educational reforms, remaining a standard and *sine qua non* methodology". Brown (1987: 75) surmised that, while the limited specialized skills required of the teacher, such as test preparation and marking, and its potential for leading the learner toward L2 reading[197] may be at the root of the on-going popularity of G-T, its basic "theory-lessness" is its greatest liability, since "[t]here is no literature that offers a rationale or justification for

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[194] See Gomes da Torre (1985) for references to Comenius' major works and a discussion of the potential of his influence.

[195] Chastain (1988, in Larsen-Freeman 2000: 11) noted that it was also "called the Classical Method since it was first used in the teaching of the classical languages, Latin and Greek". More to the point, Brown (2000: 74-75) discussed the prevalence of the Classical Method, as it was called before taking on the G-T label, throughout the 17th and 18th centuries as well.

[196] There are a total of 14 pedagogical forms in Aphthonius' *Progymnasmata*; the others are refutation, confirmation, common topic, encomium — "a discourse that expounds good attributes" –, invective, comparison, characterization, description, thesis, and proposal of law (in Heath 1997). While Aphthonius' lifetime has been identified as the 3rd or 4th century, Libanius' life span is known (314-364 A.C.) and his own *Progymnasmata*, consisting of several dozen writing exercises, which also included the pedagogical forms of speech in character and thesis, has newly become available in an extensive English translation (cf. Libanius/Gibson 2008).

[197] Larsen-Freeman (2000: 11-22) demonstrated that the principle behind this objective is one that is greatly *needed* by researchers and translators, for example.

it or that attempts to relate it to issues in linguistics, psychology, or educational theory" (Richards & Rodgers 1986: 5, in Brown 2000: 75). Through this method, the learners know about the language — its syntax, morphology, and lexicon — and are able to read and comprehend and, at the later stages, write by imitation, but they cannot learn how to speak in the L2.

1.6.2. The Series Method

It is to the insights and writings of a French teacher of Latin that Brown (1987: 34-35) attributed the beginning of the history of modern foreign language teaching — Gouin (1880). Gouin contrasted his young nephew's regular language acquisition with his personal failure over the same year to pass any language test at the University of Hamburg, diligently memorizing all kinds of language bits, including entire grammar books, reading books and a dictionary, German roots, and irregular verbs, and even trying to talk with people on the street in the target language as a method. Drawing on his insights about L1, he proposed that "language learning is primarily a matter of transforming perceptions into conceptions" (Brown 1987: 35), the representation of which is carried out through language, which is itself "a means of thinking, of representing the world to oneself".

Gouin's resulting Series Method existed in the shadows of the Direct Method at the turn of the century and shared the quality of directness (direct access to the L2, rather than *via* translation) and conceptuality of meaning, which contrasted dramatically with the translation and grammatical rules and explanations of G-T. Yet, true to its name, the Series Method was presented *via* a series of easily perceptible, carefully conceived, connected sentences.

1.6.3. The Direct Method

For its part, the Direct Method[198], popularized through private schools of which Berlitz' was the most renowned, insisted also on drawing L2 learning closer to L1 learning while rejecting deductive approaches to grammar to focus instead on vocabulary, using situational teaching units, demonstration, and visual stimulation.

The lack of teacher direction provided by this method has been cited, however, as part of its downfall[199]; for while private schools could afford the detailed preparation involved in class preparation, public schools had a more difficult task. The 1902 adoption of the Direct

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[198] Brown (1987: 57), while recognizing the historical reference to the Direct Method, informed researchers that it is more accurately referred to as an *approach*, reflecting Richards and Rodgers' (1982) distinctions between a "*method* — the unification of three interrelated subcomponents"; an *approach*, characterized as the theoretical principle of language and learning that serves as an *axiomatic construct*; *design* — specifically the curriculum/syllabus based on an approach; and *procedures* — particular techniques and activities derived from the defined approach or design. Brown (2000: 58) also noted that Berlitz never referred to it as the Direct Method, preferring instead the Berlitz Method. On a personal note, this was a great marketing coup to establish a household reference.

[199] Gomes da Torre (1985: 464) actually referred to the Direct Method classroom as chaotic, affirming the existence of an infinite number of personalized Direct Sub-Methods. The ensuing chaos is what he identified as a motivating force in the adoption of disciplinary measures in pursuant methods, such as vocabulary exercises and grammar drills.

Method in France and Germany[200], for example, officially obliged all L2 teachers to embrace a method in which they may (or may not) have had any training.

The expense of maintaining low teacher-student ratios for individualized attention and intensive study clearly could not be supported in the public school systems in the US, which returned to the basics of the G-T method, focusing mostly on reading[201] in the second quarter of the 20th century. Nevertheless, ignoring other languages was more difficult in Europe, where language barriers are physically crossed over short distances; here, the Direct Method, albeit without the rigor possible in high-priced private schools, continued in popularity[202].

1.6.4. The Behavioral Audio-Lingual Method

Mid-century, however, European and American objectives for L2 learning were aligned due to the conflict of World War II (WWII), which brought to the forefront the need to communicate, especially orally, in a context with both enemies and allies. The aural-oral method, which was also called the audiolingual habit theory and the functional skills theory[203], was the manifestation of this renewed interest in L2 learning, which was accompanied by prompt investment, in the form of special funding from the US armed services[204], to bring about what came to be known as the Audio-Lingual Method.

Lado and Fries (1943: xv), the architects of the Audio-Lingual Method, affirmed that "[t]o learn a new language, one must establish orally the patterns of the language as subconscious habits". Linguistic and psychological theoretical foundations were also manifested in Fries' (1945) structural linguistic principles[205], which incorporated the inductive approach to

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[200] This report is reminiscent of Gomes da Torre (1982; 1985; 1988; 1995) indictment of the imposition of the functional/notional syllabus in Portugal in the late 1970s.

[201] Brown (1987: 95) pointed to the influence of the 1929 Coleman Report in the US, which focused on the impractical nature of teaching oral skills in the classroom.

[202] Larsen-Freeman (2000: 23-26) described in detail the workings of a Direct Method English class in a *scuola media* in contemporary Italy

[203] Stern (1983: 463). The use of the term functional is curious in context with reference the Audio-Lingual method; nevertheless, it was used by Smith (1970) in the Pennsylvania Study.

[204] Specifically, the National Defense Education Act of 1957. Stern (1983: 463) and Brown (1987: 96) discussed the details of the Army Specialized Training Program (ASTP), or Army Method, as it was known until the late 1950s, which focused on aural/oral skills for immediate use in conflict resolution related to the war.

[205] Larsen-Freeman (2000: 36) explained that, since Fries was from the University of Michigan, the Audio-Lingual Method "has sometimes been referred to as the Michigan Method".

grammar[206], reinforced through drills on strategic grammatical structures. Their behavioral currents affirmed that, *per* Lado (1957), language learners should be presented with strictly audio-oral and audio-visual methods for learning.

According to Moulton[207] (1963), the five slogans designed to describe and advertize the Audio-Lingual Method are: "(1) Language is speech, not writing; (2) A language is a set of habits; (3) Teach the language, not about the language; (4) A language is what native speakers say, not what someone thinks they ought to say; [and] (5) Languages are different".

Despite the lack of function and meaning, however, Fries' (1952) slot/filler approach to grammar description has been described as motivating to teachers and researchers alike (Roberts 1956[208]; Fries and Fries 1985; Greenbaum 1988; Quirk, in Brown and Law 2002). As was discussed in section 1.2.2.1., pedagogical grammars were an important aspect of structuralist approaches[209], to which Fries contributed greatly. Despite the absence of psychological reality for the learner, whereby knowing the rules does not translate into the ability to apply them, pedagogical grammars are, in fact, useful as teachers.

Conditioning, based on stimulus-response theory[210], was designed not only to shape but also to reinforce learner behavior (habits) in the L2, which would correct the habits drawn on the influence of their L1. The interference of L1, construed in this method as the source of bad L2 habits, was marshaled into shape by simply obliging learners to follow set drill patterns, with no concern for language authenticity. Error, in this context, would be avoided at all costs and, when it occurred, it was eliminated by immediate correction, overlearning

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[206] Brown (1987: 96) noted that the aspect of inductively learning grammar is borrowed from the Direct Method, which made this incarnation a type of revival, in the context of the US. Hammerly (1975: 15) contended that the absolute rejection/acceptance of a deductive or inductive view of grammar is not always as dramatic as it is reported in the literature, giving the examples of the eclectic and moderate scholars Henry Sweet (famously inspiring parts of George Bernard Shaw's creation, Henry Higgins, in his play *Pygmalion*) and Harold Palmer (1921) (who was invited to be the special consultant on English education at Japan's Ministry of Education between 1922 and 1936). To improve pronunciation in Japan, beginning at the junior high school levels, for example, Palmer had prepared the Oral Method, in true eclectic style, to complement the various other skills "in proper coordination with a more complete program of linguistic study, a program which will also contain a due proportion of written work" (Palmer 1921: 11, in Yamamoto 1978: 158). See Fujimoto-Adamson (2006) for more on Palmer's influence in Japan.

[207] William G. Moulton, a renowned linguist, a Phi Beta Kappa Princeton and Yale graduate, and American army captain during WWII, authored *Spoken German*, the guide for the Army Method, with his wife Jenni Moulton.

[208] Roberts (1956) organized Fries' system for use in the classroom. Lest it be perceived that Fries was the only linguist trying to structure English, Kibort (2009) provided a succinct review of the largely semantic perspective of Reichenbach's (1947) primitives and their configurations in her own proposal for the English tense system.

[209] Schmidt & Frota (1986, in Thornbury 2009a) questioned the usefulness of pedagogical grammar descriptions for language learners, however, particularly in the personal case of Dick Schmidt's learning Portuguese in Rio de Janeiro. Thornbury (2009a) particularly questioned the fact that the learner in question had become, by 2009, an Associate Professor of Applied Linguistics at the University of Hawai'i; thus, if a pedagogical grammar perspective serves as "background and foreground" (Schmidt & Frota 1986, in Thornbury 2009a) for this learner, who hoped to "get a feel for the rest of it", what use would a pedagogical grammar description be for lay learners?

[210] Larsen-Freeman and Long (1991: 266) noted the promise of S-R models in areas of learning such as "perhaps pronunciation and the rote-memorization of formulae".

and habit formation, ultimately leading to correct L2 habits[211].

McDonough (1989: 10)[212] [213] described the behaviorist camp according to Carroll's (1966) affirmation that "the then dominant teaching methods were not in fact based on contemporary psychological work but used, loosely and selectively, older concepts" (McDonough 1989: 10), such as early Thorndikean association theory, which Carroll (1966: 104, in McDonough 1989: 10) described as "reminiscent of certain contemporary gestaltist movements in psychology which emphasize the importance of perceiving the structure of what is to be learned, without really relying on such movements".

Similarly, the attribution to Skinner (1957) of foundational principles of the Audio-Lingual Method, like pattern practice, was eloquently contested by Castagnaro (2006), who deftly dispelled a number of myths about the role of behavioral studies in the Audio-Lingual Method[214] [215]. He showed that Bloomfield's mimicry-memorization and Fries' pattern and dialogue practices (1945) (both in Lado 1957: 92-94), which predate Skinner's primary publications on the topics are the best proof against Rivers' (1964) condemning attribution of Audio-Lingual techniques, such as mimicry-memorization, pattern practice, and dialogue memorization, to Skinner's operant approach to verbal behavior.

Stern (1983), adding more historical detail to similar claims in other foundational SLA textbooks[216], dated the end of the Audio-Lingual Method as Chomsky's (1966) famous address on nativism at the Northeast Conference. Nevertheless, the Audio-Lingual Method is alive and well[217].

1.6.5. The Cognitive Approach

The year 1956, Pinker's *Annus Mirabilis*, brought cognitive perspectives of language learning into a dramatic contrast with the principles of the structuralist version of Audio-

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[211] The language labs of the day attest to the investment made at every level of education, for example, at the ramshackle University of Berkeley language lab, where I studied for my double B.A. in French Civilization and Contemporary International Relations between 1984 and1988.

[212] C. J. Brumfit was, as will be shown and according to Widdowson (2006), "one of the prime movers of the communicative approach to language teaching in the early 1970s". His appreciation of McDonough's work is particularly interesting given that "[h]e had a way of revealing unsuspected relevance, of reconciling apparent contraries… [e]specially impressive was his way of seeing the wider epistemological implications of pedagogic work, no matter how practical", which reflects McDonough's balanced approach.

[213] In his back cover blurb, from the British Association for Applied Linguistics Newsletter (McDonough 1989), here in its 3rd impression; it was first published in 1981, then again, in a 2nd edition, in 1986, establishing this work firmly in the researchscape of its area.

[214] See Brown (1987: 63-65), Lightbown & Spada (2006: 25), Larsen-Freeman (2000: 34), and Ellis (2008: 42) for examples of those who have contributed to this misappropriation to Skinner.

[215] He also cited the famous Donahoe & Palmer notation (1994: 296 fn2, in Castagnaro 2006: fn 3), which reads: "Having heard that the book was scrutinized and caustically dismissed by Noam Chomsky in a 1959 review, most psychologists have chosen not to read it. Nevertheless, the review is seriously flawed, and the book remains a masterpiece of selectionist interpretation."

[216] Cf. Brown (1987), Lightbown & Spada (2006), Larsen-Freeman (2000), and Ellis (2008).

[217] The resistance of the versions of the aural-oral method or the Audio-Lingual Method is attested across the decades and around the world by Anggraeni (2007) in Indonesia, Gomes da Torre (1985) in Portugal, and Hammerly (1975) in Canada.

Lingual Method. The cognitive audiolingual method retained aspects of the oral/aural techniques; nevertheless, the rejection of language learning as habit formation — and its resulting wane in learner motivation – allowed for attention to the learner as a thinking being so that grammar explanations could be proffered, examined, and discussed[218] in accordance with learner level.

Contrasting with Moulton (1963), the slogans for the cognitive approach were as follows: "A living language is characterized by rule-governed creativity; [t]he rules of grammar are psychologically real; Man is specially equipped to learn language; [a] living language is a language in which we can think" (Diller 1978, in Stern 1983: 470-471). The cognitive approach further recovered aspects of the foundations of Gouin's (1880) Series Method by presenting grammatical material in a graduated manner, largely based on both L1 and L2 performance analysis results from Brown (1973), de Villiers and de Villiers (1973) and Dulay and Burt (1974b). Gomes da Torre (1985)[219] provided the most convincing arguments for what he termed cognitive audiolingualism[220] in English teaching in Portugal, based on its limited classroom exposure (two to four hours per week), language level of the teacher base, a deep-rooted cognitive perspective toward deductive grammar, a belief in the need to elucidate thinking students as to the interlingual conflict they may find in learning English, and limited true opportunities for real communication with advanced or native speakers requiring that language be presented situationally.

Larsen-Freeman (2000: 53-120) noted that cognitive theory brought about an explosion of innovative methods and approaches largely based on Celce-Murcia's (1991) Cognitive Approach, by which the learners are actively made responsible for their own learning and encouraged to engage in formulating hypotheses for the discovery of the target language rules. These included Gattegno's (1976) Silent Way and other affective-humanistic approaches, such as Lozanov's (1978) Desuggestopedia, and Community Language Learning, inspired by Curran's (1976) Counseling-Learning approach. Comprehension approaches, which emphasized the importance of learner understanding before language production, have included Krashen and Terrell's (1983, in Ellis 2003) Natural Approach[221], Asher's (1977) Total Physical Response (TPR), and, more recently, Lewis' (1993) Lexical Approach.

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[218] Gomes da Torre (1985) heralded the cognitive audiolingal approach for its attention to individual cognitive processes and involvement in L2 learning.

[219] The copy of his valuable Doctoral Dissertation that was kindly sent to me, via the library at the Instituto Politécnico da Guarda, from the Faculdade de Letras da Universidade do Porto library, was in the worst possible shape. This exceptional reading, at nearly 500 pages, requires immediate preservation, perhaps through digital intervention, to preserve this seminal error analysis of Portuguese learners of English, specifically senior college students, the then future English language teachers of the country, in the early 1980s, likely the teachers of the subjects of this study.

[220] A thorough search of the literature only found one other researcher, Hammerly (1975), using this terminology.

[221] Ellis (2003: 28) placed Krashen and Terrell's (1983) Natural Approach in the area of Communicative Language Teaching. Nevertheless, it is important to recall, however, that the Natural Approach focused on listening, in parallel with child L1 acquisition, as a primary means of associating meaning directly with L2 (Larsen-Freeman 2000: 178).

1.6.6. Communicative Language Teaching

Concern for promoting the communicative and pragmatic functions of any language, incorporating Hymes' (1972) notion of *communicative competence*, motivated the shift from a structural syllabus to functional syllabus in Communicative Language Teaching (CLT) (cf. Brumfit 1978; Widdowson 2006). Thus, rooted in psycholinguistic and sociolinguistic theory, CLT brought some changes to the focus of teaching in the 1970s and 1980s according to Larsen-Freeman (2000: 121). These were primarily characterized by the goal of communicative competence in L2, which was intended to be reached by providing learner opportunities to practice L2 communicative functions within a social context, beyond the mastery of L2 linguistic structures. In keeping with a Hallidayan view of teaching linguistic knowledge as meaning potential, "a linguistic syllabus based on a functional model of language offers a systematic and manageable basis for designing courses" (Ellis 2003: 334-335).

In an article foreshadowing the theme of his 1985 thesis and partial inspiration for the study at hand, Gomes da Torre (1982: fn 13) provided a cogent indictment of the adoption of the functional/notional syllabus in Portugal and around Europe, relating that, in 1978, the Portuguese Ministry of Education had made the adoption official without even notifying the teachers who would be responsible for applying this methodology in the classroom[222]. Specifically, Gomes da Torre agreed in part with Brumfit (1978), who compared the pedagogical viability of asking students to learn lists of functions rather than a grammatical system and concluded that, instead, a grammatical-functional program best suited the needs of communication[223]. Furthermore, Gomes da Torre (1982, 1985, 1986, and especially 1995: 147) urged the teaching community to take the local community needs into account rather than accept fashionable doctrine which may "not always apply to the specific circumstances of English language teaching to Portuguese learners. … In some cases solutions that have worked perfectly in other latitudes may be of little value in Portuguese classrooms and in consequence must be rejected". He specified that, in Portugal, "[t]he adoption of foreign communicative manuals was more frequent than not, but teachers used them as grammar-translation materials".

Despite the long-lasting implications of the application of this method in Portugal, Nunan (2004: 7) traced the development of Communicative Language Teaching since the 1970s, when the insight that language could or should be construed as a tool for communication led to less emphasis on the memorization of items, be they phonological, grammatical, or lexical. The emergence of English for Specific Purposes (ESP) as an area of language teaching is also credited to this insight, as Savignon (1993) affirmed:

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[222] To further add insult to injury, Gomes da Torre shared the further irony of having learned of the reality while away from Portugal at a summer course in London in 1979.

[223] Brumfit (2001: 30) continued to support this position albeit in different terms, reflecting a different era, "Communication does not consist of identical aims, identically formulated. Identity confuses the issue. Communication occurs as a reflection of individuals' willingness to stay in contact with each other".

> In Europe, during the 1970s, the language needs of a rapidly increasing group of immigrants and guest workers, and a rich British linguistic tradition that included social as well as linguistic context in description of language behavior, led to the Council of Europe development of a syllabus for learners based on functional-notional concepts of language use and… a threshold level of language ability was described for each of the languages of Europe in terms of what learners should be able to *do* with the language (van Ek 1975). Functions were based on assessment of learner needs and specified the end result, the *product*, of an instructional program. The term *communicative* was used to describe programs that used a functional-notional syllabus based on needs assessment, and the language for specific purposes (LSP) movement was launched. (in Nunan 2004: 7-8)

Hymes' (1972) *communicative competence* had been proposed to include reference to the social context of language (in Halliday 2002: 10) while pragmatics "raised to theoretical status discursive issues such as implication, relevance, and politeness", whose dispensation of grammar Halliday bemoaned, "deploring this split between two aspects [(pragmatics and grammar)] of what to me is a single enterprise: that of trying to explain language". To this he added, "To the extent that I favored any one angle, it was the social: language as the creature and creator of human society. […] But by nature, and also be experience, I was (and have always remained) a generalist" (Halliday 2002: 6-7).

1.6.7. Language and Culture as a Medium for Doing/Learning

The title of this subsection is adapted from a chart designed by Larsen-Freeman (2000: 178), of a list of teaching principles, in which teaching "through communication, rather than for it" (Larsen-Freeman 2000: 137), is the goal, as in the cases of content-based instruction (CBI), the participatory approach, the Whole Language Approach, and task-based learning and teaching (TBLT).

CBI has the additional goal of integrating language learning with the need to learn about other subject matter, characteristic of ESP classes and professional training classes, which must establish clear objective both for language and other content learning. Thus, the communicative needs established by the texts representative of the subject matter determine the selection and sequence of the language items to be learned. Chamot and O'Malley's (1994, in Larsen-Freeman 2000: 160 fn 1) Cognitive Academic Language Learning Approach (CALLA), for example, integrates academic language development, content, and explicit instruction in learning strategies.

The nature of the content is the primary difference between CBI and the participatory approach, based on Freire and Macedo's (1987) views on literacy[224]; accordingly, the content is spontaneously dictated by issues of concern to the learners, with both the teacher and learners posing problems to be discussed, making learning experience-centered and

[224] These were drawn on Freire's native-language literacy program in Brazil in the 1960s.

motivated by personal involvement while knowledge is jointly constructed, for example, through writing in a collaborative process. Focus on linguistic form is not rejected, occurring with a focus on content, editing writing collaboratively and revising individually, for example, for both meaning and form. Constant evaluation of learning, including self-directed, peer and teacher feedback, is a fundamental aspect of the process approach[225].

Similarly to CBI, the Whole Language Approach advocates the use of meaningful texts, but instead of learning language items to put them together in a bottom-up sense, a top-down approach is used whereby a content-rich syllabus stimulates thinking about significant content. This holistic process occurs in a social learning context, in collaboration among students and between teachers and students. Process Writing[226] and the Language Experience Approach, respectively, are writing and reading techniques which permit learners to become actively involved in the dynamic interaction among the multiple perspectives of teacher-student-content-audience.

TBLT, much like CBI, strives for a natural context in which the learner can find opportunities to use language. This occurs specifically in the completion of tasks designed to maximize interaction among teacher-student-content, as stipulated in Krashen's (1985) Input Hypothesis and (2004) Comprehension Hypothesis as well as Swain's (1985, 1995) complementary[227] Output Hypothesis. Overall, TBLT claims that it can engage learners in the cognitive processes characteristic of natural communication. Ellis' (1994: 67) affirmation that teachers ought to "attend most carefully to errors that interfere with communication (semantic and global grammatical errors)" was explained by James (1998) in that the functional-notional syllabus orientation of communicative language teaching has reinforced the classroom focus on the *accessibility* of content over the grammaticality or its conformity[228]. Nevertheless, form-focused instruction (FFI)[229], divided into two camps, implicit instruction with more inductive reasoning (focus on form) and explicit instruction with more deductive reasoning (focus on formS, with a deliberate upper-case S), has begun to reintroduce the issue of conformity, with considerable impetus from research on connectionist networks (Long 1991, 2007; Ellis 1999, 2001, 2003, 2006; and Doughty & Long 2003).

Within the framework of TBLT, Lantolf's (2000) sociocultural SLA theory has been applied alongside the computational metaphor of the mind (cf. Skehan 1998), particularly in understanding the role of tasks (as artifacts) in mediated learning (Ellis 2008a: 175-176) and

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[225] Auerbach (1992: 14, in Larsen-Freeman 2000: 154-155) affirmed that through the process approach, "[r]eal communication, accompanied by appropriate feedback that subordinates form to the elaboration of meaning, is key for language".

[226] Process writing will be more thoroughly discussed in § 1.10.

[227] Although research has reported these hypotheses as antagonistic (cf. Paiva n.d.; Mitchell & Myles 2004: 21; Ellis 2003: 347; and Ellis 2008: 260-261) has consistently considered them to be complementary.

[228] Quirk (1968, in Fakhra 2009: 42) introduced the polarized concepts *conformity* and *comprehensibility*.

[229] See Ellis (2001) for an in-depth description of the types of FFI.

the role of Vygotsky's (1934/1978) zone of proximal development (ZPD), such that "it is not tasks themselves that create the context for learning but rather the way the participants carry out the task" (Ellis 2003: 180-184). Thus, the tasks themselves are but tools, which "learners interpret and use to construct an activity in accordance with their own particular motives and goals", where "scaffolding creates the contingency that makes it possible for learners to perform beyond their existing developmental level". Ellis' (2003: 184) theoretical pluralism, demonstrated here in the melding of both computational and sociocultural perspective on tasks, is an approach that is becoming ever more imperative[230].

In Poland, Gozdawa-Gołębiowski (2003, in Paradowski 2007: 57) has implemented the Language Interface Model (LIM), drawing on SCT and important insights from contrastive analysis of the L1 and the L2 being learned. The LIM functions in a learning environment in which the teacher knows, understands, and can create understanding about language through the L1 and its language system[231]. It begins with what is referred to as an explication of the relevant rule as it operates in and through the learners' L1. This is followed by an explanation of how the rule works in the L2 and any related contrastive or interface information serving to accommodate L2 though the modification of L1 rules. In an expansion of learner competence that integrates both L1 and L2, the learners' interlanguage, or multicompetence[232], develops in full cognition, strategizing through their own fully-developed L1 competence, especially as it relates to concepts in SCT, such as Vygotsky's (1934/1978) Zone of Proximal Development (ZPD) and Feuerstein et al.'s (1980) original Mediation Theory.

Mediation Theory (MT) has since been applied to specifically to learning, as updated through Kozulin's (2003) Instrumental Enrichment program and his updated version of Feuerstein's (1990: 74-75) Mediated Learning Experience (MLE), itself based on his Structural Cognitive Modifiability Theory, encompassing a dynamic theory of intelligence as a process that accommodates to new experiences, information, and stimuli through a cognitive approach, "with *the cognitive crutches* helping the limping perception to adapt to new situations". Feuerstein (1990: 75) defined an MLE as "an interaction during which the human organism is subject to the intervention of a mediator". Due to this intervention, "[l]earners can … forge in themselves a repertoire of dispositions, propensities, orientations, attitudes

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[230] See also Ellis (2003: 336) for a discussion of a modular approach, which has similar effects. Larsen-Freeman (2000: 181-184) recommended *principled eclecticism* as the desired approach to a pluralistic view in picking and choosing among methods, which themselves demonstrate coherence in the combinations of principles and techniques involved.

[231] Note that in a globalized world that is learning English as the language of international communication, the current situation, for example, in the EU and the European Higher Education Area projected by the Council of Europe and the EU under the priorities established in the Bologna Process, true rejection of what Phillipson (1992) warned to be the *monolingual fallacy*, as previously presented, is particularly relevant. In the EFL setting, not only is language competence in the L2 essential for the teacher but also important is awareness of the learners' sociocultural perspective and even use of the L1.

[232] Paradowski (2007: 79) noted that *multi-competence* can be understood as defined by Cook (1991) to refer to not only L1 competence but also learner competence in their L2 interlanguage or in the sense Cook (2003) later defined that L2 learners are compound bilinguals whose compartmentalized languages have a partially integrated overlap or even that they have only systematic access points.

and techniques that enable them to modify themselves in relation to other stimuli". Thus, the MLE is seen as the determinant for "the plasticity and flexibility of adaptation that we call intelligence".

According to Kozulin (2003: 27), the most important criteria identified for learning in an MLE are intentionality, transcendence (beyond the here and now), mediation of meaning, mediation of the feeling of competence, and reciprocity of interaction. Different types of mediation are recognized, such as scaffolding, which includes giving approval and providing feedback of encouragement and criticism in a form of contingency management, offering structure and organization of students' work at a metacognitive level, modeling strategies, creating awareness of the use of strategies, adjusting presentations to the learner level of competence, and transferring responsibility to the students. Correspondingly, the provision of hints and filler slots is acknowledged as more localized scaffolding and a technique[233] for mediation.

Three aspects of mediation are distinguishable[234]: apprenticeship, which models the community activity and mediates sociocultural patterns, guided participation, the objective of which is to provide and interpersonal perspective to the activity, and appropriation, concerning the changes that result in the learners (and the teachers!) due to having participated in the mediated activities.

It is in the context of mediated learning environments that imitation has an important role. Lantolf (2003: 352-354) has noted that the bias against imitation seems to reside in the largely pejorative view of the behaviorist legacy but assures fellow cognitivists that imitation involves more than the process of copying, as a form of cultural transmission, is extensive to stimulus enhancement, mimicking, and emulation. Particular to adults is the dynamic principle of continuous access to earlier ways of knowing, which differs from a linear model of cognitive growth in which previous forms of knowledge could be surrendered.

1.6.8. Complementary Approaches in Language Teaching

Complementary focuses on the language learner that have relevant implications for language learning in the classroom include learning strategy training, cooperative learning, and multiple intelligences, among others. This discussion will include a review of the literature on awareness of the increasing role of metacognition and metalinguistic approaches to language learning.

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[233] Kozulin et al. (2003: 20-21) noted that this excludes directive teaching strategies, where direct intervention tells the learner exactly what to do or say, the prominence of which indicates a need for systematic training in mediation.

[234] Cf. Rogoff (1995, in Kozulin et al. 2003: 20).

1.6.8.1. Learning styles and strategies

To effectively engage learners in learning styles and strategy training[235], the styles and strategies are presented in an integrated content-area or linguistic point of the syllabus[236] to become, themselves, integrated in the metalanguage of the classroom. Research in learning styles (cf. Felder and Solomon 1999) has involved, among other developments, taking the information straight to the learners, making use of the World Wide Web[237]. Their *Index of Learning Styles* (ILS) covers active/reflective learning; sensing/intuitive learning; visual/verbal learning; and sequential/global learning.

Learning strategies include metacognitive strategies for planning, monitoring, and evaluating a learning task as well as dealing with determining and setting up the best conditions for learning, setting goals for the long and short term, and verifying listening and reading comprehension. Cognitive strategies to be trained include learner interaction and manipulation of the learning target, including replaying lexical items mentally, outlining, summarizing, using keywords for association with already familiar words or visualizing a representation of the new item. Training can also take place for social and affective strategies in interaction, such as actively constructing novel situations to provide opportunities for L2 language practice, applying positive thinking to encourage oneself to complete a difficult task (also called *self-talk*), stimulating cooperation in work for various purposes — sharing information, obtaining and using feedback, and completing a task. Oxford (2002: 127), however, posited other less psychological functions such as those systems related to behaviors of successful language learners (cf. Rubin 1975; Rubin & Thompson 1994); linguistically-based strategy systems, such as those that are relevant to language monitoring, inferencing, communicative practice of functional notions, and formal rule practicing; and language skill systems used for writing, reading comprehension, oral production, and vocabulary learning. Overall, despite the recency of this research, there are still conceptual and defining difficulties apparent in language learning strategies, Oxford (2002: 130) found that ESL teachers invested in improving their instructional effectiveness "can help their students recognize the power of consciously using language learning strategies to make learning quicker, easier, more effective, and more fun".

1.6.8.2. Cooperative learning

Cooperation, as a way of learning and a topic for study, is not limited to the physical

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[235] Chamot & O'Malley (1994, in Larsen-Freeman 2000: 164) proposed training in metacognitive, cognitive, and social/affective strategies.

[236] Grabe & Stoller (1997, in Larsen-Freeman 2000: 163-164).

[237] http://www.engr.ncsu.edu/learningstyles/ilsweb.html is the direct link to the 44 question LSI, which is automatically assessed and returned as a graph, onscreen, to the learner who is directed forthright to a link to better understand the results at http://www4.ncsu.edu/unity/lockers/users/f/felder/public/ILSdir/styles.htm

group construct, typical of any language classroom. Instead, cooperative learning[238] seeks to maximize the potential advantages of group work, like growing learner independence and autonomy, having previously established the basic commitment of the participants (cf. Bereiter 1994). Despite Dewey's (1916, in Ellis 2003: 266) affirmation that "certain capacities of an individual are not brought out except under the stimulus of associating with others", others have alerted to the possible negative effects of cooperative learning on carrying out tasks[239], involving, for example, inconvenient physical characteristics of the classroom, escalating noise levels in the classroom, less direction and teacher control of language use (in either L1 or L2), as well as possible peer humiliation, depending on the culture, and the specter of interlanguage fossilization and pidginization.

Taking writing as an example of cooperative learning, Bereiter (in Wells 2002: 115) finds that it greatly facilitates the activity of knowledge building due to its permanence, which permits reading, discussion and interrogation at a different time. Nevertheless, to reap the value of the recursive process writing mode in creative composition, the common concern of a community-shared topic is a prerequisite for knowledge-building through the artifact of the (re)written text.

1.6.8.3. Multiple intelligences

Gardner's (1983, 1999) multiple intelligences are another aspect which may help language learners reach their objective[240]. Teacher enlightenment as to the various types of intelligence that may be employed by a given learner in varying levels of development can encourage thoughtful variation in lesson design, including opportunities for flexing learner intelligence types: verbal/linguistic, logical/mathematical, visual/spatial, bodily/kinesthetic, musical/rhythmic, interpersonal, intrapersonal, and naturalist. Brown (1987: 73) assessed that these broadly defined intelligences rightly expand traditional, culture-bound verbal/linguistic and logical mathematical abilities, making it appropriate to consider them in a global SLA context. Gardner's work on Harvard's Project Zero, currently coordinated with David Perkins, and collaboration with Jerome Bruner were relevant inspiration in the genesis of this perspective which affords a plethora of teaching strategies.

1.6.8.4. Metacognitive strategies

Based on his research since 1963 on Piaget's developmental psychology and his own work

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[238] Larsen-Freeman (2000: 164) also referred to cooperative learning as collaborative learning. Ellis (2003: 269-272) provided a cogent discussion of the (dis)advantages of cooperative learning, for example, within a TBLT context. Perkins and de Bono (in Arau Ribeiro 2009) have provided extra-SLA principles of perception in thinking from Cognitive Theory as well as Pedagogy and Behavioral Psychology in activating cooperative learning in the classroom characterized by a creative environment. Notions of positive interdependence, for example, can foster cooperative — rather than competitive and and individualistic thinking — via de Bono's (1985, in Arau Ribeiro 2009) six thinking hats.

[239] cf. Prabhu (1987) and Jacobs (1988, both in Ellis 2003: 268).

[240] Larsen-Freeman (2000: 169-170), Brown (1987: 72-74), and Arau Ribeiro (2008).

on memory, Flavell (1976), a Stanford University foundation researcher in metacognition, first used the term in an article following his 1971 challenge to the academic community to come up with examples of *metamemory* — the management and monitoring of input and retrieval, storage and search, of one's own memory. Chief among the basic assumptions behind metacognition that have survived the near half a century of challenges is the notion of intentionality, which involves the planning of sequential action and presupposes deliberate, goal-oriented thinking. A third millennium definition describes metacognition as "one's knowledge and beliefs about one's own cognitive processes and one's resulting attempts to regulate those cognitive processes to maximize learning and memory"[241].

Schallert and Martin (2003: 39) traced the connection of metacognition to motivation and affect, relating these to self-appraisal, like "fear and shame, or pride and joy", and self-management, where both the "will" and the "skill" are drawn upon to "engage in those strategies that will allow one to reach one's goals" (Weinstein & Mayer 1985, in Schallert & Martin 2003: 39). Nevertheless, there are also metacognitive messages about the social and cultural context of the learning context itself — "about the difficulty of tasks, about how one should approach them, about how well a learner is performing so far, and what the learner should expect given past experiences" — largely derived from family, teachers, and peers (Paris & Winograd 1990, in Schallert & Martin 2003: 39).

Alexander, Schallert, and Hare (1991: 325) proposed a framework for learning which placed sociocultural knowledge front and center by characterizing its action in the learner as a "pervasive filter through which all experiences and understandings must pass". Through this influence, the knowledge of the learner was recognized as interactive between the tacit, like a net of spreading activation that enables the construction of the schemata needed for new text, input, or situations, and the explicit, considered to be both conceptual and metacognitive. Their proposed model was based on a review of two decades of research on the underlying construct of prior knowledge, trying to settle the confusion stirred up by the "proliferation of terms, as in *background knowledge, domain knowledge, schema, content knowledge, procedural and declarative knowledge*" (Schallert & Martin 2003: 38). Whereas current trends in psychological conceptions are dominated by the learner processes to become strategic, the present study will take the "cup half full" approach, in that the young adult learners already have "a well-stocked 'bag' of strategies" (Paris, Lipson, & Wixson 1983; Paris 1988).

Flavell's 1979 article entitled "Metacognition and Cognitive Monitoring: A new area of cognitive-developmental inquiry" affirmed the important role of metacognition in language acquisition. On this basis, metacognition or metacognitive knowledge in SLA has been researched within a framework used by Wenden and Rubin (1987) and adopted later by Zhang (2009), all based on Flavell's (1979) tripartite theoretical framework for metacognition, involving three types of knowledge: person, task, and strategy.

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[241] Ormrod (2006, in Cooper & Stewart 2006).

Metacognitive strategy instruction (MCSI) was found to significantly affect learner performance and use of strategies in Lam's (2009) comparative study of two classes of L2 high school English learners in Hong Kong. MCSI was found to have an awareness-raising value that acts upon the interaction effect between strategy instruction and research method as well as explicit and implicit learning. Lam (2009: 129) found distinct advantages in a multi-method approach to gauging the effects of MCSI. Keil (1986: 159) listed types of metacognitive activity that allow for expansion beyond ontological knowledge: metacognitive skills and strategies, like metamemorial, metalinguistic, metaattentional, memory heuristics, among others.

Awareness of L1 interference can also be a powerful teaching/learning tool[242]. The language awareness movement[243] also advocates for the benefits of contrastive teaching, among other aspects of language learning[244]. According to Woodall (2002), interactive switching between L1 and L2 may be attributable to the mental operations of individual, private speech for solving L2 problems with L1 resources, at a greater frequency for less proficient learners. Wang (2003) reported direct translation from L1 to L2 writing, particularly at lower proficiency levels, compensating for L2 linguistic deficiencies to perform, thus overcoming writing difficulties "without exerting much mental effort" (Tan 2008: 7), such that "consciousness-raising can help students self-edit when interference occurs".

Zamel (1982: 207) proposed that when "students learn that writing is a process through which they can explore and discover their thoughts and ideas, the product is likely to improve as well". Tan (2008) further defended the extension of the opportunity to experience writing as a creative act of discovery to low proficiency level learners, accompanied by thoughtful stimulus and guidance.

Hillocks' (1982: 667) environmental approach is one of three modes of instruction[245] posited to promote critical thinking and effective writing. Aiming to engage students in this mode, teachers "design materials and activities which involve students directly in the use of these strategies". In Hillocks' (1982: 662) strategy of inquiry, defined as a "consciously adopted procedure used to investigate phenomena in various unrelated disciplines", he identified the basic strategies of inquiry as observing, describing, and comparing/contrasting.

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[242] See Gomes da Torre (1985), James (1998), Frankenberg-Garcia (2000), Paradowski (2007) and Casanova (2008) on the benefits of contrastive teaching, also as previously discussed.

[243] See www.languageawareness.org, for the Association for Language Awareness which unites researchers in this area in a homonymous academic journal. Note that this is also *home* to Mike Scott's work on his WordSmith tool for the creation of language corpuses.

[244] Differing from *language awareness*, the term reserved for L2, Duarte (2008: 9 fn 1) noted that linguistic awareness, or *consciência linguística* in Portuguese, is an essential curricular objective to be developed in the child (L1) as explicit knowledge. This perspective is the focus of her publication by the Portuguese General Board of Innovation and Curricular Development (Direcção-Geral de Inovação e de Desenvolvimento Curricular).

[245] The other two models are presentational/traditional mode, whereby the students will absorb the strategies explained by the teacher, and nondirectional/expressivist mode, which relies on the intuition of the students who learn the strategies through the process of writing (Hillocks 1982: 667).

As students from any field[246] apply these strategies, they are constructing knowledge as they generalize, define, or hypothesize, leading to a warranted assertion[247] and leaving the door open to further inquiry. The stress in the process is on the importance of the constant and on-going process of inquiry, including statements about commonalities (enumerative generalizations), statements of explanation (hypotheses), and statements about commonalities and differences involving the use of criteria (definitions). Each of these statements is then tested for reliability and validity through reexamination, further observation, and description. The recursive nature of the process of inquiry thus supports the recursive nature of the writing processes as described by the process approach and ESP.

Kramsch (2002a, 2002b, in Adamson 2009: 161) advocated exposure to different registers and styles, for the student to acquire a receptive competence in these forms, including modes of input such as e-mail messages, handwritten documents, and telephone conversations. For example, spoken language is composed of units of different sizes, beginning with the smallest, morphemes — sequences of sounds which form the smallest units of meaning in a language; these are followed by words, consisting of one or more morphemes; then, phrases of one or more words are followed by sentences and discourses (Wong Fillmore and Snow 2000:14). As the smallest unit of language with a distinct meaning – whether a bound morpheme[248] or an independent/free unit — it is essential to basic language learning whereas the unique features of academic languages are found in sentences and discourse structure, the larger units of language use. Cross-linguistic differences may be at the root of unsuccessful rhetorical tasks related to cultural patterns and social relationships — particularly politeness and demonstrations of intelligence[249]. Knowing a language well means knowing the implicit norms for language use[250].

Parsing L2 words into their component parts is an important part of acquiring vocabulary since the morphemes themselves facilitate interpretation and can serve as memory prods. The principles of word formation[251] and their connection with the rhythms of English speech

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[246] Hillocks (1982: 664) refers here, specifically, to the natural sciences, social sciences, literary criticism and philosophy, explaining that non-scientific writers tend "not to use an empirically quantifiable data base or experimentation in the same way as scientists… they do observe systematically, compare and contrast instances of phenomena, generalize, and test the generalizations by means of further observation".

[247] Dewey preferred the term *warranted assertion* to the terms *belief* and *knowledge* because it is free from ambiguity (in Koschmann 2001).

[248] Note that Pinker (1999) found that English, with origin as a Germanic language, has many irregular forms, such as past tense *brought* and plural *men*, which are likely to cause problems. When bound and free morphemes and other grammatical units operate differently across languages, logic can be found behind the learner errors (Wong Fillmore & Snow 2000: 15).

[249] See Arau Ribeiro (2010a) on changing college student relationships with teachers over the past two decades.

[250] Wong Fillmore & Snow (2000: 16). See also Plaut et al. (1996, in Lété 2003: 118), where it was determined, for example, that *English is a quasi-regular language*.

[251] Wong Fillmore & Snow (2000: 16) suggest that teachers should be aware of patterns like the d/s alternation in *conclude* and *conclusive* and accent alternation with *-y* and *-ic*, as in ANalog, aNALogy, anaLOGic.

can be complemented with correlation of morphological structures from L1 to L2[252]. Since learner language tends to be formulaic, both L1 and L2 language include a very high proportion of prefabricated chunks and utterance formulas. L2 learners are able to reflect and to control their linguistic behavior, providing a prerequisite for language/grammar teaching.

Bley-Vroman (1989, in Stewart 2003: 308) found two generalizations that apply to the situation of second language learning, an existing knowledge system in the L1 and the resulting enhanced cognitive abilities and schematic knowledge, both of which seem to be self-evident, although their implications are uncertain (Skehan 1998: 75). Microstrategies were classified into two categories by Lambrecht (1994: 36-37, in Stewart 2003): the text-external world comprising not only the speech participants but also the speech setting and the text-internal world, formed by linguistic expressions, and their meanings. The microstrategies found in Sionis' (2010: 11 table 4) learner texts[253] were opposing-contrasting, using (in)definite determiners and (un)specific terms of address as well as creating anteposition and cataphoric constructions. Dislocation (right hand or left hand) and lexical reformulation, along with cleft sentences and highlighting (orally, syntactically, and/or through a special phrase) formed an important part of the findings as well.

Osório and Ito (2008: 99-100) highlight the pedagogical relevance of the *visual phrase*, making figures and images much more dynamic and meaningful in terms of their multimodal focus in social semiotic terms. In this light, and applying their perspective to metalinguistics in SLA, the decontextualization of grammar, in its most formal sense, deprives learners of the potential combination of the multiplicity of verbal and visual modes involved in metacognitive processing for learning.

Humor, a characteristic of communication which Hymes (1972) classified as *Key* in his SPEAKING model and which Holmes (2000) professed to express positive affect in interaction, is another text-external element in that it depends on the interaction style established between and among teachers and learners as well as psycho-social factors of the specific pedagogical approach and human relationships. Sionis (2010) identified prefacing humor, humor as a self-protection strategy and humor as a concluding strategy, especially finding self-derisive types of humor to cover ignorance and as a way to enforce Goffman's positive politeness (1956, 1967) and Brown and Levinson's Politeness Theory (1987) in preserving face[254].

Further organizational learner strategies of the process approach to writing (cf. Emig 1971; Murray 1980; Raimes 1985; Raimes 1991), including active and recursive creation in the five stages identified as prewriting, drafting, revising, editing and emitting a final draft[255],

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[252] Extrapolating from the Spanish-English correlations presented in Wong Fillmore & Snow (2000: 17) to another Indo-European language, Portuguese-English correlations include *curiosidade-curiosity* and the cognates in science and technology, such as *computador-computer* and *farmácia-pharmacy*.

[253] These learner texts, however, were oral.

[254] For a discussion of Brown and Levinson's Politeness Theory, see Arau Ribeiro (2010a, 2010b, 2011)

[255] Cf. Atkinson (2003) and Best & Arau Ribeiro (1996a, 1996b).

have been attractive to L2 learners because the approach values "the talents and growth of individual writers and makes them want to continue writing because they feel good about their abilities" (Jarvis 2002).

1.6.8.5. Metalinguistic strategies

Language itself, considered a natural or informal language, reveals an embedded metalanguage in adjectives, adverbs, and possessive pronouns with nouns and verbs constituting the object language[256]. Weinreich (1953) observed that "[l]anguage is its own metalanguage" (in Reddy 1979: 166), while over a century earlier, Wilhelm von Humboldt (1767-1835) and then Jesperson (1904, in Van Essen 2008: 4) marked the earliest history of studies in the area of language awareness. At a mini roundtable of educational linguists in London in the early 1990s, where the intentionally broad working definition of *language awareness* was agreed upon as "a person's sensitivity to and conscious awareness of the nature of human language and its role in human life" (James & Garrett 1992, in Van Essen 2008: 3), the interest in metalinguistics was renewed in Europe. As such, this competence applied to both learners and language teachers, whereby teachers were also encouraged to recognize their limitations, in terms of knowledge about language, and actively seek a theoretical basis for all the parts of language for best classroom practice through critical language awareness (CLA). For example, Carter (1980, in Van Essen 2008: 8) provided a clear source of knowledge about language that boosted teacher confidence as did Casanova (2006) for Portuguese teachers of English with a semantic perspective. Later, Carter (2003: 64-65) further noted that teaching methods which highlight particular language features while simultaneously involving learners affectively not only have cognitive advantages but also improve attitudes toward language learning and language itself.

Meanwhile, Gombert (1993: 573) re-examined Flavell's concept of metacognition as it relates to metalinguistics, confirming that the "common thread in all metalinguistic activities is that they concern language. Therefore, they are always, by definition, at least partially characterized by the nature of the information which they process. In this, metalinguistics is unique in relation to the other metacognitive activities". In this sense, then, metacognitive knowledge is "of particular importance in the metalinguistic domain", which must include metapragmatics, "the knowledge of the rules for using language" (Gombert 1993: 574), manifested either declaratively or procedurally. Overall, three areas are identified to be of special interest: the interaction between metacognitive and metalinguistic activities, involving, for example, "special instances of metamnemonic activity or meta-attentional activity"; the multiple metapragmatic experiences every language learner has had in both producing and processing a first or second language; and the finding that "the manipulation of writing activates metalinguistic knowledge which is not activated spontaneously in speech"

[256] For example, in the expressions *higher education* and *speaking quickly*, the adjective *higher* and the adverb *quickly* are part of the metalanguage while the noun *education* and the verb *speaking* are part of the object language.

(Gombert 1993: 578-579). In fact, language learners' patently diverse levels of metalinguistic knowledge, or control thereof, may be best explained by the "way in which linguistic knowledge is organized in memory" (Gombert 1993: 579). Recalling Sharwood Smith's (2002) proposed MAD, the metalinguistic acquisition device, highlights the increasing relevance of the metalinguistic in SLA.

Further recognizing metacognition, a set of dynamic systems, as an "important area of academic and pedagogical inquiry in applied linguistics" (Zhang 2010: 320), the integration of theories of metacognition with those of metalinguistics, in general, has also been promoted for academic success as well as language and literacy development (Hill 1998) in the specific fields of linguistics, developmental psychology, and educational linguistics (Jessner 2007: 4-5). As such, metaskills have been defined as "theoretical constructs which we can use to describe the executive levels of monitoring and control which accompany everyday cognitive and linguistic acts" (Hill 1998: 106), including the following essential concepts by the authors indicated (all in Hill 1998) — "individual self-knowledge about memory, perceptual capabilities and problem solving skills" (Gleitman 1986); learning style (Poissant 1994); and "self-monitoring and self-correction of conversation and writing" (Tunmer & Bowey 1984; Bialystok 1988).

The metalinguistic skills as defined by Hill (1998: 115-116 Table 3) which are required for academic success vary widely, involving awareness of phonology, word structure, sentence structure, parts of speech, and linguistic concepts and rules, figurative and topic specific language, word definitions, how language is used in text and semantic rules, as well as a sense of the role of punctuation and linguistic redundancy. As such, metalinguistic skills in phonology include competence in segmenting words into phonemes and converting graphemes into phonemes. In addition perceiving the analogous sound structures which contribute to both spelling and pronunciation, an understanding of the set of representations that includes digraphs, diphthongs, and silent letters, must also extend to an appreciation for rhyme, rhythm, and alliteration. Phonological awareness skills, for example, have been found to be relevant in both the home and the school language, roughly L1 and L2 for bilinguals (Stewart 2004). Specifically for adults, Steffler (2001) investigated implicit cognition and its role in spelling development, a study in which she extensively reviewed the literature on the distinction between explicit and implicit memory for adults. The literature on these memory types further diverges into "two general classes of theory to account for the differential effects of indirect and direct memory tasks: multiple memory systems approaches and processing methods" (Roediger 1990, in Steffler 2001: 171), the first of which involves either procedural or declarative memory systems in the brain while the second includes a number of cognitive procedures, such as the encoding-specificity principle where the original context of learning activates certain memory processes; or integrative v. elaborative processing in which that which is automatic and effortless contrasts with that which requires attentive, controlled processing; or the spread of activation approach which focuses on implicit memory as based on the automatic "activation of preexisting memory representations" (Steffler 2001: 172).

Also in metalinguistic-related research, Dixon and Kaminska's (1997: 169) study of the "influence of fresh orthographic information on spelling", inspired by similar results from Brown (1988) and Jacoby and Hollingshead (1990), found that learners who encounter a misspelled word just once may misspell the word in the future, even when the learner has already mastered its spelling previously.

Moving beyond the phoneme level, metalinguistic skills at the word level thus involve identifying spelling patterns and syllabification, an appreciation of both prefixes and suffixes as well as the identification of word derivations, homonyms, and homographs. Specifically related to L1 but with possible developmental implications for SLA, awareness of homonymy in both homographic and homophonic lexical items proved to be in dramatic development "rather late in the course of language development and significant progress is being made during the final elementary school years" in this recent study of over 800 fourth, fifth, and sixth graders (Corthals 2010: 121). Celce-Murcia and Larsen-Freeman (1983: 56) had highlighted the difficulty for L2 learners in mastering even lexically similar words due to the "network of syntactic and semantic features and co-occurrence restrictions in order to use the word appropriately.

In terms of sentence structure, the metalinguistic skills required inevitably cover the facility of emitting grammatical judgements and making corrections in sentences, which include awareness of subject-verb agreement, the formation of questions and the understanding of clauses, be they principal of subordinate. In Mahony (1994:19), sensitivity to word structure constituted a significant metalinguistic skill, where a morpheme sensitivity test assessed young adults to determine not only learner knowledge of noun, verb, and adjective syntactic categories but also the learner's ability "to generalize this knowledge to novel forms, the ability to distinguish derivationally-related word pairs…, and knowledge of how suffixes differ in their effect on syllable boundaries in the complex word". In terms of grammatical judgements, in more recent research, the contextual relevance of a rich linguistic environment for judgements of gradience in "phonotactic patterns as well as morphophonology, and word-likeness" (Féry & Stoel 2006: 145) was explored in Frisch and Stearns (2006), including recourse to probabilistic generalizations, as demonstrated in studies of language corpora, as well as the activation of a word's lexical neighborhood (cf. Luce & Pisoni 1998), or "phonologically similar words in the lexicon" (Frisch & Stearns 2006: 76). In a related study, Vitevitch et al. (1998: 390) had previously defined probabilistic phonotactics as the "frequency that a particular segment or sequence of segments will occur in a given position in a word or syllable", concluding that probabilistic phonotactic information influences linguistic processes since it is "represented in memory".

Metalinguistic skills can also be understood as the awareness of the roles of the various parts of speech, such as nouns, adjectives, verbs, adverbs, and including pronouns and conjunctions. Metalinguistic strategies using dynamic and stative verbs in SLA were studied, for example, in Comrie (1976) and Pischwa (1995). The understanding of other linguistic concepts and rules covers tenses and tense markers, negation, knowledge of concepts such as

the alphabet, syllables, pluralization, and paragraphs as well as recognition of referential language.

While metalinguistic skills in the recognition of figurative language deal with the use of metaphor and simile, as well as proverbs, puns, and idioms, topic specific language involves the formation of linguistic categories such as color, occupations, humor, or food. Similarly, word definitions expand these metalinguistic skills into an appreciation of abstract words, accompanied by the ability to effectively use a dictionary, and an understanding of word relationships among antonyms, synomyms, and analogies.

Recognition of the use of ambiguity, absurdity, and linguistic redundancy is a metalinguistic skill which, in tandem with and appreciation of semantic rules forms another level of metalinguistic skills although the appreciation for the role of punctuation can be developed at many levels, including the use of apostrophe, for negation, contraction, and possession, and the use of the full range of capital letters and quotation marks as well as of commas, exclamation marks, question marks, and periods.

Considering metalinguistic skills overall, Ramachandra and Karanth (2007: 173) highlighted their role as "an important measure of the sophistication of an individual's mastery of language". Following this logic, a further review of the literature on metalinguistics reveals that, while metacognitive regulation is age dependent, improving even in adults, metacognitive knowledge seems to remain steady across age, according to Cooper and Stewart's (2006) survey of more than 200 undergraduate and graduate students, aged 19 to 57, at a public American university. These researchers focused on adults as a contribution to the modest literature on metacognition in adults. For instrumentation, they used Schraw and Dennison's (1994, in Cooper & Stewart 2006) 10-minute Metacognitive Awareness Inventor (MAI), itself designed for use exclusively with adults after two decades of research focusing exclusively on the metacognitive processes of children. The MAI uses a Likert scale from 1 to 5 for each of 52 statements to which the participant responds "not at all true of me" (1) up to "very true of me" (5). The statements cover both metacognitive knowledge — about self and strategies (declarative); about strategy use (procedural knowledge); and about when and why to use strategies (conditional knowledge) — and metacognitive regulation — goal setting (planning); organizing (information management); assessment of learning and strategy (monitoring); strategies to correct errors ("debugging"); and analysis of performance and strategy effectiveness (evaluation) (Cooper & Stewart 2006).

In earlier research, some on-line and off-line measures of metalinguistics were found to be involved in SLA, as reported by Erlich, Remond, and Tardieu (1999: 29). On-line measures covered processing times and look-backs or double-checking while off-line measures related to self-assessment for comprehension and detection of inconsistencies, all of which served to determine levels of monitoring and to "analyze indicators of implicit and explicit evaluation and revision activities".

In a different, more technologically related approach, scaffolding for metalinguistic skills can be carried out digitally in SLA, as demonstrated by Bárcena and Read (2004), who

proposed iPETER, an i-CALL program for business English that integrates scaffolding from SCT theory. Read (2006) introduced COPPER, the Collaborative Oral and written adaPtive Production EnviRonment, v.1.0, as an i-CALL program for controlling metacognitive and metalinguistic student strategies in collaborative L2 activities. The latest of these Artificial Intelligence Techniques for Linguistic ApplicationS (ATLAS, http://atlas.uned.es) from the Universidad Nacional de Educación a Distancia is i-AGENT, which at the time of writing, is in experimental stages. In general, Read and his team of other computational specialists, linguists, and educationalists try to bring together metaprocess-based scaffolding in order to control not only knowledge but also strategies that students learn within their contexts.

Although specifically proposed for children's theory building and access to knowledge, Karmiloff-Smith's (1992, in Jessner 2007: 4) Representational Redescription (R-R), described as "the most influential contribution to the field", involves "a cyclical process by which information already present in the organism's independently functioning, special-purpose representations is made progressively available, via redescriptive processes, to other parts of the cognitive system". R-R explains, for example, the finding that adult L2 learners "are flexible in their approaches to dealing with complex stimuli and establish different forms of knowledge representation under different conditions" (Steffler 2001: 185-186), with particular relevance in implicit processing for L2 learner written interlanguage.

As discussed about Swain's (1985, 1995) output hypothesis, also in terms of collaborative writing, the metalinguistic or reflective function has been found to be developed through collaborative problem-solving in language-related activities where (re)construction of a text is the result of learners working together, as with strip stories and dictoglosses. According to Swain & Lapkin (1998), these activities, especially by involving deliberately reflective talk about language, contribute to language learning, similar to evidence provided by Simcock (1993) that metalinguistic reflection is reflected in activities like group writing and retelling stories.

A number of shifts in current second language acquisition theory have paralleled shifts in educational policy, having been influenced by Vygotsky's (1934/1962/1986) scaffolding and the role of supportive figures in learning as promoted by sociocultural theory (Lantolf 2000) as well as the movement from the behaviorist model to a cognitive constructivist model (Hill 1998: 117). These two influences have resulted in significant changes, such as a reduced emphasis on teacher-centered models of education whereby the critical component of learning is the active strategic role of the learner. Hill (1998: 117) pointed to other shifts involving an emphasis on processes rather than content and product of learning, the inclusion of metamemory strategies such as "chunking, rehearsal, and imagery", and instruction in how to use learning strategies, such as the 1990 report on American educational policy by the Council of Chief State School Officers, Washington DC, which included metacognition and other metaskills in its recommended "work on higher order learning". This specifically "aimed at developing independent learning in students and engaging students actively in the learning process, by promoting self-evaluation, reflection, and goal-setting", later echoed in the

Bologna Treaty for higher education in Europe calling for enhanced learner autonomy,

1.7. English for Specific Purposes

Hutchinson and Waters (1987, in Gatehouse 2001: 2) traced the origins of English for Specific Purposes (ESP[257]) to the historical impact of the post-World War II scientific, technical, and economic activity which resulted in pressure on the language teacher to promote useful English, as determined by the students who were industrialists, politicians, and researchers, among other professions requiring English as the language of shared knowledge. As this emerging need came about, the variety of language use in oral and written genres and then across written genres as well was discovered, determining that context has an important effect on language. Finally, a growing understanding of the different schemata and motivation of the variety of needs and interests of language students, in general, extended to the learner- or learning-centered design of the ESP course.

Strevens (1988, in Gatehouse 2001) proposed ESP to be a variety of English that features not only a clear conceptual orientation but also a set of linguistic restrictions imposed upon the contextual functioning of the words. English for Specific Purposes is an important construct in this study since the participants are students of the Pharmacy Technician degree of the School of Health of the Guarda Polytechnic Institute (Escola Superior de Saúde do Instituto Politécnico da Guarda).

1.7.1. Defining English for Science and Technology

ESP includes the branch of English for Science and Technology (EST), as defined by Dudley-Evans and St. John (1998) and Anthony (1997) in the descriptive EST tradition established by Latorre, Swales, Selinker, and Trimble (cf. Gatehouse 2001), which focuses on the language appropriate to the content area activities in terms of grammar, lexis, register, study skills, discourse, and genre.

The underlying principle for this significant alteration to ESP was that students in a specific degree would be most effectively motivated given the opportunity to develop their skills in the target language within the context of their future profession, as supported by Hyland (2002: 385):

> ESP has become central to the teaching of English in university contexts and there can be little doubt of its success as an approach to understanding language use. This success is largely due to ESP's distinctive approach to language teaching based on identification of the specific language features, discourse practices and communicative skills of target groups, and on teaching practices that recognize the particular subject-matter needs and expertise of learners.

Similar characteristics have been attributed to Content and Language Integrated Learning (CLIL), despite its contextual difference of application in primarily grades K-12, describing it

[257] The IATEFL 2008 site shows Scott Thornbury *Eating* for Specific Purposes!

as seeking "to support second language learning while also favoring first language development" (Mehisto, Marsh, & Frigols 2008: 9, in McBeath 2009: 1) and as

> an umbrella term, used to describe a whole spectrum of approaches… [including] Content Based Instruction (CBI) — an approach familiar to many ELT practitioners where the focus is on the topic which students learn about, but the aim is developing linguistic ability — would fall under the umbrella of CLIL. Other CLIL approaches include ICL (integration of content and language), TTE (teaching through English), CLIC (content and language integrated classrooms), FLAC (foreign languages across the curriculum), and FLIP (foreign language immersion programs). (Khoury & Berilgen-Duzgun 2008, in McBeath 2009: 1)

Notwithstanding the array of acronyms attributable to approaches in this area evident in the above quote, this study adopts the aforementioned description by Hyland (2002) as the most accurate for the objectives of this course design. Clapham (1996: 4 figure 1.1) proposed a detailed illustration of the ESP hierarchy based on three core ESP types: English for Science and Technology (EST), English for Business and Economics (EBE), and English for Social Studies. The hierarchy is adapted in Appendix 1d to reveal the context for the participants in the study at hand. Finding two aspects of the hierarchy relevant — EST and English for Occupational Purposes (EOP) — a balance was struck, in the case of the present study, between three courses of reference: Technology, Science, and Medicine for Pharmacists.

There appears, however, to be a minimum proficiency level (Yogman & Kaylani, in Gatehouse 2001: 8) "required for students to participate in predominately content-related activities", which can account for the struggle of weaker students to grow their own general language proficiency while being immersed in content-specific activities.

In a further development of the ESP hierarchy, Mohan and Slater's (2005: 251) study of young[258] ESL science students and their ability to develop a theory of magnetism, linking their practical experience to relevant technical terms, revealed "the value of a functional perspective on social practice". In this vein, Veil (2002) proposed that English for Science and Technology (EST) could not be strictly limited to EST; rather, elements from general English must be included for professionally-oriented activities, rendering the acronym ESTOP. The scope of these professionally-oriented activities is borne out by a 1998 National Board of Education survey conducted in Finland (Huhta 1999). Specifically, the language/communication needs of industry and business employees were studied to determine how language teaching could best equip students with the skills required in professional life. Overall, the technicians had to read instructions, socialize, and travel although they had less need to write formal papers, give presentations, or negotiate, as illustrated in Appendix 1e. Given Louhiala-Salminen's (1995, in Huhta 1999: 95-96) recognition of the growing importance of writing in the workplace, the Finnish report noted that writing skills are "significant for commercial, management, and secretarial functions".

[258] Mohan & Slater (2005) studied 1st and 2nd graders in Canada.

Despite this eschewing of the technicians need for writing as a skill, in a needs assessment in the beginning of each class, students clamored for the opportunity to write — hence the use of the writing portfolio in these classes.

Biber and Gray (2010: 2) found that "academic writing is not structurally elaborated (in the traditional sense of this term" but rather *structurally* compressed, "with phrasal (non-clausal) modifiers embedded in noun phrases". In addition, based on their large-scale corpus investigations, they demonstrated that "subordinate clauses — especially finite dependent clauses — are much more common in conversation than academic writing". Finding that "the *compressed* discourse style of academic writing is much less explicit in meaning than alternative styles employing elaborated structures", they also challenged "the stereotype that academic writing is explicit in meaning". To further complicate the issue, in a review of corpus-based studies comparing the language taught in English for Academic Purposes textbooks to corpora of academic language used by writers, Harwood (2005: 149) found that "the current state of commercial materials is highly unsatisfactory".

1.7.2. Portfolio Assessment

Rogers (2010: 2) reported that the Council of Europe Framework of Reference (CEFR) has established level B2 as the threshold level for vocational training. Illustrating this level with the standard Cambridge PET exam, he suggested that the discrepancy between students with B2 level and their actual insufficient language abilities may not, in fact, "be a language issue at all, but more a case of imperfectly acquired study skills and habits which prevent students [from] making the progress required".

In response to Harwood (2005: 149), who found that "the current state of commercial materials is highly unsatisfactory" for language instruction, Rogers (2010: 3) asserted that "portfolio assessment provides a better way to assess language". While the portfolio assessment model is not new (Seidner 1983, Arau Ribeiro 2011), Rogers still had to support his position, listing several observations, ranging from the fact that a portfolio, created over the learning arc, avoided the need for a timed examination to the fact that different skills and subskills could be demonstrated in a portfolio, in addition to the benefit of empowering the learner through the exercise of independence of execution and self-direction, tailoring tasks to the ability range of the language learners. Rogers (2010: 5) also claimed that the learner who "has been made to submit meaningful and enjoyable evidence of progress" plays a part in "a big step forward for all of us involved in the teaching and assessing of English".

This position for use of the portfolio for SLA was further bolstered in the English-speaking world by the UK requirement of submission of a portfolio of evidence[259] before awarding the following three awards from the Lifelong Learning Sector in Further Education certification: Preparing to Teach in the Lifelong Learning Sector (PTLLS); Certificate to Teach in the Lifelong Learning Sector (CTLLS); and the final level Diploma to Teach in the Lifelong

[259] See, for example, course requirements for the DTLLS and Additional Diploma: ESOL at the University of Warwick, at http://www2.warwick.ac.uk/study/cll/othercourses/esc/quals/diplit/esol/

Learning Sector (DTLLS). Indeed, if learners learning to teach can be assessed through portfolios, then surely language learners can be evaluated through similar criteria. To deal with the issue of authenticity (cf. Rogers 2010; Arau Ribeiro 2011), Rogers proposed required sampling and a variety of the honor system. Arau Ribeiro (2011) demonstrated that regular teacher feedback on the learners' developing portfolios created affective ties that helped to constrain any tendency to cheat; familiarity with learner writing skills made it easier to identify writer identity and voice and, hence, authenticity.

1.8. Learner Corpus-Based Studies

The cognitivist hypothesis dominating cognitive sciences postulates that human behavior presupposes intentionality (Searle 1983, in Sousa 2007: 19), or the ability to represent the world in a certain way. Intentionality and intelligent behavior make themselves known through representations that are susceptible to interpretation. The study of mechanisms by which thought is carried out and organizes knowledge can therefore be focused on the productions that are manifested. Study of these manifestations of language serves as a conduit toward a better understanding of how cognition works. Thus, while communication is an act of thought — of semiosis, manifestations of language activity include the texts in natural languages that provide a rich set of analyzable and observable items (Culioli & Desclés 1981, in Souesme 2003).

Corpus-based descriptions began informing linguistic studies as early as the 19th century in a period of activity that McEnery and Wilson (2001: 3) coined as *early corpus linguistics*[260]. The authors pointed first to a "diary studies period of language acquisition research", from 1876 to 1926, during which parental diaries, which recorded a child's locutions, served as the basis of child language studies, resulting in speculations by language acquisition researchers, such as Preyer (1889, in Ingram 1989)[261] and Stern (1924)[262]. Following the diary studies period, the sampling technique used to collect the corpus of utterance separated the sample studies into two types: large, from 1927 to 1957, incorporating data from many children to establish developmental norms for L1 acquisition[263], or longitudinal, from 1957 to the

[260] The authors further suggest that this term should describe "all linguistics before Chomsky, linking it to the modern methodology of corpus linguistics to which it has affinity".

[261] Ingram (1978, in Ingram 1989: 11) based his findings on an early corpus study from Preyer (1889), a source of normative data.

[262] Stern, in 1912, had already proposed dividing Binet's Mental Age (in Terman & Merrill 1960) into a person's chronological age to determine the initial concept of the Intelligence Quotient (IQ), a term coined by Terman (1916). For a brief presentation on Multiple Intelligences, see § 1.7.9.3., in which Gardner (1983) later argued that reason, intelligence, logic and knowledge are not synonymous, defining instead a number of distinct intelligences: logical-mathematical, linguistic, spatial, musical, bodily kinesthetic, interpersonal and intrapersonal.

[263] McCarthy (1954) is a good example of a large sample study. In her manual, she offers an overview of the early studies on word acquisition.

present, collected data from a small number of children over time[264]. In a more contemporary context, the Centre for English Corpus Linguistics (CECL) claims that it "pioneered the study of learner corpora with the *International Corpus of Learner English*"[265], self-described as "a truly international enterprise [that] contributed to the integration of corpora in language acquisition studies and to their use in various applications ranging from language teaching to natural language processing".

Corpus-based studies point to the existence of phraseology specific to EAP; among these, recurrent abstract nouns (Flowerdew 2003), lexical phrases (Granger 1998b; Oakey 2002a, 2002b; Granger & Meunier 2005), and word combinations (de Cock 1998; Biber et al. 1999; Biber 2004) have informed the preparation of various recent grammars and learner dictionaries (cf. Sinclair et al. 2004; Rundell et al. 2007[266])[267]. Rundell et al. (2002) was not just updated for the second edition (Rundell et al. 2007); collaboration with the Centre for English Corpus Linguistics[268] (CECL) was essential for the learner-corpus based focus of the newest edition. Specializing in the "collection and use of corpora for linguistic and pedagogical purposes"[269], the CECL focuses on learner and multilingual corpora.

While Granger and Paquot (2002: 1) regretted that "these findings have had little influence on syllabus and materials design so far", they did recommend Thurstun and Candlin's (1997) English workbook created from corpus-based insights, arguing that "the value of such pedagogical tools for non-native speakers of English would arguably be greatly increased if learner corpus data were also used in selecting which words to teach". Flowerdew (1998: 338) explained this perspective, specifying that, when only native data is used, "there is a danger that the emphasis on teaching the most frequent markers may focus on ones already familiar to and correctly used by students, or in this case, exacerbate the problem with their overuse".

In the perspective that native and learner corpora are particularly advantageous for the analysis and interpretation of learner production (Granger & Paquot 2002; Granger 1994), the

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[264] Piaget (1948: 52-54, 62-72, and 215-224), an example of longitudinal observations on early lexical acquisition in his own children, including Stages V and VI and the emergence of signs, is important for the form and content of his constructionist view of development (in Ingram 1989: 116). Bloom (1970) and Brown (1973) are also examples of this type of study.

[265] http://www.uclouvain.be/en-cecl.html

[266] The Macmillan English Dictionary for Advanced Learners was based on 200 million words from the World English Corpus — composed of the Bloomsbury Corpus of World English® and English language teaching materials and a corpus of common errors made by English language learner – in the 2002 first edition.

[267] On another note, coinciding with the reality of the digital world in the twenty-first century and acknowledging the convenience and relative ease with which words can be stored, Flynn (2010) reported on the 30 volumes of the third edition of the Oxford English Dictionary (OED), which, although "still an estimated decade from publication — would likely be released only electronically".

[268] The CECL, led by Silvaine Granger, is based at the Université Catholiqe de Louvain, Belgium, and can be consulted at http://www.uclouvain.be/en-cecl.html. See also Granger (2002, 2009), for example.

[269] http://www.uclouvain.be/en-cecl.html

International Corpus of Learner English (ICLE)[270] (Granger, Dagneaux, & Meunier 2002, 2009) addresses the "the added value of the combined use of frequency and range for the selection of EAP words; the pros and cons of using word forms or lemmas; the necessity to use learner corpora that are clearly stratified in terms of L1 background and language proficiency; and the difficulty of assessing the role of transfer in the learners' phrasicon" (Granger & Paquot 2002: 1).

Rundell and Granger (2007: 17-18) reported that, "on the evidence of [their] corpus analysis, it is clear that many learners are held back by the poverty of their lexical resources". To which they added, "[t]oo often, this manifests itself in text that is depleted, unnatural, repetitive and much less effective or professional-looking than it could be". Their claim was that a corpus-driven approach is conducive to the production of learning material that provides information that boosts writing confidence because it drives learners toward greater accuracy and fluency; in short, "[g]ood corpus data enables [the researcher] to pinpoint those learner errors which are especially widespread and recurrent".

For Portuguese L1 learners of English, the ICLE proposed no direct answers because Portuguese was not among the nine L1 learners of English studied. Berber Sardinha proposed the Br-ICLE[271], based at the Pontifícia Universidade Católica de São Paulo, with 25,000 words in 1999. Following the architecture and interface of the ICLE, argumentative essays for data collection, based on a list of 14 possible topics[272], must be composed of between 500 and 1,000 words, accompanied by an obligatory learner profile and a suggested essay title[273]. Berber Sardinha and Shepherd's (2008) application designed to automatically detect errors in the learner English of Brazilian speakers was based on a tag set created by Nicholls (1999, in Berber Sardinha and Shepherd 2008), who had developed the error coding and analysis tools used for the Cambridge Learner Corpus. Because accuracy involves avoiding "grammatical, morphological, orthographic, and other forms of error" (Rundell & Granger 2007: 17), systematically targeting problem areas such as these in corpus studies can cover a range of

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[270] The ICLE, with the goal of gathering 200 thousand words, can be consulted at http://www.cecl.fltr.ucl.ac.be/Cecl-Projects/Icle/icle.htm. Other Computerized Learner Corpora (CLC) include the Cambridge Learner's Corpus, based on Cambridge ESOL exams, specifically, the KET (Key English Test), PET (Preliminary English Test), FCE (First Certificate in English), CAE (Certificate in Advanced English), CPE (Certificate of Proficiency in English), BEC (Business English Certificate), IELTS (International English Language Testing System), CELS (Certificates in English Language Skills, ILEC (International Legal English Certificate, ICFE (International Certificate in Financial English), and the Skills for Life exam, for a total of 135,000 students representing 130 different L1s from 190 different countries in 2010, at http://cambridge.org/pt/elt/catalogue/subject/custom/item3646603/Cambridge-International-Corpus-Cambridge-Learner-Corpus/?site_locale=pt_PT

[271] The original proposal for the project can be consulted at http://www2.lael.pucsp.br/corpora/bricle/projeto.htm. Dutra & Berber Sardinha (2010) reported that the corpus at the time contained 159,000 words. On a personal note, the name of the Br-ICLE project brings to mind the *bricolagem* whereby ICLE was *fixed* to include Portuguese language learners of English.

[272] Link to *topics suggested below*, at http://www2.lael.pucsp.br/corpora/bricle/index.htm

[273] Following a similar methodology to the present study, essays were completed at home and were untimed. And while it was stipulated that work should be entirely the students' own, they could use reference tools such as dictionaries and grammar books.

individual errors.

The Br-ICLE and a number of other Portuguese language-based learner corpora are identified in Appendix 1f accompanied by their defining characteristics. Among them, the COMPARA project[274] by Frankenberg-Garcia and Santos (2002: 61), with more than three million entries, dubbed as "an open-ended corpus of Portuguese and English language texts aligned with their respective English and Portuguese translations, is also designed as a tool for language students"[275], among other users, and not exclusive to translation studies of English and Portuguese fiction. Tagnin and Fromm (2009) described the creation of an Internet site for collecting texts, at the Universidade de São Paulo, written by language learners of English, French, German, Italian, and Spanish for corpora research. Their CoMAprend (Tagnin 2005) represents what they understood to be the only multilingual learner corpus of a single nationality — Brazilian.

Although collocation was first considered when Firth (1935) noted that the meaning of a word depended in large part on its context[276], more recently, with increasing computational developments, collocation patterns have been revealed along with pre-fabricated units and formulaic sequences (Schmitt 2004). In addition, with the proliferation of the use of corpora[277], both native and learner, specific tools to enable the digital elaboration of a learner corpus have become accessible to the general public, among these, Wordsmith[278] and Range[279].

1.9. Writing as a Source of Interlanguage Data

The three Rs (reading, writing, and arithmetic) explicitly identify the relevance of writing competence; similarly, writing in English in an increasingly English world applies to education, business, and personal uses. In general, the complexity of the writing process includes cognitive analysis as well as linguistic synthesis, involving time and effort[280], particularly for an L2 learner.

Tan (2008) pointed to the increasing role of English writing instruction in foreign language

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[274] Available to the public, without charge, at http://www.linguateca.pt/COMPARA/

[275] Cf. Frankenberg-Garcia (2011) on how foreign language teachers can learn to use corpora in general.

[276] According to Leech (2010), Firth was, "in many ways, the founder of linguistics as a discipline in the UK".

[277] A corpus, according to Tagnin (2005) is a collection of texts, necessarily in electronic format, compiled and organized according to criteria.

[278] Scott (1996). Version 5.0 available for free download at http://www.lexically.net/wordsmith/version5/index.html. See also http://www.lexically.net/wordsmith/step_by_step_guide_English.pdf. See Scott (2008) for a full discussion of the various merits of the different programs available for free download. On a light note, Scott noted that many users who contact him address him as Mr. *Smith*, unaware of the pattern evidenced by blacksmith, silversmith, and so on.

[279] Paul Nation, author of this program with further information available at http://www.victoria.ac.nz/lals/staff/paul-nation/nation.aspx, used the term *range* for what Scott termed *consistency*, that is "the notion that a word might be found consistently across lots of different text-types or only within a narrow set" (Scott 2008: 104).

[280] Halliday (2002: 7) referred to what is produced in writing as *manicured discourse*.

education, revealing in his study of 95 intermediate Chinese non-English majors in engineering, information technology, commerce and management[281], the four most commonly made errors — word choice, verb form, missing subject, and verb tense[282] — and selecting the following five studies of error analysis in interlanguage writing in teenagers and young adults, testament to the strong British influence over its century of Hong Kong occupation and resulting work in the area of English language instruction. For example, in an analysis of errors in 160 compositions by Taiwanese high school students, Chiang (1993) found that the three most common global errors were conjunctions, run-on sentences, and subjects-objects-complements with language transfer accounting for 70.58% of the errors. In Liu's (1999) lexical and grammatical collocation errors in 127 final examination papers and 94 student compositions revealed primarily negative interlingual transfer as well as ignorance of rule restrictions, the most significant of a total of four kinds of intralingual transfer identified. Having categorized 1700 grammatical errors into 13 error types by 46 Taiwanese English majors, Huang (2001) reported the top six common errors to be verb, noun, spelling, article, preposition, and word choice, primarily attributable to "overgeneralization, ignorance of rule restrictions, simplification, incomplete application of rules and L1 transfer" (Tan 2008: 2). Chan's (2004) confirmation of specific syntactic pattern transfer from Chinese to English resulted from an examination of writing errors in 710 Hong Kong Chinese ESL learners with different proficiency levels. The focus was on five error types — lack of control of the copula; incorrect placement of adverbs; inability to use the *there be* structure for expressing the existential or presentative function; failure to use the relative clause; and confusion in verb transitivity. Of particular interest was that the complex target structures revealed greater syntactic transfer for lower proficiency level learners. Finally, in a web-based writing program, Huang (2006) analyzed 34 Taiwanese English majors for the following writing error categories and their resulting distribution: grammar (9%), style (16%), mechanics (20%), and usage (55%). Dismissing insufficient command of linguistic complexity as the source of errors, the errors were attributed to such basic errors as subject-verb agreement and incomplete sentences.

Mindful of these types of errors evidenced in the writing process, Silveira (1999: 110) reviewed four central approaches to L2 writing instruction — Controlled Composition, Current-Traditional Rhetoric, the Process approach, and English for Specific Purposes — illustrated in Appendix 1g. While none of the approaches integrates each of the four basic elements — the writer, the reader, the text, and the context — Silva (1990) further found that "none of them are sufficiently supported by empirical research"[283]. Acknowledging similar shortcomings, Raimes (1991) recognized, however, the value of the research based on

[281] The students at this university are divided into three levels and have a listening and speaking course for the 1st year followed by a 2nd year reading and writing course.

[282] Tan (2008) attributes these error types to limited vocabulary size, poor grammar knowledge, and L1 interference.

[283] Silveira (1999: 111). For the reasons stated, Silva (1990) further affirmed that none of these approaches are appropriate for L2 writing instruction.

both the process and ESP approaches; both have captured the extent of complexity, power, and diversity involved in the act of writing, such that any approach should only be a guideline for teachers, not an ideal. Instead, she advocated classroom action research[284], whereby teachers test and question the theories by using classroom data.

Nevertheless, review of the criticism does reveal that, by adding a task-based concept to the process approach, two principles of the writing approach are refuted (Dyer 1996), such that (1) writing is not simply a skill that is acquired by simple practice and (2) writing as a process is not simply a basic skill that generalizes to a variety of contexts.

1.9.1. Interlanguage Writing and Revision

The influence of the historical perspectives on error in SLA — contrastive analysis, variation analysis, error analysis, and interlanguage with the influences of variation and corpus studies — has affected the role of revision in the process approach[285], occurring at different times and stages of writing (Flower & Hayes 1981; Hayes et al. 1987), especially recognizing the stages of prewriting, first draft and other drafts, focus on content, organization and ideational content, and dealing with reader feedback (Keh 1990). Similarly, English for Specific Purposes views revision as a recursive activity guided by "specific criteria for evaluation" (Dyer 1996: 314) and error as providing a glimpse of learner strategies.

In the version of the process approach proposed by Hillocks (1986, in Dyer 1996) and Dyer (1996), tasks are designed to approximate the specific target contexts. Error is conceived differently in the four approaches to L2 writing as well, which then impacts the respective role ascribed to revision. To wit, the learners' objective is to reproduce models of sentences and rhetorical patterns presented by the teacher in controlled composition and current-traditional rhetoric approaches. Revision, in this context, signifies proof-reading and eliminating extra-formal elements, focusing not on content but rather on the mechanics, grammar, and organization of texts. Bartholmae (1988, in Silveira 1999: 112) affirmed that learners who are unable to revise these latter areas are "thought to have learning problems". Errors, then, viewed in isolation and in final text versions, are regarded as imperfections and indications of learner failure to acquire written L2 (Larsen-Freeman & Long, 1993; Silveira 1999). Paralleling the CA hypothesis as well, whereby L2 error naturally results from transfer of aspects of L1, the Audio-Lingual Method of the 1960s and 70s reinforced this perspective by which, through repetition of L2 models and avoidance of L1, *wrong* structures would not be transferred.

Assigning to the revision[286] process the various changes performed during and/or after the process of writing a text (Barlett 1982; Sommers 1984), researchers have further come to

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[284] Hanks (2010) and Allwright & Miller (2010) additionally emphasized the importance of *exploratory practice* in SLA for determining, both in the practitioner's and the learners' mind, the value of any approach or theory.

[285] Revision is seen as a recursive, fundamental component of the writing process (Silveira 1999: 115).

[286] Although researchers have distinguished between the terms *revision* and *editing* (cf. Hull [1986] for a full discussion), this study will prefer the term *revision*.

recognize its importance in the writing process (Sommers 1984; Hayes et al. 1987, Bereiter & Scardamalia 1987; Scardamalia & Bereiter 1987) and its recursive nature (Hayes et al. 1987). Witte (1985) proposed incorporating revision into the more comprehensive component of writing, the subprocess of reviewing to account for the revision related to planning a pre-text as well as revision of the writing *per se*[287]. Witte further noted that, although research has established revision as an important step in the writing process rather than "a separate activity, performed on completed drafts" (Barlett 1982: 345), the traditional approach that views writing as an act of "linear sequence — that may be repeated — of discrete stages" (Witte 1985: 255) has greatly influenced all those involved, from teachers to researchers and students, who regard revision as a final step. From a strictly pedagogical perspective, behavioralist influences on SLA, which viewed writing as a service activity, had impeded recent language learning theories from including writing as a principle aspect of SLA[288]; thus,

> the process approach arrived on the scene at a very opportune moment — for in second language teaching, the problem was not so much that traditional methods of teaching writing had proved inadequate as that there had previously existed no coherent, theory-based approach at all for teaching writing in a second language. And so, slowly at first but with gathering momentum, the process approach to writing teaching has been widely adopted in the second language classroom. (Caudery 1995: 2)

A model of revision designed by Hayes et al. (1987), based on Flower and Hayes' (1981) process approach to the composing process, has been taken up to explain the cognitive process of revision. It consists of recognizing three types of evaluation to which revision can be attributed. In one case, the learner evaluates the text against standard L2 criteria, like grammar, spelling, and clarity. In another stance, the learner detects the contradiction between what was written and the intended text. Finally, based on judging the appropriateness of the general goal and reader, the writing plan is evaluated in a process that is considered the most appropriate for the production of high quality revisions. Thus, an apparent incongruity detected by the learner between the initial plan/intention and the written text is not the only stimulus to revision. In fact, the writers engage in processes of composing[289], including task definition, evaluation, goal setting, and strategy selection. These processes result in types of knowledge which, in turn, can also influence the composing process. Hayes et al. (1987) noted the importance of an information resource[290] which they referred to as a *means-ends table*, where *means* are the solutions available to solve the

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[287] Silveira (1999: 116) proposed that, although Witte (1985) does not explain how to evaluate the writer's mind during composition, a thinking-aloud protocol might allow for a glimpse of what is going on.

[288] Olivares Cuhat (1998). Note, however, the written focus at the advanced levels in the Classical Method, based on imitation of the rhetorical strategies from the beginning of the millennium.

[289] See Silveira (1999: 118-19) for a more detailed discussion.

[290] These include "appropriate rules, maxims, and problem-solving procedures" (Hayes et al. 1987: 188).

problems (or *ends*), directly determining the extent to which revision will be detected at a higher or lower level.

Smalzer's (1996) list of errors was the basis for a classification of three categories of revision — *content & ideas*, *organization & form*, and *writing conventions* — proposed by Dellagnelo (1997), who studied Brazilian EFL writing to identify a list of forty-five (45) types of problems. Other researchers built revision taxonomies based on the "linguistic level (e.g., word, clause, sentence) or the operation (e.g. addition, deletion, substitution)" that the revision entailed (Sommers 1984; Hall 1990; and Porte 1996, in Matsuhashi & Gordon, 1985: 227). Still others created taxonomies with two basic types of revision — task-based revisions (or global or higher level revisions) that add or eliminate information and surface revisions (or local or lower level revisions) which merely paraphrase (parts of a) text — to illustrate the way in which revision shapes the meaning of the text. Nevertheless, Caudery (1995: 3), of the University of Aarhus, reported the results of his 1993 world-wide electronic survey on ESL teachers' views on the process approach, finding that it "is by no means a unitary concept".

Describing the process approach as "resolutely asocial in any theoretical sense […] It saw the learner almost wholly individualistically […] developing the inner self", Atkinson (2003: 4) referred to a post-process perspective on literacy as an ideological arena, where

> reading and writing are not the decontextualized, information-centered, impersonal activities they were once thought to be, but rather that they actively construct, and are centrally implicated within, power relations, society, culture, and, indeed, individuality itself […] These social activities may be so bound up in other forms of doing, being, and knowing that they are not in any ecologically valid way separable from them. (Atkinson 2003: 6)

As a result of this perspective, "writing is a human activity which reaches into all other areas of human endeavor — expansive in a way that casts doubt on conventional boundaries between individual and society, language and action, the cognitive and the social" (Atkinson 2003: 10). For L2 learners, a post-process writing approach[291], then, may also include strategies that contemplate further aspects such as peer correction/review and notions of voice, writing with an audience in mind[292], and expression of self. The genre approach, discourse communities, and social constructionism, then, have also contributed to a contemporary view of the socially-situated nature of L2 writing (cf. Swales 1990; Leki 1995; Johns 1990). This trend toward a post-process, post-cognitive[293] period in L2 writing has thus melded some thoughtful, socializing perspectives to the *process — not product* — approach, to broaden the reach of L2 writing overall. From the perspective of social responsibility, current perspectives on L2 writing allow the following considerations:

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[291] The post-process perspective, in its most mainstream approach does not appear to be striving for a paradigm shift since "[t]he usefulness and power of process writing has been revealed time and again" (Atkinson 2003: 10-11).

[292] Takagi (2001), for example, noted that becoming aware of the similarities and differences of the rhetorical patterns in both the L1 and L2 could represent an important strategy for L2 writers.

[293] Flower & Hayes (1981) represented, for example, the cognitivist perspective on L2 writing.

> The English teacher can cooperate in her own marginalization by seeing herself as a ''language teacher'' [and, I would add, more specifically ''as a writing teacher''—editor's note] with no connection to … social and political issues. Or she can … accept her role as one who socializes students into a world view that, given its power [in the U.S.] and abroad, must be viewed critically, comparatively, and with a constant sense of the possibilities for change. Like it or not, the English teacher stands at the very heart of the most crucial educational, cultural, and political issues of our time. (Gee 1990, in Atkinson 2003: 12)

1.9.2. Corrective Feedback

As has been shown, over time, error itself has been seen as negative and inadmissible, as in the early years of contrastive analysis and the Audio-Lingual Method, when errors were seen to create bad habits if allowed. Thus, language teachers threw themselves into the effort to correct learner errors systematically and without exception. Coupled with the lack of communicative context, memorization of basic structures, and monotony of the approach, other teaching styles were adopted that included a more positive concept of error, most notably more recent linguistic trends in cognitive psychology and error analysis of interlanguage.

Error can now be seen as an essential part of the creative process of learning, even necessary. While the focus on communicative learning at the end of the 20th century taught teachers to let errors slide as long as they did not disrupt communication, cognitive psychology has also illustrated the importance of psychological factors in learning a foreign language, beginning with Krashen (1982) who pointed to motivation, self-esteem, and anxiety as three intervening variables in the acquisition process. Cognitive linguistics is largely responsible for promoting the method of feedback, which assumes many forms, among them indirect correction which avoids creating an affective barrier with learners.

However, Truscott (1996, 1999) rocked the language teaching world with his findings that formal, teacher-based error correction had no correlation with learning. In a direct challenge to language teacher trainers and language teachers, he questioned the long-term effectiveness of written corrective feedback (CF) with the claim that "grammar correction has no place in writing courses and should be abandoned" (Truscott 1996: 328). He claimed that, while teachers have a vocational interest in driving students toward improved communication, which can be impeded by error, correction itself can also be impeditive by cutting lines of communication and turning the focus to form rather than content.

Amongst other researchers in protest (cf. Ferris 1999; Bruton 2010), Ellis et al. (2008: 353) provided counter-evidence, focusing on definite and indefinite articles, proving that "CF is effective in an EFL context", contrasted with an ESL context. Empirical evidence of the positive effects of error feedback has been reported (cf. Chang 2000; Chandler 2003; Bitchener et al. 2005); notably, Ferris (2004) found error treatment to be a necessary component of L2 writing instruction, including error feedback by teachers. Similarly, Hyland

and Hyland (in Ellis 2008b), in their review of research on corrective feedback, found that, "while feedback is a central aspect of L2 writing programs across the world, the research literature has not been equivocally positive about its role in L2 development and teachers have a sense that they are not making full use of its potential". The purposes of CF, as identified by Ellis (2008b), were (1) to enable students to revise their own writing; and (2) to assist students to acquire correct English. Rather than focusing on the content or organization of learner writing, CF focused on language in his study *via* the typology of corrective feedback types which, again, have two dimensions: (1) strategies for providing corrective feedback; and (2) how students respond to the feedback. Of the six corrective feedback strategies Ellis (2008b) identified — direct, indirect, metalinguistic, focus of the feedback (a single language area or a wide variety of language uses), electronic feedback, reformulation (a bit broader than corrective feedback) — not all are the focus of studies in this area. While evidence has been found that, for lower level learners, direct CF is more effective than indirect CF since learners receive explicit guidance, Ferris (2006, in Ellis 2008b) noted a number of forms of explicit, or direct, corrective feedback, including crossing out, inserting, and writing the correct target form[294].

Nevertheless, the long-term contribution of explicit CF has been questioned since the resulting learner revision requires minimal processing (Ellis 2008b) although Sheen (2007, in Ellis 2008b) found that, in the case of specific grammatical features, direct CF could be effective. In a one-semester study of ESL students, however, Chandler (2003: 267) found that both direct correction and marking[295] are "significantly superior to describing the type of error […] for reducing long-term error". Specifically, direct correction — the student and teacher preference for speed and ease — proved to be most effective for accurate revisions, while marking was the correction form that provided more opportunity to learn from self-correction. Thus, both methods, according to the specific goals, were found to be viable.

The recommended instructional strategies include vocabulary learning, instruction of basic grammar, and a guided pleasure reading scheme[296] in addition to error feedback and types of correction. For example, faced with the daunting task of correcting 100 to 200 assignments, Tan (2008) suggested selective error correction and class conferences, focusing on direct correction of lexical errors and "dosing out" the major grammatical errors as well as group editing and revision followed by a class conference during which the teacher can offer further

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[294] In just one example, specifically to detect errors of prepositions in ESL writing, Tetreault and Chodorow (2008) created a system that performs at 84% precision. Tschichold (2003) also proposed the creation of a CALL/iCALL system for lexically-driven error detection and correction. Designing a computer system to detect language errors, while possible, is not at all within the scope of this research.

[295] Marking commonly refers to the simple underlining of errors.

[296] Tan particularly noted that "non-English majors with lower intermediate proficiency usually lack the initiative to read English voluntarily and regularly outside class" and rejected this "elusive goal" in favor of a guided online reading scheme for reading and writing during the summer, also serving as a prerequisite for second year enrollment. This suggestion was based on evidence from Lee (2005, in Tan 2008), whose hypothesized structural model links L2 English writing to a variety of factors; only free voluntary reading was found to be a significant predictor of writing performance.

feedback.

Notwithstanding the response to his criticism, Truscott (1998: 103) summarized his critical review of the Schmidt's (1990, in Truscott 1998; 1992; Schmidt & Frota 1986, in Thornbury 2009b) Noticing Hypothesis — the claim about "how input becomes intake" whereby noticing is a necessary condition for learning — which he posited to be at the center of the corrective feedback debate, resulting in an insightful weaker view that the acquisition of "metalinguistic knowledge, closely associated with consciousness and distinct from linguistic knowledge, … is tied to (conscious) noticing: development of competence is not" (Truscott 1998: 123-124). As such, L2 learners "can use their metalinguistic knowledge to make their output more grammatical, thereby creating improved input for themselves" (Truscott 1998: 125), leading to improved comprehension. This perspective continues to recognize "a role for teachers/teaching materials with regard to noticing" (Cross 2002: 5).

Despite the literature on successful strategies for error correction (cf. Allwright 1975), Long (1977 in Chun, Day, Chenoweth, & Luppescu 1982: 537) "cautioned teachers about correcting their ESL students, claiming that much teacher feedback on errors is inconsistent and is lacking in clarity". Zamel (1985: 86) assessed the way teachers respond to learner texts as misreading the texts, also in that they are "inconsistent in their corrections, make arbitrary corrections, write contradictory comments, provide vague prescriptions, impose abstract rules and standards, respond to texts as fixed and final products, and rarely make content-specific comments or offer specific strategies for revising the texts". Lee's (2003: 216) study of more than 200 high school ESL teachers in Hong Kong further revealed that, "although selective marking is recommended both in the local English syllabus and error correction literature, the majority of teachers mark errors comprehensively [and] treat error feedback as a job with little long-term significance". The study also found that, despite "spending a massive amount of time marking student writing, teachers themselves are not totally convinced that their effort pays off in terms of student improvement".

Given the question of the significance of teacher feedback for assisting language learners, the question persists as to just how to facilitate learning in students. Bhatia (1974, in Tahaineh 2010: 98) further suggested that "a course based on the frequency and types of errors will enable the teacher to teach those items of syntax, morphology and phonology with which learners have most difficulty".

1.9.3. Fossilization

The review of the literature will end with a brief presentation of the polarized views on fossilization and non-nativelikeness, best represented by Birdsong (2006), espousing a success-driven model which he has long defended in terms of learner potential, and Han and Odlin (2006[297]), focusing on a failure-driven model which considers learner limitations as well

[297] This edited volume of texts is a rewarding read, from researchers considering the topic from a variety of perspectives to contribute toward a better understanding of L2 learner communication successes and failures.

as the view that not all components of L2 are learnable. In their edited volume on the topic, conflicting views are provided by enlightening studies covering largely situations of English as a Second Language, basically on location learning in a community where the L2 is the common language and beyond the throes of the present study, but also situations of English as a Foreign Language, which does reflect the research conditions at hand. In the latter cases, in tandem with research on English as a Lingua Franca, proposals have been made to reconsider the current monolingual native speaker bias, supplementing the native speaker norm with the bilingual native speaker norm, echoing Cook (1997, 1999, 2001, 2003).

Selinker, the contemporary "father" of both the concepts of *interlanguage*[298] and *fossilization*, offered the *Afterword* to the collection of conflicting perspectives on the levels of attainment language teachers, as a community, can expect of their students. Going back to Labov (1969), who argued that "members of one group should not be criticized for not meeting the standards of another group to which they can never belong"[299], if interlanguage is to be considered a creation of the L2 user, this means that the grammar of the L2 user must be decoupled from that of the monolingual native speaker. This study will be a contribution to understanding the creative system of the native Portuguese speaker as an L2 user of English.

[298] Recall the presentation of earlier "fathers" of the term (fn 112).

[299] Cook (2002: 9). He further noted that while this approach, chastised by Labov, has been "outlawed in linguistics", this is not so in popular discussions, such that, despite the tautologous observation that "[m]onolingual native speakers are also incompetent at speaking second languages … [s]ome people continue to insist that L2 users are a special case where the goal of one group is genuinely to be like another group: the ultimate state of L2 learning is indeed to pass as native" (Cook 2002: 9-10).

Chapter 2 — Methodology

2.1. The Thesis Statement

The short module of language, which has become more and more common to higher education since the adjustments made to courses of study realigned with the requirements of the Bologna Convention have resulted in courses of a shorter duration and encouraged further learning of foreign languages and has prompted the formulation of the driving thesis of this doctoral research.

> Thesis: Portuguese science students writing intensively in genre-specific English develop their general writing skills and demonstrate developmental metalinguistic approaches over a 30-hour module.

This new thesis advances knowledge by providing positive support for the introduction of short modules of English for Specific Purposes into courses of study in Portugal that may not traditionally consider any type of language education at the level of higher education. Language acquisition research, thus oriented and confirmed, can lead language policy makers at an institutional level to systematically include English in courses of study, even in courses that seem to have a more technical, and in this sense, less communicative function. In finding justification for these short modules, the study constitutes a contribution to the effort to include language studies in academic fields that currently ignore the benefits of language study enriched by intensive genre writing.

The justification of this research and its results will enable more institutes of higher learning to justify making the effort to include short modules of English in degrees in which this subject had not previously been included to enhance future participation in the international communication dimension of the students' future profession.

In a final analysis, the results of this study can contribute to the elaboration of appropriate learning and teaching material for similar situations in areas not traditionally associated with acquiring language skills. While business and tourism degrees are areas with a time-honored tradition in learning languages for their readily recognizable connection with communication and foreign language acquisition for professional success, students of the sciences have long been in an underprivileged position to access language classes. In fact, a study of the Pharmacy degree in twelve institutes of higher education in Portugal[300] reveals a weak link to language education despite the overwhelming representation of scientific language literature published in English.

This contrastive exploratory case study is based on two sources of data from Science

[300] See Appendix 2 – The Pharmacy Degree (1st cycle) in 12 Institutes of Higher Education in Portugal.

students in Portuguese Higher Education: an error analysis[301] of the state of learner interlanguage based on an individually written initial report and another error analysis of the state of learner interlanguage based on an individually written final report. These two sources of data are complemented by a third, a quantitative analysis of T-units, as defined below, to create a triangulation of data.

Error analysis (the study of TL erroneous performance) has been an effective tool for revealing insights into SLA developmental and cognitive processes since the late 1960s[302], when the appearance of error in learner production was been established as evidence of learning. As such, the learners, who at any given moment are organizing the language knowledge available to them, reveal their interlanguage to be an important source of information which accounts for the learners' various metalinguistic competence and communication strategies. Accordingly, an analysis of their interlanguage can, in effect, serve to identify the processes of hypothesis (re)formulation occurring at all times in an L2.

The central methodology of error analysis, thoroughly informed by contrastive analysis and variation analysis, will provide the representative written data with a firm methodological basis, demonstrating both the pre- and post- learner linguistic competence in writing.

2.1.1. The Research Hypotheses

The proposed thesis is sustained by a number of hypotheses which will be examined through the present research. These will be presented briefly as a whole and then further explored throughout the discussion of methodological considerations.

The current context of language teaching in higher education in Portugal and Europe in general, under the direct influence of the Bologna Convention, reveals a tendency to include Technical English as a component of the course of study (cf. Morgado 2011; Papp 2010; Horká & Kashdan 2010; Quennet & Kanwischer 2010), albeit in courses of short duration, between 25 and 50 hours. The course in question in this study is 30 hours, thus, simultaneously referring to Corder's (1981: 90) definition of interlanguages as *dynamic goal-oriented language systems of increasing complexity*, a first hypothesis of this study will be:

> H1: The development of Portuguese young adult learners' general English is demonstrated in their written expression in a course of short duration directed at Technical English.

This is specifically ascertained by comparison of the results of two error analyses of interlanguage, as it is expressed in writing, before and after the 30-hour Technical English

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[301] Note that, despite controversy surrounding the multiplicity of terminology that can be applied when considering error analysis (see fn 91), this study will use the original terminology as discussed by Corder (1967), including the important recognition that the *error* is from a target language perspective. The motivation for studying the metalinguistic approaches derives from this implicit respect for the learners, whose every utterance — both written and oral — is grammatical in their respective dialects.

[302] Cf. Corder (1967, 1971, 1981, 1983), Duskova (1969), Richards (1971, 1974), Williams (1972), Krashen & Pon (1975), Sridhar (1981), and James (1998).

course of the 1st cycle Pharmacy Technician degree. In these Technical English classes, students were encouraged to participate actively and regularly in the creation of oral and written assignments designed to enhance their ability to fully partake of their future profession. The 30 contact hours were strategically spread over 15 two-hour sessions, with a total of four hours each week. Over these 7½ weeks, the students developed eight writing projects, each considering a more involved professional situation and at a more challenging level in terms of lexicon for their specialty — Pharmacy. These written topics and constructs assume a progressively more challenging quality, varying in genre and objective.

In each case, except the final report, the written assignment involves the learners' active creation individually as well as with peers, in selecting, devising, researching, and reconfiguring genres and language to best suit the situation and the intended audience. After submitting the first version, the teacher read and indicated areas for improvement to be delivered to the students in the following class; upon receiving these teacher indications, learners submitted their texts once again to group and individual attention to reach better writing competence. While time-consuming, this dedication to the creative process of linguistic production seemed to focus learner energy and heighten motivation for learning English. With greater motivation, progress appears to be more perceptible to the learners, who, according to comments in their final reports, tended to feel that their needs had been met.

In using the first and last assignment as the basis for interlanguage data, this study can compare the effects of a 30 hour module of Technical English in a science degree by examining both the individual and overall interlanguage errors before and after the time dedicated to learning the language. Another interesting factor is that, by focusing on a personal, non-technical topic in each pre- and post-written assignment (the initial report and the final report), students are not assessed in their technical language competence but rather in their general communicative competence. This perspective is interesting because it is possible that learners may only acquire competence in the specific genre and lexical content area taught in the English for Specific Purposes class. In fact, as a transversal area, treated like computer skills in higher education, the linguistic competence acquired should, in fact, be applicable to other areas of expression. This study serves as an appropriate forum to investigate the potential transference of skills to another forum of the learner's professional or social context.

Because these students were enrolled in a 30 hour Technical English class, their learning activities were designed to advance their technical knowledge in Pharmacy as much as possible in the target language. Nevertheless, the focus of the EA of this study is their general English language development. Thus, a second hypothesis advanced by this study is:

> H2: Learning activities aimed primarily at the development of technical English can advance general English writing development.

Then, due to alterations to the course structure during the collection of data for the present study, the year 2008-2009 became a transitional year. During this time, the first-year students, newly scheduled, had Technical English in the first year of the Pharmacy Technician degree and the second-year students had classes according to the previous degree structure. These classes were separated and held over the same period. Thus, part of the sample consists of first-year students while the other students are second year students, which coincidently figures into the long-standing maturational argument in SLA, forcing the unexpected third hypothesis:

> H3: Interlanguage in young adult learners develops more rapidly the younger the learner.

Here, the age difference will be of approximately one year, simultaneously reflecting the absence of English language studies over at least one year (the first year of the degree when English was not previously scheduled). Another detail that was introduced through this unexpected alteration was the attribution of three more hours, for a total of 33 hours; to avoid any effect of these extra three hours in groups 2 and 3, the final report was maintained at the end of the 30th hour, in keeping with the structure determined for the first group.

The initial and final reports were also analyzed to determine the total T-units and mean length of T-unit to correspond to a final hypothesis:

> H4: Developing interlanguage writing corresponds to an increase in total number and mean length of T-units.

For the purposes of this study, a T-unit is defined as "(1) Any independent clause plus all its required modifiers; (2) Any non-independent clause punctuated as a sentence; (3) Any imperative" (Schneider & Connor 1990: 427, in Foster, Tonkyn, & Wigglesworth 2000: 360). This supra-clausal, syntactic definition was selected for its enhanced accuracy in crediting the learners' written texts that reveal more advances in the planning process as demonstrated by proficiency in embedding clauses and constructing chunks of speech to ensure greater construct validity for this research design. While using a T-unit measurement of development satisfies a quest for accountability, this quantitative measure further satisfies the requisite triangulation of approaches for greater reliability[303].

To conclude, the present study will return insights based on developing interlanguage to better understand the state of Portuguese Science students studying English in higher education. Because it entails two separate analyses, the study has the advantage of, first, characterizing the interlanguage of Portuguese Science students after having studied English in the public school system, a marker which is valuable at a time when the Ministry of Education has introduced changes to primary education, including the offer of cultural enrichment classes in English as early as the first grade. By the year 2015, students who

[303] Cf. Yin (1989) and Rimmer (2009: 29-33).

benefited early on from these classes will have reached higher education; the present study, then, marks the final decade of students who will not have had the benefit of this additional study at an early age.

Since these classes are optional, however, it is unclear how they are intended to impact Portuguese students in the second and third cycle of the primary level or even at the secondary level. Nevertheless, because there is no practice of offering foreign language classes in accordance with demonstrated learner competences at any level of primary or secondary education, the current conjuncture suggests that the State approach to language teaching contributes actively to the continuing heterogeneity in language learner development in the classroom, much to the detriment of the learners. The analysis of the final report, then, serves to ascertain the level of interlanguage development that can be reached over the duration of a typical Technical English class in Europe in keeping with Bologna recommendations (see H1 below, again).

Perhaps more importantly, this analysis of learner interlanguage will provide an interesting road map to improve teaching in similar conditions as it reveals insights into metalinguistic strategies employed by adult learners of English in higher education. In addition to the contribution of the interlanguage analysis results to teaching practices for Technical English in higher education in Portugal, this study proposes to find evidence to support the motivating thesis and the four hypotheses proposed and listed here, once again, for easy reference:

H1: The development of Portuguese young adult learners' general English is demonstrated in their written expression in a course of short duration directed at Technical English.
H2: Learning activities aimed primarily at the development of technical English can simultaneously advance general English writing development.
H3: Interlanguage in young adult learners develops more rapidly the younger the learner.
H4: Developing interlanguage writing corresponds to an increase in total number and mean length of T-units.

2.2. Characteristics of the Study

The analysis of the initial written texts in the present study is, in one sense, cross-sectional in that it takes as its subjects students from three similar Technical English classes of Pharmacy Technician students. Strictly in the case of hypothesis 3, students from two of these classes represent the control group while a third class reflects the test group. The experimental factor is maturational: these are first year students while the other two groups consist of second year students. This initial error analysis, a portrait of the interlanguage of students in Portuguese higher education in a Health Sciences degree, is simultaneously a representation of the state of Portuguese learners of general English having studied their secondary education course of study in Science and Technology. This portrait, then, is limited to students from this study area, required for admittance in the Pharmacy Technician degree.

It excludes students having studied courses of study in Languages and Humanities[304] as well as Socio-Economics and Visual Arts although all four of these Scientific-Humanistic courses of study offer the same study schedule for English as a foreign language over the final three years of secondary education[305]. Effectively, students who have chosen English as their foreign language in the 10th and 11th grades can opt for further study of the same foreign language in the 12th grade. At the secondary level, the 10th and 11th grades consist of a total of 180 minutes, or 3 hours, of English class per week while 12th grade English, when selected, accounts for 270 minutes, or 4½ hours, of English contact hours per week.

Despite the equal status of contact hours dedicated to the study of English, the other courses of study form a particular academic and cultural background that may contribute variably to the approaches and strategies employed in SLA. For this reason, the results of this study will be limited to students in higher education having pursued the Portuguese secondary education course of study in Sciences and Technologies.

For the future, the Portuguese National Board for Curricular Innovation and Development (DGIDC, in Portuguese) claims that, in programs designed according to the guidelines of the Common European Framework of Reference for Languages (CEFR — see Appendix 3) in 2006-2007, 97% of students in the 3rd and 4th grades were studying English in after-school cultural enrichment programs[306]. The DGIDC further defends the statute of the English language as the language of international communication, noting that general consensus on this has been achieved across political parties represented in the Portuguese Parliament. This stance delineates the recent concentrated effort to enforce English language learning from an early age in line with European Union and Council of Europe orientation although, as a country, Portugal is not a member of the European Centre for Modern Language (ECML). This agency was created by the Council of Europe to meet the challenges of the European Union, with the specific mission to "encourage excellence and innovation in language teaching and to help Europeans learn languages more efficiently"[307]. As a complement to the work of the Language Policy Division of the Council of Europe, their "primary responsibilities are the elaboration of policies and guidelines for promoting linguistic diversity and plurilingualism and the development of policy planning and standard-setting reference instruments"[308].

Significantly, this study marks the last opportunity to investigate the interlanguage of Portuguese young adults in higher education who will not have had as many opportunities to study English throughout their primary and secondary education due to the aforementioned alterations at the primary level. Then, in a longitudinal study following these same three

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[304] This current course of study resulted from the junction of Languages and Literatures with Social and Human Sciences, in accordance with Portuguese Decree-Law 272/2007, dated 26 July, at http://sitio.dgidc.min-edu.pt/linguas_estrangeiras/Paginas/LEstrang_curriculo.aspx.

[305] *Diário da República, 1.ª série — N.º 143 — 26 de Julho de 2007, Anexos 1.1-1.4,* http://sitio.dgidc.min-edu.pt/recursos/Lists/Repositrio%20Recursos2/Attachments/727/DL_272-2007.pdf

[306] http://sitio.dgidc.min-edu.pt/linguas_estrangeiras/Paginas/LEstrang_curriculo.aspx

[307] http://www.ecml.at/Aboutus/tabid/118/language/en-GB/Default.aspx

[308] http://www.ecml.at/Aboutus/ECMLintheCouncilofEurope/tabid/121/language/en-GB/Default.aspx

groups 30 class hours later, another error analysis provides the foundation for the study of the final written texts. Comparison of the various classifications of errors identified, initial and final, will provide an indication of how the development in interlanguage can be affected over this period of time (H1).

2.3. Contextual Framework

The case study approach carries advantages in terms of attention to context and tracking/documenting change over time; case studies also permit a focus within a natural context of situation on purposes, characteristics, or even dynamics, as well as the potentially rigorous, revealing, and incisive characteristics of description and narration for telling the story of the case (Van Lier 2005: 206). For this study, language development over a time-period defined by an institutional English class in higher education finds its methodological definition as follows: "a case can also be a group of individuals with a common context, set of goals, or some kind of institutional boundedness [… , such as] a classroom" (Van Lier 2005: 196). At an individual level, one of the "micro-level scales for L2 development examines changes over months and weeks, as in instruction-based language development *(*de Bot & Schrauf 2009: 3).

Engeström's activity model (1996, in Van Lier 2005: 206) served as a contextual framework to clearly define the boundaries in time and space of this study. As such, the characteristics of the initial 73 student subjects, ascertained at the beginning of the class, served to ensure the possibility of understanding the factors involved in the study, some specific data to constitute each group, as specified in Dörnyei (2007) as well, were collected to determine the average learners' age (H3) and the duration and context of the study of English prior to enrollment in higher education. To report age, a rounding system was used to indicate only whole numbers: Accordingly, students indicated their age to be attained in the respective academic year; if they were to turn 18, 19, 20, or 27, for example, from September of one year to September of the next, then that was the age registered. According to the age-related data collected, this study focuses on early adulthood[309], with a group comprised of students between the ages of 17 and 29, with an average age of 19.8.

A total of four subjects were excluded from the study: three for not having written the final composition (subjects identified as n.ºs 46, 47, and 48) and one (subject n.º 64) for plagiarism identified through SafeAssign™ (see Appendix 4a), leaving 69 participants (see Appendix 4b). The three groups of students were quantitatively similar, as shown in Table 6, where group 1 is composed of 23 valid subjects in their second year of 2007-2008; group 2 is composed of 22 valid subjects in the first year of 2008-2009 (3 of the rejected incomplete subject results belonged to group 2); and group 3 is composed of 24 valid subjects in the

[309] Levinson (1978, in de Bot and Schrauf 2009: 2-3) identified six stages of life development: early and late childhood (ages 0-3 and 3-12), adolescence (12-17), and early, middle, and late adulthood (ages 17-45, 45-65, and 65 and older, respectively).

second year of 2008-2009 (the rejected plagiarized subject belonged to group 3). Group 2 represents the local change in scheduling attributed to this English class which, in the alterations to make the Pharmacy Technician degree appropriate to stipulations of the Bologna Process in Portugal, became, as has been presented, one of two modules comprising the curricular unit Information and Communication Technologies.

The 73 original students of this study were enrolled in the Pharmacy Technician degree at the School of Health of the Polytechnic Institute of Guarda, an inland region in central Portugal. The choice of the school is one of expedience as well as excellence. On one hand, the teacher/researcher has taught at this school since 2006-2007 in the original Technical English course constituted for this degree, the only English course taught at the School of Health until English was also introduced as an extracurricular course in the Nursing degree in 2009-2010.

As for excellence, the subject of the study are students participating in a learning project in higher education that is unique in the country: of the 12 institutes of higher education in Portugal offering a Pharmacy degree, the Polytechnic Institute of Guarda (Instituto Politécnico da Guarda) alone (cf. Appendix 2) has included Technical English in its study plan (Appendix 5)[310], currently as a module of the Information and Communication Technologies[311] course, partnered with a Computer module. Nevertheless, as this study confirms, the study plan of this Pharmacy Technician degree incorporated an English course of 30 hours prior to alterations derived from application of the Bologna Process in Portugal.

Originally, the English course, in its approved proposal to the Ministry of Education, was intended to be aimed at general English. Nevertheless, due to the teacher's awareness of learner needs and objectives, the focus was altered to Technical English for Pharmacy Technicians — an adaptation of ESP[312] (cf. Appendix 1d) — from the inception, in accordance with English language teaching practice and recommendations for higher education in Europe and around the world (cf. Hutchinson & Waters 1987; Anthony 1997; Phillipson 2008, 2009[313]).

As such, the Technical English course curriculum[314] aimed at working with English language usage in the context of diverse oral and written genres, such as presentations, proposals, and reports within the subject-matter and expertise required of Pharmacy Technicians, subordinated to the individual needs of the students in a learning-centered approach that was attentive to the students' strategies, skills, and interests. In one sense, (cf. Appendix 1d)

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[310] Fátima Roque, personal communication, sub-director of the Pharmacy Technician degree at the Guarda School of Health of the Polytechnic Institute of Guarda, first informed the English teacher of this situation when teaching service was first solicited from the Department of Languages and Cultures of the School of Management and Technology of the Polytechnic Institute of Guarda in 2006, having reconfirmed this data in 2011.

[311] In Portuguese, Tecnologias de Informação e Comunicação (TIC).

[312] Recall that, with ESP, the focus is on the usage of the English language in the specific context of the knowledge of the field and its terminology.

[313] Phillipson (2009: 19) warned that English should function *locally and globally as a neutral, additive lingua franca*.

[314] Cf. Appendix 4 — Course Syllabus

Pharmacy Technicians are directly related to the orientation of health professionals, like doctors and nurses, within the English for Occupational Purposes (EOP) branch, itself branching into Medicine. In another sense, the Science and Technology path, resting on English for Science and Technology (EST) and English for Specific Academic Purposes (ESAP) within the larger branch of English for Academic Purposes (EAP) also was possible for students of Technical English for Pharmacy Technicians. In fact, the idea that Medicine could be studied without the orientation to Science and Technology was difficult to fathom, particularly because the students indicated, in an initial needs assessment carried out orally in each course, that they were highly motivated by being able to participate in professional forums that required reading of state-of-the-art research.

Finally, although both the Technical English and Computer modules currently consist of 33 contact hours, this study reports the results for 30 contact hours, the original format of the research design, and the case of the reality of the first group of students (2007-2008). To create comparable study subjects, the corpus material from the second and third groups corresponds to the original 30, rather than the 33 hours attributed as an outcome of the changes introduced to the degree to conform to Bologna which occurred during the study.

2.4. Constitution of the Written Corpus

Observation of language use through a selected corpus is recommended by Silva (1999: 71)[315] as a reliable method in linguistic analysis. This method is found in the linguistic analysis methods of error analysis (EA), performance analysis (PA), and critical discourse analysis (CDA), as well as corpus studies (CS).

Performance analyses by researchers presented in the review of the literature were based primarily on naturalistic data, subject to some form of elicitation technique or translation. Each of these types of data differs in the extent to which learner focus is on form. Despite Freeman and Long's (1991: 31) affirmation that "subjects' performance varies from task to task", writing was selected as the primary source of data in this study for its focus on both form and meaning.

While student interest in developing writing skills was clearly manifested in an initial needs analysis, this motivation was coupled with the researcher's preference for writing as a source of data due to its quality as a reporting mechanism and for its reliability. The written data is permanent and subject to less variation in interpretation than would be oral data. Oral data would require further analysis of extra-linguistic communication and, to be more reliable, would require not just audio recording but video recording for maximum analytic accuracy.

[315] In Arias Mendez (2007: 39-40). Silva further recommended two other general linguistic methods of analysis: (1) introspection or intuition of the speaker/investigator and (2) the collection of linguistic data through questionnaires and experiments created for the purpose of the analysis, the first of which is applied in error analysis.

The use of written samples as a source of interlanguage data is also considered highly reliable in the sense that, assuming the written source is executed by the participant, it reflects the participant's written skills. Moreover, the Common European Framework of Reference (CEFR) for language indicates that, while understanding and speaking skills require an analysis from an individual perspective of reading and spoken production, respectively, as well as a participatory perspective, corresponding to listening and spoken interaction, writing skills alone can be analyzed from the perspective of the individual writer. Nevertheless, and as has been considered in the literature, writing competence includes consideration of the audience and appropriate genre for the communicative intent.

The reliability of this method of observation of a selected corpus rests on the participants' production of the most authentic manifestations of linguistic expression without interference of the observer or the observed. To support this end, the students were not informed that their texts would constitute the corpus of a study; instead, as for each of the intervening written assignments from the initial to the final report, the student focus was directed toward individual expression and interactive participation in a developmental process, with ongoing enforcement of this objective from the teacher/researcher and peers.

The selection of a corpus for analysis for this study was predicated on a number of criteria. A primary concern was obtaining material under the most natural, stress-free circumstances possible, which excluded material obtained in a test-taking context. This methodology differs distinctively from the Portuguese learners of English written corpus analyzed in Torre (1985), where the material was obtained in three final test environments.

Each of the 73 participants was to have produced eight texts in their individual European Language Portfolio, constituting a presumed total of 584 items of original writing, the first and last of which were not written for purposes of final student evaluation[316]. The initial and final report, as a source of data in this study, accounted for 138 texts with a total of 28,069 words (11,588 words in the initial report; 16,481 in the final report) The time elapsed between the writing of the initial and final reports was 30 class hours, over an average of 49 days distributed in 15 two-hour blocks.

The learning activities of this class involved regular writing and rewriting activities, characterized by creative and independent expression directed at a targeted objective of a variety of genres and intended audiences, as listed in Appendix 6a.

The writing process was activated, orally and in writing, throughout the 30 hours where peer and teacher-student assessment and discussion ensued. Each of fifteen 120-minute classes consisted of at least one and up to three writing-related oral activities, the most common of which was in-group brainstorming for a new topic and peer-presentation of a previous topic. Accordingly, a given topic (a-f, identified in Appendix 6a) was the subject of brainstorming in class. Students prepared their first draft of the topic individually and, in the following class, each student gave an individual oral presentation of their draft to the group

[316] The total was 581 because of the three students who did not complete their final report.

before submitting it for group analysis of their corresponding written expression. In this activity, the draft was subjected to one or two peer interventions within the group, including observations, comments, and alterations. During this activity, the teacher never failed to circulate among the groups and intervening when help was solicited. After this exchange, the drafts were returned to their writers, who made exacting decisions as to which peer-suggestions to maintain or reject before submitting the altered draft for teacher correction.

Teacher corrections were made immediately and returned to the students in the following class, in which group activity included assessment of the teacher corrections. Depending on the distance of learner writing from the target L2, these initial corrections took the form of indications, for example, in the case of syntactic form or spelling. In other cases, where the syntactic form or sentence pragmatics could not attain near-communicative proficiency, direct correction was attributed to avoid further misunderstanding. In every case, teacher corrections and indications were designed with the two-fold objective of (1) assisting the learner in reaching greater developmental communication and (2) stimulating language-focused conversation related to developmental communication in learner writing.

Given the desired outcome, group analysis of the corrections was expected to be interactive, interventive[317], and charged with problem-solving. When this did not occur, as was sometimes the case, the teacher directed the problem-solving activity based on the corrections recently carried out until student intervention appropriated the discussion once again to motivate the group activity of analysis of corrections/indications to create a second draft. The following class, then, was when students delivered their second draft[318] for a briefer group reading and analysis prior to submitting it to the teacher, who again made the final corrections — no longer indications considering time constraints — and delivered them in the next class, in which students had the opportunity to read their composition to the class and comment on the greatest changes they had made in their written expression throughout the time dedicated.

Clearly, to foster consistent attention to writing, this five-step sequence of classes (illustrated diagonally in Appendix 6b) had to be carefully constructed to successfully deal with the various activities designed to maximize learner attention to written language. The fact that the final report was conceived as a private communication between student and teacher served to best elicit the most frank, soul-searching content in this composition. It is also patent that, due to time constraints, assignment (f), the Europass CV, was neither subject to a second draft nor reading aloud before the class. This also meant that teacher corrections of the first and only draft were direct and explicit so that the learners would be

[317] Based in part on Gozdawa-Gołębiowski's (2003, in Paradowski 2007: 57) Language Interface Model (LIM), drawing on SCT and important insights from contrastive analysis of Portuguese and English (cf. Shepherd 2001).

[318] In many cases, this was a second and final draft. In a few cases, students were instructed to proceed to a third draft when the multicompetence (cf. Cook 2001) demonstrated was far from the desired communication level. Normally, though, the minor corrections that resulted from the teacher's correction of the second draft were simply rewritten, by the students, at the bottom of this second draft to show the teacher that they had understood.

able to make the best use of this tool in their future job search in the global job market.

In each case then, except the final report, the written assignments involved the learners' active creation, both individually and with peers, in selecting, devising, researching, and reconfiguring genres and language to best suit the situation and the intended audience. While time-consuming, this dedication to the creative linguistic process seemed to focus learner energy and heighten motivation for learning English.

Another methodological criterion was affording the students the time and context of their choice to best produce the assigned text, which was reflected in the independent circumstances characterizing a written homework assignment. A disadvantage, nevertheless, is that there is no controlled time or location to report, although the lack of a time limit favors the individual learner's judgment in determining when the solicited text is complete, with implications for its length. Given free-reign over their time, the use of tools, such as dictionaries and notes, was also left to the discretion of the learner. Note that, as has been presented, both the International Corpus of Learner English (ICLE) and the Brazilian International Corpus of Learner English (Br-ICLE) also collect texts for their databases written in individual student-created contexts, giving this methodology a strong international methodological reference.

These Learner Corpuses, as has also been presented, are based on texts written on a limited selection of topics. Following this approach, another methodological criterion of the present study is that the corpus of written material is based on two focused topics, one for the initial report and another for the final report. Again, this method diverges from Torre (1985), in which part of the corpus was based on translation and specific sentences designed to test the students on language previously identified in contrastive analysis of Portuguese and English.

Particularly in error analysis and corpus studies (CS), the analysis of a corpus of written data serves the objectives of two sides of the same coin, in analyzing the specific errors produced via EA and in analyzing the whole language produced via CS in the interlanguage of the participants. While the CS method has the advantage of analyzing precisely what language was produced, the EA method has the alternative advantage of exploring how the educator can deal with advancing development in the specific errors identified in the learners' interlanguages.

Yet another criterion was directed at individual writing; a strong ethos for individual progress was created among the learners that the objective was for students to develop their individual language competence in the context of other multicompetent[319] colleagues whose language levels are heterogeneous. As an added measure of reliability, given the volume of texts to be analyzed, the plagiarism detection tool was applied.

[319] The meaning of this term, understood as having a myriad of differing competences, should not be confused with Cook's *multi-competence*, his alternative term for interlanguage.

2.5. Processing the Data

The present study involves a full analysis of all of the written data available, classified as a level one level of application[320], excluding only those texts identified to have been plagiarized, as revealed by SafeAssign™, the plagiarism detection and prevention instrument of the Blackboard Learn™ platform licensed to the Polytechnic Institute of Guarda.

In all, the computer hardware and software utilized in this study include:

- SafeAssign™ tool of the Blackboard Learn™ platform;
- a Toshiba Satellite A200-2C5 with Intel® Pentium® Processor with Dual CPU T3400 @ 2.16GHz running the programs Word and Excel of the 2007 Microsoft Office System Suite;
- Statistics Package for the Social Sciences (SPSS) 19, licensed to the Guarda Polytechnic Institute.

As a first step in processing the data, the initial and final reports, in their first draft versions, were introduced into the computer, transcribed from their original handwritten form into a Word document, having first deactivated the spelling function[321]. A number was given to each student of each group sequentially, so that students have two texts attributed, for example, 23a and 23b, corresponding to the initial and final report, respectively.

After keying each report into the Word program with the spell-check function deactivated, these Word-processed reports were checked with the SafeAssign™ plagiarism detection program[322], into which the reports were introduced chronologically. Both initial and final texts were assessed for word count and number of utterances. T-units were all accounted for, including exclamations and interrogatives. To establish mean length of T-unit (MLT-U), the total word count was divided by the total number of T-units as a basis for comparison of the initial and final reports.

As for non-target-like language, this time-consuming and meticulous process was first begun in the initial report by the students in the in-class peer group interaction/revision process. The errors identified were then confirmed, dismissed, or added to for identification and classification of the total number of errors in each report. Error identification, as will be further described in the next section, was carried out solely by the teacher/researcher for the final report since the final report was analyzed after the last class and the students were no longer available to participate in the revision/interaction process. Colors were used initially for better visualization of the categories of interlanguage to be analyzed although these were later converted to letter and number labels to make the publication of the

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[320] Foster, Tonkyn, & Wigglesworth (2000: 370).

[321] In his corpus study on learner English of Brazilian speakers, Viana (2006), noted that, in processing learner text, the spelling errors were corrected to avoid the creation of multiple entries, one for each interlanguage spelling of a given word. An obvious advantage of the error analysis approach, then, is the possibility of exploring spelling errors and their causes, which could prove to be valuable orthographic information to be later applied in a teaching context.

[322] Cf. Appendix 4 — Sample SafeAssign™ report of the initial and final reports.

present study more environmentally-conscious and economically feasible.

In order to select the specific classifications of error analysis that would be carried out in full, based on limitations for the study, a number of calculations were made using Excel and SPSS to determine the most salient and expressive areas for study. The quantitative results of these analyses were handled carefully such that the numbers and resulting statistics have been quadruple-checked (three times by the researcher and another be an experienced statistician).

2.6. Methodological Considerations

To embark on error analysis (cf. Corder 1967; James 1998), the researcher starts with data on learner production to attempt to explain the errors and develop pedagogical materials, following the steps below:

1) collect data, usually written;
2) identify errors to compare with standard L2;
3) classify errors by giving them a name (*e.g.* tense, word order, or regularization);
4) quantify each error type statistically or using descriptive analysis;
5) determine the source of errors as inter or intralingual.

In an extended version of the methodology of EA, Sridhar (1981: 222) elaborated the following procedure:

1) determine the objectives;
2) describe the informant's profile;
3) select, elaborate and carry out a test;
4) identify the errors;
5) classify the errors according to a previously established taxonomy;
6) statistically determine the recurrence of the errors;
7) describe the errors and their causes;
8) identify the hierarchy of difficulties;
9) plan the techniques to deal with the errors in the classroom;
10) determine the level of annoyance to the listener.

As step 10 indicates, these steps refer to an error analysis of oral data. An adaptation of these extended steps for written data can integrate step 10 into step 4, whereby the identification of errors includes a reader audience-oriented perspective.

It is clear that this study has adopted the more thorough procedure, having fulfilled steps 1, 2, 3, 4, and 10 above. Then, in letting the categories of interlanguage to be analyzed reveal themselves[323], the taxonomy was created based on a pedagogical perspective, motivating both the student and teacher in its clarity and application, as will be demonstrated. Classification of the non-target-like structures identified involves a number of perspectives on the learners' interlanguages. This study focuses on the writing mode, in the narrative genre, involving the implicit linguistic levels of style, vocabulary, and grammar; pronunciation is only considered as it contributes to spelling in the writing produced in

[323] In this study, the strategy of letting the errors reveal themselves was coupled with many years of experience working with Portuguese adult learners of English and in higher education.

interlanguage. Form is considered in terms of omission and insertion, referred to as collocation, while systemic error types[324], identifiable by their frequency, testify to learner competence.

Corder (1971) differentiates between lapses (post-systematic errors due to temporary memory gaps), mistakes (pre-systematic errors made in the process of coming to grips with new language structures), and errors (systematic albeit inconsistent errors due to inaccurate hypothesis formation about the L2). Nevertheless, the present study identifies for analysis, without distinction, all non-target-like structures. This decision originates in the inconsistency of accurately determining the status of any given error without direct student interpretation. A further two types of errors in utterances were identified by Corder (1971) — overtly and covertly erroneous utterances. In this study, covertly erroneous utterances will be considered for their source as pragmatic errors.

In the cases where the learner's communicative intent is not clear, the researcher turned to Corder's (1971) recommended practice of *plausible interpretation* or *plausible reconstruction* since the learners were no longer accessible to clarify their communicative intent. To do so, the structure of the learner text was compared with the contextualized information to best reconstruct what the learner, plausibly, intended to convey. To describe the errors in interlanguage, the methodology adopted specifically recognizes McDonough's (1989) admonition to avoid assuming that a given learner produces the same error for the same reasons each time. Nevertheless, when repeated errors could be traced to similar origins or intent, these were considered to be related.

The description and subsequent explanation of the interlanguage identified draws on insights from the Contrastive Analysis Hypothesis of the languages involved (Portuguese and English[325]), the Markedness Differential Hypothesis based on language universals, language explanations offered by published sources such as dictionaries and pedagogical grammars, and the teacher/researcher's long-time experience teaching Portuguese adult learners in higher education. Many views inform the explanation of interlanguage, beginning with the behaviorist view of the earliest researchers in L2 morpheme acquisition, Dulay and Burt (1973), who defined interference as due to structural language habit, automatically transferred from L1 to L2. Corder (1967, 1971, 1981) attributed errors variably to the result of transfer, analogy, and teachers, with Selinker (1972) in agreement although adding L2 learning strategies and language communication strategies. It is important to note that Dulay and Burt (1973) and Corder (1978) supported Wardaugh's (1970) proposal of a weak version of the contrastive analysis hypothesis that recognizes that the influence of L1 cannot account for all difficulties and errors in L2.

To allay concerns identified by detractors of error analysis, as originally proposed by

[324] Systemic errors differ from occasional errors, which are attributable to performance rather than competence.

[325] Cf. Shepherd (2001) and personal experience as a native English speaker learning Portuguese since 1992.

Corder (1967), Sridhar (1981), and still supported three decades later by James (1998), this section will review possible pitfalls and illustrate with examples just how these are avoided in the methodological approach adopted for this study. Gass and Selinker (2008: 138-155) were mindful, for example, of updated perspectives on the role of L1, including issues of avoidance, of differential learning rates, of different paths, of overproduction, of predictability and selectivity and L2 processing, especially in light of Corder's (1981) appeal to consider the technical terms *transfer* and *interference* to be laden with constraints to considering the topic. Liu's (2001) examination of the term *transfer*, however, pointed to its neutrality[326] and, in particular, its interest for pragmatics, the study of contextualized interpretation and production of meaning. Accordingly, errors can be distinguished from issues of appropriateness deriving from L1 transfer.

Transfer can be identified, for example, using Kasper's (1992) informal estimation method. Positive or negative transfer of, for example, strategies, semantic formulas, and linguistic forms, can be estimated when one of these or other categories of an interlanguage feature occurs in the data. *Cross-linguistic influence* is another term proposed in Kellerman and Sharwood-Smith (1986, in Liu 2001)) and further elaborated by Sharwood-Smith (1994, in Liu 2001) that will be applied in this study, precisely for its reference to avoidance, L1 constraints on L2 learning and performance, and different directionality of interlingual effects[327].

Within a perspective that recognizes the different types of knowledge, whose interface can be described as null, weak, or strong, a distinction has been defended between acquisition and learning, declarative and procedural knowledge, implicit and explicit knowledge and representation and control. Among the psychological constructs contributing to these types of knowledge are attention, working memory, and monitoring. Maintaining the definition of an error as unrecognizable as such to the learner and likely to occur repeatedly, these systematic errors serve as evidence of the learner's underlying rule-governed system which is used to impose regularity on the L2. The system, however, is constantly changing so an error analysis provides an in-depth snapshot of the developmental point of a learner's interlanguage. The possible imprecision in determining the cause of an error[328] has meant that this inadequacy can be surmounted by considering the learner's perspective and not just the grammaticality judgement of the researcher in carrying out an error analysis. The assumption that correct forms are portrayals of correct underlying rules must also be avoided such that the researcher should be attentive to any pragmatic evidence of errors as well. Furthermore, correct language usage must not be considered a definitive demonstration of correct rule formation in the learner, particularly in light of rules that are differentially applied and thus, can be applied correctly in one situation but incorrectly in another as in the following examples (1-6) of production of verbal complements, both infinitival and gerundive:

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[326] Cf. Odlin (1989), Takahashi & Beebe (1987), and Kasper (1995).
[327] Cf. Liu (2001: 2).
[328] Cf. Schachter (1974, 1989) and Schachter and Celce-Murcia (1971).

(1) I wanted to study Pharmacy.
(2) She encouraged me to study Pharmacy.
(3) I enjoy studying Pharmacy.
(4) I stopped studying Pharmacy.
(5) * I chose studying Pharmacy.
(6) I enjoyed learning English.

Sentences 1 to 4 appear to indicate full attainment of the L2 rule system while example 5 significantly demonstrates that the learner has not yet learned which verbs require which type of complement and thus, that the sampling of 1 to 4 could induce the researcher in the error of considering that this language point has been acquired. The contemporary researcher applying error analysis as a method must therefore complement EA with an unfailing attention to interlanguage as it reveals this information about the learner's language development. Some errors are attributable to either interference from a Portuguese language pattern (7) or L1 developmental issues (8), as illustrated below:

(7) * The my decision was the best.
(8) * I choosed to study Pharmacy.

While (7) demonstrates interference in article usage with a possessive adjective, (8) exemplifies the typical overgeneralization error that English-speaking children make as they are learning their L1. Another category established by Dulay and Burt (1974b: 115) to deal with errors whose cause was ambiguous — attributable to either of these categories — was called *ambiguous goofs*, as illustrated in (9).

(9) * … and no existed much attendance.

In (9), the errors are attributable to either interference of Portuguese structure — *…e não houve muita assiduidade* — or to a developmental L1 error made by English-speaking children[329]. Nevertheless, as this situation is not uncommon in error analysis, it is reasonable to affirm that the influence on a learner's interlanguage is due to a multiplicity of sources. A significant source of errors that many teachers of English will recognize is the plethora of article rules that a learner must actively test and retest to get it right. In the face of errors such as

(10) * … the my workplace…
(11) * … my experience with the English…
(12) * … in a small village, the Póvoa de Lanhosa.
(13) * In the high school, I only had 3 years of English.

A researcher must work beyond the first impression to attend to the various plausible sources of the errors as well as identification of the errors themselves. As a result, it is paramount

[329] Cf. Dulay & Burt (1974b, in Gass & Selinker 2008: 108) refer to the error *Terina not can go* as an example of an *ambiguous goof*.

that the researcher apply methods that have arisen out of other types of analysis when examining interlanguage. Among these, the exploratory method of corpus analysis, looking at the bigger picture, has much to draw on even without using the specific computer tools for a corpus analysis. The text below is an example of the imperative to look beyond the actual error to the greater text to determine the possible derivation of the expression * *the none class*.

(14) I started to learn english when I was ten years old, in fifth class, and I finished in tenth-one class. I studied english for seven years. Even the none class, english was obligatory in our course. At the thenth class…

The dispersion and near sequence of ordinal numbers in the rest of this narrative text is the only clue to the researcher who does not know the Portuguese *nono* that, in writing *the none class*, the learner was trying to refer to *the ninth class/grade/form*. It will be essential, then, to consider the whole interlanguage text in the identification of errors in this study. Just as Flowerdew (2008: 18) noted that critical discourse analysis, for example, had been "singled out for its cognitive biases", researchers applying error analysis must also avoid this type of conjecture. She also pointed to the context, or "situational and cultural parameters involved in the creation of meaning", which are not always accessible in a corpus study[330].

2.7. The Taxonomy of Errors

The classification coding scheme created for this study coincides with the teaching/learning continuum in which the code was developed: With the input of the learners involved in the study, areas of general difficulty were designated, such that the teacher could better correspond to the learners needs by shaping the discussions about language use adequately to ideas about language with which the learners themselves could identify. These classifications can be divided into three major groupings: syntactically-oriented, lexically-oriented, and spelling and style.

The syntactically-oriented classifications cover inflectional errors in main clauses of subject and verb agreement, adjective and adverb (non-)agreement, as well as tense and aspect. They also deal with collocation errors of misplaced, omitted, and excessive words as well as the English pronoun system.

Errors related to the main clauses were divided into two groups, the first of which (Inf) registers what learners considered their most dramatic errors related to the main verb, those of inflection for person and number and creative non-existent verb forms, including errors of null subject, corresponding to Richard's (1974: Table 1, 182-183) "Errors in the *Production* of Verb Groups" (emphasis added), with the exception of subject errors. The second

[330] She noted that, since 2006, in an effort to create more a context-sensitive data analysis, the Michigan Corpus of Academic Spoken English has marked up their spoken corpus to indicate speech events and speaker attributes.

classification in the taxonomy was reserved for errors of tense, aspect, and modality in the main verb (TAM), corresponding to Richard's (1974: Table 2, 183-184) "Errors in the *Distribution* of Verb Groups" (emphasis added). No particular order is intended in the nomenclature adopted, although care was taken to avoid Tense-Modality-Aspect (TMA), the system associated with creole languages[331]. The collocation (Clc) classification refers to missing or extra items in the text, excluding any errors of missing subject in a sentence or phrase since this case is contemplated in the Inf classification. Pronouns (Prn) were given their own classification since learners felt that they simply did not govern the multiple realizations accurately. This classification included noun and pronoun concordance and the pronoun system.

Three classifications were created for lexically-based errors. The first classification (Lxl) corresponds to cases where the error was based on the wrong word choice and another where lexical-morphological errors were the case (LxM), including incorrect verb forms when they are not main verbs. The third lexical classification was dedicated to interlingual use of a lexical item derived from Portuguese (Prt) or any other language.

As for style and spelling errors, three classifications were created. Repetition (Rpt) is the classification that indicated when an idea or word had been unnecessarily repeated. Punctuation (Pnc), as a classification, was labeled to identify cases of punctuation that were inappropriate. Spelling (Spl) initially seemed to be an irrelevant classification given automatic spell-check tools; nevertheless, because more than two-thirds of the learners in this study eschewed the possibility of word-processing their texts, the classification took on a renewed importance.

2.7.1. Taxonomic Error Identification

The learner identification is indicated by the sequence of numbers 1 to 73. The lower case letters *a* and *b* contextualize the source of the data respectively as the *initial report* and *final report*. The three letter code that follows indicates the general classification of the error, as described in Appendix 7, followed by a sequential number designating the number of the error classified for the particular learner within the specific error classification.

The codes attributed to each classification do not correspond to any actual word, so that in a search of the text, there would be no confusion with words in the actual text. This taxonomic representation is then followed by a forward slash and the number *n*, representing the total number of errors in that classification for the learner in question. Exclusively for the final report data, referring to the codes beginning with 1-73b, the final indication is a cross-reference feature that recalls the total number of errors revealed in that classification in the initial report data (a). Applying the taxonomy, the codified information expressed in

[331] This area, related to Bickerton's (1981) studies of creole, orders the presence of verb conjugation in creole as follows: (1) the absence or presence of auxiliary verbs indicates tense (concurrent or anterior); (2) modality (realis or irrealis) indicates tense; (3) and aspect (punctual or progressive) indicates tense.

example 15

(15) 23b Lxl 15/19 a31

is interpreted to indicate that the context of the error refers to the 23rd learner's final report, where an error of lexical choice occurred, of which this case is the 15th out of 19 total lexical choice errors revealed by this learner, whereas in the initial report, a total of 31 lexical choice errors had been identified[332].

[332] A special word of gratitude to Guadalupe Arias Méndez (personal communication and 2007), whose taxonomic structure created for her seminal work with error analysis and Portuguese L1 learners of Spanish motivated a number of the decisions made regarding the presentation of this taxonomic information.

Chapter 3 —
Results and Discussion

3.1. Quantitative Factors

The quantitative data collected in this study requires study from various perspectives, which are presented in this section. All of the original texts forming the written corpus are gathered in Appendix 8a, with a sample initial worksheet presented for error classification in Appendix 8b and the final worksheet in Appendix 8c. As has been identified, the total number of words analyzed in these 138 texts by 69 students was 28,069. The number of words in the final reports (16,481) represented an increase of 42% over the number of words in the initial reports (11,588). Appendix 9 presents the raw data divided into the two groups referred to in H3 — 1st year students (Appendixes 9a, 9b, and 9c) and 2nd year students (Appendixes 9d, 9e, and 9f)[333].

The data to be further analyzed after the analysis of the individual errors, the basis for all other calculations, is the result of having quantitized[334] the error analysis results into the ten subclassifications identified (cf. Appendix 7), which are constituted, respectively, by the frequency scores for the recurrence of errors in the written samples. The process of error identification and classification in the initial report was guided by questions and discussions held in class during peer revision sessions following the first submission; the errors identified in the final reports followed a similar methodology, albeit without student involvement. Having identified, corrected, classified, and totaled the errors, the ten subclassifications fell into three general classifications (Appendix 10a), all of which were reported as an initial count (a — representing texts 1a to 73a), and final count (b — representing texts 1b to 73b). This overall classification data shows very clearly that the classification of style and spelling (S&S), while constituting a total of 18% of all errors in fact improved at a rate of change of 30%, representing the drop from 21% to 16% of errors from the initial to the final report. The remaining two classifications, syntactically- and lexically-related errors, representing a total of 45% and 37% of all errors respectively, demonstrate inverse relations, with the first increasing in errors at a rate of change of 3% and the second decreasing at 3%. Given that these proportions are more representative of errors in the written corpus, it is to these classifications that the study will return after examining the characteristics of errors in the 1st and 2nd year of studies.

Thus, the data for 1st and 2nd year students, as the test and control groups are defined in Appendix 10b for H3, was further analyzed in quantitative terms, namely to relate the number of errors with the number of words and T-units (T-Us) produced, as in Appendix 10c, which also includes the calculations for the mean length of T-unit — for initial, final, and total errors. This data demonstrated that, with respect to errors, the overall rate of change

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[333] Note that this division is also for convenience as the data collected does not easily fit on the printed pages.

[334] Dörnyei (2007: 269-271), in his discussion of this technique, noted that Miles & Huberman (1994, in Dörnyei 2007) were the first to mention a similar term — *quantizing* — but Tashakkori and Teddlie (1998, in Dörnyei 2007) introduced *quantitizing* to mean "the production of numerical tabulations for certain aspects of their data" as a "key operation in mixed methods data analysis".

was 6%, an improvement of one-sixteenth less errors. A total rate of change for the number of words and the average number of errors per student changed 42% from the initial to the final report, where the total number of errors represented 15% of the total word count; while in the initial report errors represented 18% of the words, in the final report errors accounted for just 12% of the words, resulting in a full one-third improved rate of change for errors.

The statistics also reveal development from the perspective of T-units. Overall, the number of T-units increased from 603 to 708 in the final report, an increased rate of change of 17%, or nearly one-sixth greater than the initial number. Calculating the change in the number of errors per T-unit, the average number of errors per T-unit decreased from 3.67 to 2.89, an improvement of 21%, a full one-fifth change in the rate of errors compared with the initial report.

The above variables of total errors, word count, and T-units offer different quantitative results pointing toward development — 6% less errors, 42% more words, 17% more T-units, and a 23% greater mean length of T-unit —, all of which confirm that learner interlanguage can develop over a short module of just 30 hours (H1). Together these figures disclose an overall 22% average rate of improvement rate. For future reference, the average rate of improvement in number of errors in learner interlanguage based on results before and after a short module of Technical English will be referred to as 22%, or over one-fifth.

From a quantitative perspective, this data further resolves the second hypothesis (H2), that learning activities aimed primarily at the development of technical English can advance general English writing development. Indeed, an average rate of improvement of twenty-two percent less errors in learner interlanguage is identified in general English writing development. Quantitatively, this data also draws the discussion closer to resolving the first hypothesis (H1), that the developmental continuum of Portuguese young adult learners' general English is, in fact, demonstrated in their written expression in a course of short duration directed at Technical English. Given the positive development in the number of T-units identified in Appendix 10c, the fourth hypothesis (H4) of this study can be resolved since the data also reveals a concurrent developmental increase in the mean length per T-unit, providing support for the proposed hypothesis that developing interlanguage writing corresponds to an increase in total number and mean length of T-units.

Examining the data for overall words, T-units, and MLT-Us for results based on the two different types of groups involved in the study (H3) reveals, for 1st and 2nd year respectively, 13% more and 13% less errors, 72% and 23% more words, 49% and 5% more T-units, and a 16% and 24% greater mean length of T-unit. In two of the four measures established, the 1st year students revealed a production of 49% more words and 44% more T-units than the 2nd year students; conversely, the 2nd year students produced their lower percentage improvement of T-units at an 8% greater rate of change in mean length (MLT-U). Nonetheless, in absolute terms, the 1st year overall MLT-U (21.73) is itself 6% greater than that of the 2nd year (20.42); in the case of the initial to final change for MLT-U values, 1st year students produced 19.88 then 22.97 whereas the same change in values for 2nd year students was 18.19 to 22.55; thus,

despite a lower rate of improvement in MLT-U, the 1st year students consistently demonstrated a higher MLT-U in both the initial and the final written corpus.

Analysis of the absolute number of words and T-units reveals a similar developmental pattern, where 1st year students produced, from initial to final results respectively, 25 to 28.31 average errors per student, 158 to 271 average words per student, and 7.95 to 11.82 average T-units per student; 2nd year students revealed changes from 33.77 to 29.43 average errors per student, 166 to 215 words per student, and 9.11 to 9.53 average T-units per students. These results show that, even with respect to absolute numbers, while 1st year students began with slightly fewer average words than the 2nd year students (158:166), they reached a significantly higher value in their final reports (271:215); and although the 1st year students began with significantly fewer average T-units (7.95:9.11), the final average T-units for 1st year students is inversely far greater than that for the 2nd year students (11.82:9.53). Another perspective of analysis based on the total average values for 1st and 2nd year respectively, returns 430 and 381 words per student, 9.89 and 9.31 T-units, showing consistently better levels for the 1st year students.

Nevertheless, 1st year students returned 13% more errors in the final written corpus contrasted with 13% less errors for the 2nd year students. In other terms, however, the overall value of 26.66 average errors for 1st year students compares favorably to the 31.60 average errors for 2nd year students. Despite the increased value for errors in the 1st year students developmental production (from 25 initially up to 28.31 in the final report), even the highest average value of errors per student falls below the values found for 2nd year students — 33.77 and 29.43 for the initial and final written corpuses. When combined with the improvements in word and T-unit production, the case for the productive value of errors becomes evident. To conclude, the data shows that the 1st year students, at an average age of 19 and an average 5.82 years of prior English language study, produced a developmentally relevant written corpus — in terms of number of words and T-units — compared with the 2nd year students, at an average age of 20.13 and a slightly higher average of 5.98 years of prior English language study. In this case, with the years of prior English study differing just 3%, the predominant variable between these two groups is age, represented by an approximate one year difference. Partial confirmation exists for hypothesis three (H3) — that interlanguage in young adult learners develops more rapidly the younger the learner — when interlanguage development rests on number of words and T-units produced as well as higher values for MLT-U. Interlanguage, however, consists of many components, as has been discussed; as such, the increased production of errors is a distinguishing factor for the two groups of students which will be explored further.

3.2. Quantification of the Taxonomy

The statistical recurrence of the error analysis results was quantified and tallied, resulting in a body of data that will be presented in this section, based on a total number of words of

28,069, from 11,588 initially and 16,481 in the final report. Appendix 10a tabulates the data for the three general error classifications — syntactically-oriented (SYN), lexically-oriented (LEX), and style and spelling (S&S) errors. In general terms, considering total errors identified in both the initial and final reports, while syntactically-oriented errors account for a total of 1,871, or 45% of the total errors considered, lexically-oriented errors (1,512) represent 37%, and style and spelling errors (760) represent 18% of the total errors analyzed.

Dividing these totals longitudinally, to first observe the results from the initial report, provides a ready portrait of the written interlanguage of Portuguese science students after their grades 1 to 12, with errors distributed among syntactic (43%), lexical (36%), and style and spelling (21%) sources. This initial pattern of 43-36-21% for *syntactic-lexical-style & spelling* errors, thus, can be understood as an interlanguage performance marker for a student in Portugal having studied English in the public school system in the course of Science and Technology. The proportional data, however, can be interpreted in a variety of ways integrating a variety of perspectives — that of the errors or that of the learners — or the objective — be it to develop teaching strategies or material or to create alternative language policy. For instance, from the perspective of the errors, and weighing the two-to-one proportion of errors for syntax and for style & spelling, a response could be to determine that syntax must be the focus of greater training for learners with the subsequent alteration of learning materials to try to fulfill this objective, likely using form-focused instruction within a socially relevant context; contrastingly, a response might consider that the lower proportion in style & spelling errors could be set as a laudatory milestone. A lexically-based interpretation of the data might conclude that with more than one-third of the errors related to the lexicon, dramatic steps must be taken to reduce this proportion since lexicon, as has been shown, is fundamental to communication. As a result, cognitive approaches to learning vocabulary could be integrated into learning materials that could be better reflected in a language policy which promotes rational linguistic objectives focused on the learners' approaches to language learning.

From the perspective of the learner, however, the data from the initial report is insufficient because it does not demonstrate the dynamic reality of language acquisition that can be obtained from a longitudinal analysis contrasting the results of the initial report with that of the final report. Thus, observing the differences between the initial and final report, the initial distribution pattern of 43-36-21% demonstrates proportional alterations that are only slightly related to lexicon for a final distribution pattern of 47-37-16% after just 30 hours of explicit content-based instruction accompanied by intensive writing and revision.

Considering the rate of change in errors in each classification, the increase of four percent in syntactically-related errors corresponds to a three percent rise while the increase of one percent in lexically-related errors actually corresponds to a reduction in the rate of change of three percent. These mirror image results caution the policy makers who might tend to expect constant improvement from language learners, reinforcing the awareness of language acquisition as a recursive process, where errors resurface to then be controlled and then

resurface once more. On another level, the one-quarter reduction in the proportion of errors related to style & spelling error, or the thirty percent rate of change in this classification, could be interpreted to point to the relative ease, in affecting a difference in the general area of young adult learner style & spelling — specifically in terms of the metalinguistic skills of recognition of the use of linguistic redundancy, punctuation, and spelling in English. These results could be explored further to determine whether this facility holds true for tenth to twelfth grade teenagers as well, to contribute to decisions on the objectives of the English language curriculum at pre-university levels of education in Portugal.

The three classifications in Appendix 10a are listed again in bold in the expanded version, Appendix 11a[335], for contrast with their respective subclassifications (cf. Appendix 7), considering both the three general error classifications within the whole of the total number of errors identified and the three to four subclassifications composing each class. Within the syntactically-oriented classification, on one hand, the subclassification of production errors related to verb groups (Inf) accounts for 464 total errors, or 25% while the subclassification for distribution errors in verb groups (TAM) represents 485 errors, or 26%; on the other hand, collocation (Clc) reveals 584 errors, or 31%, and the pronoun error class (Prn) corresponds to 338 errors, or 18% of all syntactically-related classifications. Developmentally, the subclassifications Inf and TAM both demonstrated an increase in an average rate of error change from the initial to the final report of 16% and 28% respectively. Nevertheless, both subclassifications of collocation and pronoun errors revealed an improvement in the average rate of change in errors, of 16% and 10%, respectively, resulting in an overall increased rate of change of 3% for the syntactically-related classification.

Within the classification of lexically-oriented errors, lexical choice (Lxl) errors account for 656, or 43%; errors of lexical-morphology (LxM) were responsible for 169 errors, or 11%; and Portuguese lexical items (Prt) were the classification for 687 errors, or 45% of all lexically-based errors. Here, in terms of rate of change in errors from the initial to the final report, both lexical choices and lexical-morphology subclassifications accounted for increases in the average rate of change of 5% and 11%, respectively, while Portuguese-based lexical errors, contrastingly, improved at a rate of 13%.

The style and spelling (S&S) classification represents repetition (Rpt) at 139 errors, or 18%; punctuation (Pnc) holds a total of 394 errors, or 51%; and spelling (Spl) is in the midpoint with 227 errors, or 30%. All of the subclassifications related to style and spelling demonstrated marked improvement from initial (a) to final report (b), revealing the greatest overall improvement with an average rate of change of 30%. The subclassifications of repetition and punctuation also showed significantly less errors with average rates of change at 28% and 25%, respectively, headed by the classification with the greatest change of all, spelling, with a

[335] Appendix 11b reveals the descriptive statistics used in applying SPSS to partially confirm the data calculated with Excel, which itself proved to be more readily adapted for the types of calculations required for this study. SPSS did prove to be more useful in looking for relevant factors related to hypothesis 3 (H3), as will be presented, with particular reference to Appendix 13.

rate of change of 38%.

Of the ten classifications of the error analysis taxonomy, only four areas did not demonstrate improvement in the average rate of change of error; these were divided evenly between the classifications for syntax and lexicon, as the subclassifications dealing with production (Inf) and distribution (TAM) of verbs as well as lexical choice (Lxl) and lexical-morphology (LxM). Together, these four subclassifications represent a total of 60% rate of change in errors and a total of 1,774 errors — 51% of the syntactically-related classification and 54% of the lexically-related errors respectively — for a total of 43% of all the errors in the written corpus. For their significant representation and for the shared characteristic of increased identified errors over the 30-hour course, these are the areas that will be the focus of the qualitative study to reveal indications of metalinguistic approaches at work in learner interlanguage.

Calculation of the statistical recurrence of errors in learner interlanguage carried out on the basis of the total number of words (Appendix 12, based on Appendix 11) reveals a predictably similar portrait, with the rate of change in errors once again most significant for style and spelling (S&S). Punctuation showed the most improvement of the S&S subclassifications, with a drop in 0.20%, followed by spelling (0.19%), and repetition (0.08%). The lexically-oriented subclassifications revealed an interim improvement of 0.10% in the average rate of change of errors. Nevertheless, while lexical choice (Lxl) and lexical-morphological error (LxM) did increase in average rate of change in errors per total words at 0.05% and 0.03%, respectively, the classification of Portuguese-influenced forms (Prt) demonstrated a significant improvement with 0.18% an average rate of change for errors.

Syntactically-oriented classifications demonstrated no improvement, with an average .08% increase in the rate of change of errors per total words. However, while the subclassifications for production of verb groups (Inf) and for distributions of verb groups (TAM) actually increased at an average rate of change of 0.13% and 0.20% respectively, the classifications of collocation (Clc) and pronouns (Prn) both showed marked improvement, with 0.18% and 0.06% less errors respectively, placing collocation on par with Portuguese-based lexical errors, both at 0.18% improvement. Nevertheless, the classification for style and spelling demonstrated the highest level of improvement, at 0.47%, bolstered by improvement in all its subclassifications, as discussed above.

For overall classifications of syntax (SYN), lexicon (LEX), and style and spelling (S&S) errors (cf. Appendix 10d), the initial errors for 1st year students were distributed in a pattern of 46%-31%-24%, respectively, while the 2nd group demonstrated a pattern of 42%-38%-20% (Appendix 13b); for the final results, the respective patterns were 47%-35%-17% and 47%-38%-15% (Appendix 13c). The similarity of these respective graphic representations — inversely proportionate for the initial results and more similar for the final results — requires further analysis. As such, the patterns of average errors per student for the same classifications resulted in the configuration 11.36-7.77-5.86 for 1st year students, significantly less in each classification than the pattern of average errors for 2nd year students — 14.32-12.70-6.75.

Nevertheless, another perspective on H3[336] permits examination of the full change from initial to final subclassification data based on the factor age rather than separating 1st and 2nd years of study. Thus, contrasting η^2 in Appendixes 13d — subclassifications factored on 1st and 2nd years of study — and 13e — subclassifications factored on age — and the corresponding quartiles[337] of their ANOVA analyses in Appendixes 13f and 13g, respectively, the greatest indication of possible significance is more prevalent for age than for years of study, notably for improvement in punctuation (Pnc), collocation (Clc), and repetition (Rpt) errors as well as total errors, total sentences, and total words, the last two of which have already been exhaustively examined. For the three types of significant error change factored on age, Appendix 13g, the graphic representation of the effect of age on collocation and repetition error improvement is clear for 18 year olds while error improvement for punctuation is most relevant for 17 year olds. This discussion, however, holds less interest faced with the fact that the study only involved three 17 and three 18 year olds, as demonstrated in Appendix 13h.

Another perspective on H3, however, is based on the number of years of prior English language study, also illustrated in Appendix 13h, which has been shown to be rather evenly distributed between the original groups of 1st and 2nd year students (5.82 and 5.98 year respectively). Appendix 13i introduces the total sentences, and words as well as the initial errors in all ten subclassification factored on the years of English language study while Appendix 13j does the same for the final results. Appendix 13k represents the ANOVA table for initial and final results factored on years of prior English language study, indicating statistical significance for the initial subclassification results of distribution of verb groups (Inf), lexical choice (Lxl), Portuguese-influence (Prt), collocation (Clc), and pronoun (Prn), total initial errors and total initial sentences, contrasting with the statistically significant results for the final errors in lexical choice (Lxl), collocation (Clc), repetition (Rpt), and total final errors. This data indicates stronger evidence for H3 which should be studied more closely in a context specifically designed for the effect.

Having presented the quantitative aspects of the data, the qualitative features of the error analysis will be discussed according to the observations established in the quantitative discussion. To recapitulate, while the general classification of style and spelling (S&S) errors was a consistent source of improvement, revealing less errors from the initial to final written corpus, the syntactically and lexically-related general classifications each revealed two classifications that did not generate improvement in the rate of change of errors. Thus, the

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[336] The related hypothesis, considering age specifically rather than year in school, deals with an age range of 17 to 29. According to statistical practice, the dimension of the sample should be five times the number of variables involved; the original hypothesis studied only involved two variables – 1st and 2nd years of study — factored on ten error subclassifications for 22 1st year students — whereas the alternative hypothesis will involve at least five age groups, which could be considered statistically unacceptable in terms of dimension.

[337] This graphic representation was selected for comparison due to its ability to focus on the most representative data, with outliers (such as the one 29 year old subject) assuming their respective minimal representations.

following four classifications will be the focus of further exploration:

1) Lexical-morphological errors (LxM).
2) Lexical choice errors (Lxl).
3) Errors in the distribution of verb groups (TAM).
4) Errors in the production of verb groups (Inf).

Through the quest to explain these interlanguage errors, according to the thesis proposed, learner metalinguistic approaches should become apparent.

3.3. Qualitative Analysis of Lexically-Related Errors

The qualitative analysis of the 825 lexically-related (LEX) classification errors will cover two subclassification errors, at 169 lexical-morphological (LxM) and 656 lexical choice (Lxl), constituting a total of 54% of this classification and 18% of the total errors revealed in all ten subclassifications identified in this study. The exploration of the errors will necessarily include further, more detailed quantitizing of the identified errors in the quest to unveil patterns of metalinguistic strategies at work in the errors revealed. The discussion will continue to distinguish the initial and final written corpus results and the rate of change in errors as well as an analysis of the L1 influence patent in the errors. Following the trail of the errors in each subclassification, these have been further divided into error types, which in some cases merit subdivisions for their relevance. Examples drawn from the written corpus are identified according to the taxonomic error identification designed for this study (cf. §2.7.1.). Where appropriate, diagrams have been created to deal with pedagogical aspects and other research has been introduced in accordance with the learner language use revealed.

3.3.1. Lexical-Morphological Errors

The error analysis revealed 80 lexical-morphological (LxM) errors initially and 89 errors in the final report for a total of 10% more errors (Appendix 14a). This meant an overall increase in average LxM errors from 1.2 to 1.3 for each of the total of 69 students. Nevertheless, closer examination of the data (Appendix 14b) revealed that of the initial 24 students who did not reveal any LxM errors, 11 of these, representing 16% of the students, continued to not reveal any LxM errors in their final reports. Although the other 13 students revealed 22 LxM errors in their final report, representing 25% of the final errors, another 16 students who had previously revealed 30 errors in their initial report revealed none in their final report, representing an improvement over the initial 38% of LxM errors, for a total of 27 students who did not reveal any LxM errors in the final report. From another perspective, rather than calculating the average errors on the total possible 69 students, the 80 and 89 LxM errors revealed in the initial and final reports were found in 45 and 42 students respectively, for an average of 1.8 and 2.1 average errors for each of these students committing errors. When

calculated on the total number of subjects in the study, however, the average reduces to 1.2 and 1.3 respectively.

The LxM errors were classified into four error types — those which would have been target nouns, verbs, adjectives, or adverbs (Appendix 14b). Overall, including the initial and final total errors, the LxM error types ranged from adverbs at 8% to verbs at 24%, adjectives at 29%, and nouns 39%. Nevertheless, nouns were the only error type to improve, with a 35% rate of change from the initial report (40 errors) to the final report (26 errors). The other error types revealed a range from no change for adverbs (7 errors in each report), through a 67% increase for verbs (15 and 25 errors, respectively), to a 72% increase for adjectives (18 and 31 errors, respectively). The improvement identified in noun-related errors of lexical-morphological errors is unexpected given the initial data, where this subclassification accounts for a full 50% of the initial errors in this classification.

3.3.1.1. Noun-related error type

Within each error type, subdivisions were identified to better analyze the data. For the noun-related error type, the 66 total errors (40 initial and 26 final) were comprised of three subdivisions, as demonstrated in Appendix 14c; in the initial report, the greatest number of errors was in the noun/noun subdivision (45%), closely followed by noun/verb (40%), and the lowest number of errors was for verb/noun (15%). Then, in the final report, both noun/noun and adjective/noun subdivisions were subject to significant improvement in the number of errors, with 22% and 69% fewer errors revealed respectively. As a result, these improvements are reflected in the overall noun-related errors' rate of change for improvement of 39%, representing the only LxM subclassification error type to have shown improvement.

The noun/noun subdivision represents errors in which the L2 users used a noun which, with some morphological alterations, would become the target noun, as in examples 16a-16c below, where these alterations include use of the suffixes *-y, -ist* and *-er* needed to transform a person into a place and vice-versa:

(16a)	*pharmacy → pharmacist	8a LxM 2/2;
(16b)	*lawyer → Law	35a LxM 1/3; and
(16c)	*Pharmacist of Community → Community Pharmacy	71a LxM 4/5.

Other interpretations of the suffixes *-y*, such as

(17)	a health *unity → unit	52b LxM 1/2 a1,

demonstrate that the pair *cidade-city* influenced the expression of *unidade-*unity*. In other cases, other existing morphologically-related nouns were used rather than the target nouns, as in

(18a)	*child → childhood	32a LxM 1/1;
(18b)	*Nursery → Nursing	40a LxM 1/2;
(18c)	*shopping → shop	41a LxM 1/3; and
(18d)	*classrooms → classes	11b LxM 1/1 a3.

Sometimes the noun used was one of several possible literal translations from Portuguese,

as in

(19a)	*necessities → needs	65a LxM 2/2;
(19b)	*institution → institute	70a LxM 2/2;
(19c)	*formulations → formulas	71a LxM 2/5;
(19d)	*interaction → interacting	3b LxM 3/5 a1; and
(19e)	*rewritten → rewriting	13b LxM 2/4 a0.

Note that the homographic form of the gerund, the past participle *reescrita*, as in *foi reescrita*, and interpreted into English as *rewritten* can be seen as just as likely as *interação* for *interaction* rather than the present participle *interacting*. Institution and institute both exist and have very similar meanings; in this case, referring to the Guarda Polytechnic Institute as an *institution* is a misconstrual of the word. Still other noun uses seem to be influenced by a similarly constructed Portuguese translation for the L2 target word, as in

(20a)	*practice → practicing	69b LxM 1/3 a2; and
(20b)	research * → research project	8b LxM 2/2 a2.

In these examples, the Portuguese *prática* finds a graphic likeness in practice just as *pesquisa/investigação* may have been construed as graphically sufficient in the translation *research*. The approach revealed in expressing just the first element of a compound noun is also prevalent in the error types identified as adjective/noun, of which three similarly omitted the noun of an English compound, as in

(21a)	secondary *→secondary school	34a LxM 1/1;
(21b)	medical *→medical prescription	57a LxM 2/2.

In adjective/noun error types, the suffix *-y* used below may again have been derived from the translation pair *cidade/city* to give *saúde/*healthy*, perhaps based on the *-de* Portuguese ending.

(22)	*healthy → health	7a LxM 1/1

Nevertheless, the invention *cum* translation route did not reveal a similar strategy in the prevalent use of *difficult* rather than *difficulty* for *dificuldade*, as in

(23)	*my difficult → difficulty	24a LxM 1/1

Again, other adjective uses for nouns seem to be influenced by a similarly constructed Portuguese translation for the L2 target word, such that the final Portuguese endings, *-ca* or *-co*, as in *bioquímica* and *tópico*, are expressed with an *-al*, phonologically ending in a less perceptible liquid, appropriate for adjectives rather than nouns, as in

(24a)	*pharmaceutical → pharmacist	41a LxM 2/3;
(24b)	*biochemical → biochemistry	43b LxM 1/2 a5; and
(24c)	*topical → topic	61b LxM 2/8 a1.

Other expressions draw on individual creative construction, as in

(25a)	*person from foreign country → foreigner	11a LxM 2/3; and
(25b)	*combined verbal → verb tenses	15a LxM 2/2,

where the missed target expressions lend themselves to other perceptible although possibly non-standard expressions. In this sense, the analogous expression *person from a foreign*

country does describe a *foreigner* and the expression *verb combinations*, could indeed be construed to mean the more remote metalanguage term *verb tenses*. The verb/noun subdivision reveals similar constructive strategies, relying on homophonous Portuguese translations, like *pronúncia* for both *pronounce* and *pronunciation* and *escolha* for both *choice* and *choose*, resulting in the errors that follow:

(26a)	this *choose → choice	68a LxM 1/1; and
(26b)	the *pronounce → pronunciation	56b LxM 2/2 a1.

The present participle standing alone without the rest of the compound noun was again prevalent in this error type, as in

(27)	learning * → learning experience	6a LxM 2/2.

Finally, in other examples, like

(28)	after *graduate → graduation	56a LxM 1/1,

the relation of the suffix *-ção* in *formação* to *-tion* in *graduation* was not apparent in the expression used. Nevertheless, the same expression could be made in Portuguese using the verb after a preposition, as in *após se formar*, strengthening either the argument for the influence of the L1 on the target expression or the impact of the frequency of the "naked"[338] verb stem.

Overall, for both initial and final reports, the noun-related LxM error type is highly influenced by L1, with 61% of all errors directly attributable to Portuguese, largely based on phonological and homographic issues. The remaining errors were due to a number of other metalinguistic approaches, among them creative construction and ignorance of or preference for morphologically similar lexical items.

3.3.1.2. Verb-related error type

The verb-related LxM error type was subdivided in three: verb/verb, noun/verb, and adjective/verb. Of these verb-related LxM subdivisions identified in Appendix 14d, the greatest number of errors was in the noun/verb subdivision, in both the initial and the final reports, for an overall total of 48% of the errors. Only one of the three subdivisions — adjective/verb — showed improvement, with 40% fewer errors from the initial to final report; nevertheless, the verb/verb and noun/verb subdivisions were the source of an increased rate of change of 125% and 117%, respectively, covering 81% of the total verb-related LxM error type. Closer examination of the error analysis data reveals important metalinguistic approaches on the part of the L2 users despite the reduced number of errors in the verb-related error type — a total of 15 and 25 for a total of 40 in the initial and final reports.

The verb/verb subdivision in the LxM verb-related error type demonstrated a tendency to

[338] Meyer et al. (2005: 29) explained that the "naked" verb stem is the term for the infinitive that is "morphologically marked by zero in English". This form raises a question for research on the unmarked or frequent simple present, which seems to so often represent the L2 user communication strategy, as will be demonstrated.

favor the naked verb stem, as in

(29a)	language *speak → spoken	9a LxM 2/4;
(29b)	my *learn → learning	9a LxM 3/4;
(29c)	the *teach → teaching method	35a LxM 2/3;
(29d)	for *make → making a presentation	2b LxM 1/1 a0;
(29e)	my *understand → understanding	6b LxM 1/3 a2; and
(29f)	my *write → writing is better	21b LxM 1/1 a3.

In (a) above, the difference between the target past or present participle or the gerund of each of the other errors, as a noun for (29b) and (29d-f) and as an adjective for (29c), underscores the multiple possibilities from which the L2 user must select. The use of the naked verb stem is not the only realization of the target gerund in the corpus of learner errors, as shown in the following example,

(30) for *evaluated → evaluating 10b LxM 3/3 a1,

which, like (29a-c) and (29e-f) above, clearly demonstrates that L1 is not the only influence on L2. Of the previous examples, only (29d) shows a negative transfer from Portuguese, relying instead on the direct translation of *para fazer*, without recourse to the gerund.

As for the noun/verb subdivision of the LxM verb-related error type, several metalinguistic approaches were discernable. Beginning with the amalgamation of strategies patent in the combination of the expression *fazer-me (qualquer coisa)* and the verb *motivar*, which resulted in

(31) *makes me motivation → motivates me 67a LxM 1/1,

and touching on the direct translation of *fiz/tirei uma especialização*, *tenho conhecimento*, and *fazer uma reflexão sobre*, *quer trabalho*, and *foram de tradução difícil*, as in

(32a)	*made a specialization → specialized	63a LxM 1/1;
(32b)	*have knowledge → know that	37a LxM 3/3;
(32c)	*make a reflection about → reflect on	18b LxM 1/3 a0;
(32d)	want *work → to work	10b LxM 1/3 a1; and
(32e)	were *of difficult translation → difficult to translate	19b LxM 5/6 a3.

These strategies contrast with the confusion raised by the verb translation pairs *assistir/attend* and *atender/assist*, with similar morphological formations for their related nouns in the suffix *-ance*, as confusedly present in

(33) to *attendance → assist 5a LxM 1/1.

A similar analysis lends explanatory power to the L2 users' demonstrated awareness of the verb translation pair *frequentar/study* and the morphologically-related noun *frequence*, erroneously demonstrated in

(34) I *frequence → am studying 73a LxM 1/1.

Again, the preference for the noun translation of the Portuguese homographs *escolha*, as a noun, and *escolha*, the conjugated form of the subjunctive of the verb *escolher*, comes into play in the misconstrual below and its analogous misapprehension with *pronúncia*,

(35a)	I could *choice → choose	69a LxM 1/2; and
(35b)	*for pronunciation → to pronounce	7b LxM 3/4 a1.

For the translation pair *analisar/analyze* and the morphologically-related noun *analysis*, the

final sibilant ending *-sis* may be misheard as similar to *-yze*, resulting in

(36) how *analysis → to analyze 7b LxM 2/4 a1,

The following example also derives from a phonological strategy, whereby either the noun *diálogo* and the conjugated verb *dialoga* have been conflated in *dialogue* despite differing vowel endings or the translation pair *dialogar*/*dialogue* has been preferred to the similar pair *falar*/*speak*:

(37) the druggist *dialogue → speaks 62b LxM 3/3 a2.

This discussion of the noun-verb subdivision of the LxM verb-related error type will end on the following two curious creations:

(38a) to *transformer → transform 43b LxM 2/2 a5; and
(39b) *government → rules 45b LxM 1/1 a0.

While it is true that (38a) above may involve a mistake within the error, in the sense that the L2 user intended to write *transformar*, this student did not have any knowledge of French that could explain the influence on the spelling. It is further possible that the influence of the much-publicized 2007 movie *Transformers* was accessed by the learner. In (39b), the recourse to the executor of the target word, which could have been *governs* seems to have been once again the noun-verb pairing *governo-governa* without attention to the final vowel ending difference.

The few examples of the adjective/verb subdivision are largely based on L1 influence, as in

(40a) boring and *depressive → depressing 38b LxM 1/2 a0;
(40b) didn't *wrong → get it wrong 13b LxM 4/4 a0; and
(40c) *capable to carry → can carry 62a LxM 1/1,

where *depressivo, errei*, and *capaz de* are all misapprehended in morphologically similar expressions. Even the example

(41) will be very *satisfactory → satisfying 36a LxM 1/1

reflects a Portuguese influence from *satisfatório* which could be correct except that it is not in conformity with the pragmatic orientation of the expression.

The final example of the adjective/verb subdivision could, alternatively, be classified as noun/verb since the translation pair *desconhecido*/*unknown* functions as both noun and adjective. Nevertheless, it represents awareness, albeit misapprehended, of the *un-* prefix as a negative descriptor.

(42) that I *unknown → didn't know 24b LxM 1/2 a1

Overall, for both initial and final reports, and compared to the noun-related LxM error type, the verb-related error type is slightly less influenced by L1, with 50% of all errors directly attributable to Portuguese, some based on phonological and others based on issues of homographic similarity. The remaining errors were due to a number of other metalinguistic approaches, among them creative construction and ignorance of or preference for morphologically similar lexicon. Overall, the data for the verb-related LxM error type is just a bit lower that of the adjective-related LxM error type, with a total of 49 errors, as the next

section will discuss.

3.1.3.3. Adjective-related error type

The adjective-related LxM error type consists of 18 and 31 errors in the initial and final reports, respectively, for a total of 49 errors, with a rate of change of 72%, the greatest increase in errors of the LxM subclassification. The four subdivisions identified in Appendix 14e for this error type are adjective/adjective, verb/adjective, noun/adjective, and adverb/adjective, where overall and consistently the noun/adjective subdivision reveals the highest number of errors and verb/adjective reveals the lowest, at a total of 43% and 8% respectively.

The adjective-related errors follow some of the L1 influences that have been identified in the previous subclassifications of nouns and verbs. In the adjective/adjective error type, these are literal translations, as in

(43a) *relative vocabulary → related vocabulary 62b LxM 2/3 a2; and
(44b) *communitarian → community pharmacy 65a LxM 1/2,

where the Portuguese *vocabulário relacionado*, in a version using *relativo*, was transformed syntactically to follow English word order that requires the noun to follow the adjective. Similarly, *farmácia comunitária* was syntactically altered for English but the more direct morphologically-related lexical choice, ending in the nasalized voiced alveolar consonant and thus more closely approximating the L1 vowel ending, resulted in *communitarian* rather than the target *community*.

A similar phonological proximity argument can be made for the following example, where

(45) *pharmacologic → pharmacological science 60a LxM 2/2

demonstrates the option for the morphologically similar *farmacológica*. In a contrasting analysis, the option could be rather based on simple ignorance of the morphological possibility represented by *pharmacological*. Nevertheless, as if to demonstrate that some L2 users are not ignorant of the *–al* suffix, the following errors demonstrate the inverse situation of (45) above:

(46a) my *academical → academic journey 5b LxM 1/1 a1; and
(46b) *verbal → verb forms 61b LxM 5/8 a1.

Another error reveals knowledge of another suffix, *-ful*, as in

(47) *grateful → gratifying 30b LxM 1/1 a0.

Still other errors of this type demonstrated the difficulty that exists in distinguishing between the past or present participle for the role of adjective, as in

(48a) I felt a little *boring → bored 71b LxM 2/2 a5;
(48b) *tired → tiring 3b LxM 4/5 a1; and
(48c) *clarified → clarifying 53b LxM 2/4 a1.

Particularly in the case of 48a-48c, awareness has not been developed to distinguish the semantic references of the *experience* as opposed to that of the *actor*.

For verb-adjective error types, most of them demonstrate L1 influence, as in

(49a) *continue → continuous (on-going) evaluation 18b LxM 1/3 a0; and
(49b) was very *valued → valuable 49b LxM 1/1 a1,

where *contínuo* assumed its near phonological equivalent in the verb *continue* and *valorizado* inspired the selection of the similar ending with an *-ed*. Nevertheless, the following example demonstrates the common confusion related to the morphological transformations of *use:*

(50) *use → usually 11a LxM 3/3

For the noun-adjective error type, the derivation from L1, as in *anos escolares, tenho curiosidade, país estranho*, and *teve cuidado*, is demonstrated as follows

(51a) *scholar → scholastic years 25a LxM 1/1;
(51b) *have curiosity → am curious 49a LxM 1/1;
(51c) *a stranger → foreign country 15b LxM 1/1 a2;
(51d) *took care → was careful 65b LxM 1/1 a2; and
(51e) the short *time → time period 68b LxM 1/1 a1.

Other errors were not derived from L1 but rather from overgeneralizations of the perceived target rules, which occurred in the overuse of the apostrophe for possession when a compound noun is perfectly suited, as in

(52a) the *classes' → class topics 54b LxM 1/1 a0; and
(52b) *laboratory's → laboratory objects 61b LxM 1/8 a1.

Some examples show the recourse to possible morphological forms that, in isolation, are true to their meaning but which syntactically-speaking, require other morphological transformations; an example of this is

(53) *planning classes → class plans 53b LxM 3/4 a1,

where the creation from the Portuguese direct translation for *planeamento (de) aulas* does not reach the target. Similarly, the Portuguese *frases gramaticais*, formed from *gramática*, suffers in the rendition here

(54) *grammar → grammatical sentences 72b LxM 2/2 a0.

Contrastingly, the Portuguese singular noun *familiar* failed to serve as an adjective in the following expression, despite the fact that the L2 user seems to have purposefully used the noun rather than the homophonous English adjective *familiar*.

(55) more *family → familiar with 59a LxM 1/1

In a further error, the avoidance or lack of presence of the suffix *–al* is patent in

(56) *environment → environmental 43a LxM 1/4

and, to conclude observations of the noun/adjective subdivision of the adjective error type, the common confusion between the vocalically similar noun/adjective pair *truth*/*true*, as in

(57) a *truth → true pharmacy technician 60a LxM 1/2,

lending strength to the plausibility of another phonological argument, whereby the final distinguishing interdental voiceless fricative, representing a common complication for Portuguese L1 pronunciation, is avoided and, as a result, creates a false homophonous pair.

For the adverb/adjective errors, not a particularly representative subdivision, some of the errors were based on an overgeneralization of an incorrectly learned structure, where the adverbs *personally, professionally*, and *simply* are used in adjective position, preceding a

noun

(58a) *personally → personal life 37a LxM 1/3;
(58b) *professionally → professional life 37a LxM 2/3;
(58c) a *helpfully → helpful site 42b LxM 2/2 a0; and
(58d) the *simply → simple act 61a LxM 1/1.

Another error was the use of an adverb after the copula BE, as in

(59) I'm *curiously → curious 50a LxM 1/1,

and as a comparative adverb rather than an adjective, albeit in a form that is irregular:

(60) *more simply → simpler 69b LxM 2/3 a2.

Other errors were based on L1 influence, whereby expressions such as *contactar regularmente* and *extremamente capaz* in addition to *brevemente* have an adjective/noun base in English:

(61a) I *contact regularly → had regular contact with 18b LxM 1/3 a0;
(61b) *extremely capacity → excellent skills in 61b LxM 6/8 a1; and
(61c) briefly → in brief 26b LxM 1/2 a0.

In terms of L1 influence, this adjective-related subclassification is less influenced by Portuguese L1 than noun- and verb-related subclassification, at a total of 45%. These errors seem to be more related to overgeneralization or misapprehension of morphological rules. The lack of verbal or nominal properties for adjectives, rejecting auxiliaries or TAM markings may be a positive factor in teaching and learning more through lexically-restricted morphological strategies in the use of this part of speech.

3.3.1.4 Adverb-related error type

The smallest subclassification of LxM errors is adverb-related, with three error types: adverb/adverb, adjective/adverb, and verb/adverb. Unlike the subclassification of adjective-related LxM errors, in which error types were identified for each of the primary parts of speech, the adverb-related subclassification does not reveal a fourth error type for adverb/noun, just as the error types adverb/verb and adverb/noun were not identified in the verb- and noun-related subclassification. Of the existing error types, only adjective/adverb showed a slight significance in number of errors, since the others were comprised of a mere one error each. As a result, discussion of these errors, discriminated in Appendix 14f, will not be extensive.

The adjective/adverb error type had the highest representation with only one-third of errors derived from L1, notably from the expression *de uma forma X*, as follows:

(62a) *in a way very much didactic → very didactically 23b LxM 1/1 a0; and
(62b) *in a correct way → correctly 52b LxM 2/2 a1.

From another perspective, the following is an example of an error that native English speakers commonly make as well:

(63) take it too *serious → seriously 29b LxM 1/1 a1.

In fact, a 0.29 second google of both the error and the correction shows a ratio of 1:2

(890,000:1,630,000 on 11 April 2011). Errors like this are important for teachers to become aware of; not to excuse the learners from actually learning the prescribed grammar but to sensitize teachers to the fact that learners are exposed to the incorrect target language on a regular basis. Recalling research on the lasting influence of graphic infractions on the memory, should the *-ly* adverbial suffix be interpreted by the learner as a mere spelling alternation, generalized usage in a non-prescriptive direction may make teaching to this error type more of a challenge, also attributable to the lack of consistent morphological properties for adverbs.

3.3.2. Lexical Errors

Students made 320 lexical (Lxl) subclassification errors initially and 336 errors in the final report for a total of 5% more errors. There were, however, two lexical error types that improved with fewer errors in the final report: *prepositions* at a rate of change of almost one-fourth less (-24%) and *synonyms & near synomyms* at less than one-fifth less (-15%). These improvements, as presented in Appendix 15a, however, are balanced by the error types identified as *dualities* and *conjunctions*, with rates of change of 61% and 42% respectively. Both error types labeled *prepositions* and *synonyms or near-synonyms* are self-explanatory, as are *conjunctions*, but *dualities*, as an error type, requires some clarification, as it covers not only L1/L2 pairing wrongly-derived from L1 influence but also errors that involve confusing lexical pairings related to quantifiers, such as *much/many* and *any/a lot of*, and the verbal duality *do/make*. Considering that seven students did not make lexical errors in the initial report, the remaining 62 students were responsible for an average 5.2 lexical errors (cf. Appendix 14b); conversely, considering the total 69 subjects, these made 4.6 average errors each. Only two students did not reveal any lexical errors in the final report, resulting in an average number of errors for 67 students of 5.0 while the average for the total students was predictably similar at 4.9.

3.3.2.1. Preposition error type

The preposition error type was abundant, representing over one-fourth of the total Lexical (Lxl) subclassification. The top selected prepositions have been presented in Appendix 15b in terms of the most errors per lexical item. A number of these prepositions, despite being the most representative, did reveal fewer errors from initial to final report, resulting in an overall improvement of 24% fewer errors, particularly for the lexical items *about, among, from, on, at*, and *of*, in descending order of rate of improvement.

The ubiquitous American-British division over *different than/from* and *different to* was not counted as error in this study. Another area that was discarded previously was the structure of sentences with a final preposition positing Sir Winston Churchill's ironic retort that it was "the type of arrant pedantry *up* with which I will *not put*."[339] With specific

[339] See Pullum (2004) for some controversy as to the source of this quote.

reference to the L1, Portuguese, sentence final prepositions are not possible and, hence, not predicted to be sources of errors by contrastive analysis.

The lexical error type for prepositions was not analyzed for L1 influence for the enormity of possibilities which would venture too far into conjecture. Instead, the top sources of prepositional errors among the ten highest ranking — *in, on,* and *to* — will be analyzed closely (Appendix 15b) to find the apparent metalinguistic approaches as revealed by the L2 users. In general, the confusion evoked by the preposition system in English may be due to their sheer number — over 150. Nevertheless, prepositions occupy three spots of the top ten most commonly used words, according to the British National Corpus, precisely two of which — *in*, at number 6, and *to*, at number 10 — stand out in the present corpus. *On* is number 16 on the list with *for* easing in at number 11, although *for* is not to be object of further analysis in this corpus, ranking at number four for difficulty. It is noteworthy that the top four sources of prepositional error types in this corpus are simultaneously the top four most commonly occurring prepositions in the English language, demonstrating that exposure to the target language is not sufficient for learning to occur, as Gouin deduced over the time he spent in Germany trying to learn the language.

The difficulty associated with prepositions may also be due to the way in which the preposition relates verbs to nouns, situating the nouns in either time or space. In addition to more literal meanings associated with temporal or spatial meanings, prepositions are also the subject of idiomatic combinations in the formation of phrasal verbs which can have no apparent rhyme or reason[340]. Corpus linguistics has been extremely powerful in revealing the fact that English, in addition to being a language that relies significantly on word order, has a phraseological nature, forming what Sinclair (2004, in Prodromou 2008: 8) referred to as an integrated, indivisible system linked by lexis and grammatical patterns.

In the face of the onus on many an English learner, Prodromou[341] has suggested that phrasal verbs are completely avoidable for foreigners and that teachers, for their part, can encourage learners to rely on synonyms that do the same job. These difficulties, recognizable to most teachers, are apparent in examples such as

(64) focus only *in → on English homework 4b Lxl 8/11 a7.

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[340] In studying Portuguese and English contrastively, several easily accessed sources deal with prepositions, among other aspects of the languages. Russell Walker's site http://www.learningportuguese.co.uk/, run by a British user of Portuguese and created to support his own learning efforts since 2001, is based on his work in progress, "The Idiot's Guide to Portuguese (by an Idiot)", available on his site for no charge. This generous work has been proofed by Sonia Althoff, whose site http://www.sonia-portuguese.com/ focuses on Brazilian Portuguese, of which she is a native speaker. Walker's trail of discovery was the first hit of a Google search for "European Portuguese" shortly after the site was launched in 2004; now, it follows Wikipedia and a 2009 site by Rafael Tavares, a Spanish-Portuguese bilingual born in Venezuela of Portuguese parents, http://www.learn-portuguese-with-rafa.com/portuguese-grammar.html , offering a sampling of free lessons. Walker, however, whose insights are entirely free, has included forums in which the community can participate actively.

[341] Personal communication at the 5º ENELESP of APOCLES held at the Faculdade de Letras da Universidade do Porto.

Sinclair (2004, in Prodromou 2008: 8) noted the relevance of colligation, defined as "the co-occurrence of words with grammatical choices". In situations where a given word class, like *preposition*, can be identified as an inherent component of the phrase, the grammatical patterns that restrict the phrase illustrate Sinclair's (1991: 110, in Prodromou 2008: 8) Idiom Principle, whereby segments may be construed by the L2 user to be individual parts, as "semi-pre-constructed phrases".

Semantic prosody, a related coinage attributed to Sinclair (1987, in Zhang 2009: 2), borrowing on the notion of *phonological prosody*, posed by Firth (1957, in Zhang 2009: 2) and described by Louw (1993: 157, in Philip 2009: 2) as "a consistent aura of meaning with which a form is imbued by its collocates". Philip (2009: 3), however, defined the concept more clearly as "the semantic prosody associated with a lexical item communicates an attitudinal, evaluative or emotional stance with regard to a particular context or scenario and its outcome (anticipated or actual), not simply a vague and ill-defined 'aura of meaning'". Philip (2009: 4-5) also managed to split the unit of meaning into five: collocation and colligation (together, to determine what a lexical item *means*), semantic preference ("*how* it means what it does"), semantic association ("in relation to *what*"), and semantic prosody (to refer to the strictly pragmatic aspects of meaning). For translation purposes, working cross-linguistically with both an English (the BNC — British National Corpus) and a 140 million-word Brazilian Portuguese corpus, Berber Sardinha (2000: 93) has simplified the definition of semantic prosody "the connotation conveyed by the regular co-occurrence of lexical items".

Having identified that semantic prosodies may vary across Portuguese and English, the errors that an English L2 user reveals can be derived from L1 influence, with or without recourse to reference books or bilingual dictionaries since neither includes attempts to "inform their readers of connotational restrictions"[342]. To further complicate these restrictions for the L2 users, researchers seem to agree that semantic prosody is not accessible to them by intuition (Berber Sardinha (2000: 106) and Zhang (2009: 3). Zhang further reported that Louw (1993, in Zhang 2009: 3) had associated semantic prosody to grammatical principles, whereby the transitive use of the phrasal verb *build up* had a consistently positive connotation but a negative one when used intransitively (e.g. *build up confidence* v. *resistance builds up*).

Despite these findings, Zhang (2009: 11) found that "little work has been done to explore how to apply semantic prosody in ESL/EFL pedagogy" and, consequently, has suggested that prosody may become an important source for teachers of English. Philip (2009: 6), however, has provided case studies that illustrate that prosody is not always present, particularly in learner language and technical language, the two aspects of English at the heart of the L2 users of this study, affirming that

[342] Berber Sardinha (1999: 106). His indictment included, among others, such favorites as *Collins Cobuild English Usage for Beginners* and the *Oxford Learner's Dictionary*. Wang (2004, in Zhang 2009: 7) suggested, in this regard, that "'an entry should pick out typical features and offer sound examples' in order to avoid misleading ESL/EFL language learners."

> [t]eachers of language will notice that learners favor open choice in their production because they lack the necessary repertoire of prefabricated structures and collocations to do otherwise. Technical writing too favors open choice, as its fully compositional and fully analyzable nature keeps ambiguity to a minimum. Yet open choice, by definition, does not admit regularities of patterning, except those imposed by the grammar of the language. ... [t]he words are used in their fully salient senses and express all the meaning that is required.

Admitting that pragmatic errors may result from misunderstandings of the possible semantic prosodies of given lexical items, it is clear that the interlanguage of L2 users could benefit from awareness of semantic prosody. Going beyond the denotational meaning for vocabulary pedagogy for ESL/EFL emphasizes the pragmatic aspect of learning semantic prosodic aspects of a lexical item in addition to learning how to use a word syntactically and semantically. Based on the argument that semantic prosody is "vital for non-native speakers to understand not only what is grammatically possible in their language production but... also what is appropriate and what actually happens" (Partington 1998, in Zhang 2009: 9), L2 learners may be better able to master comprehension and appropriateness for enhanced communicative competence.

It should be noted that the preposition *em* translates most uses of *in* and *on*, further complicating the selection of prepositions for the Portuguese L1 English user. The English preposition *in* has many meanings, chief among them being spatial and temporal, like *in the classroom* and *in the eleventh grade*. According to spatial orientation, the use of *in* was not apparent in the following errors.

(65a)	*on→in this portfolio	42b Lxl 1/7 a5;
(65b)	*at→in English classes	4b Lxl 7/11 a7;
(65c)	*on→in the degree	51a Lxl 4/4;
(65d)	*on→in a laboratory	63a Lxl ¾;
(65e)	*at/of→in Guarda	54a Lxl 10/10 and 60a Lxl 2/5;
(65f)	*for→in a country	14a Lxl 6/7; and
(65g)	*on→in the world	16b Lxl 2/3 a2.

In these and similar cases, rather than the spatial preposition *in*, the other spatial prepositions *on* and *at* were applied in addition to the prepositions *of* and *for*.

For temporal orientation with the preposition *in*, the most representative errors were as follows.

(66a)	*on → in my school years	25b Lxl 2/10 a3;
(66b)	*at → in my first year	28b Lxl 1/1 a3;
(66c)	*because → in my oral progress	39b Lxl 3/6 a0;
(66d)	*at → in the application phase	26b Lxl 3/8 a1; and
(66e)	*on → in the eleventh grade	27b Lxl 6/8 a1.

In these cases, instead of the temporal preposition *in*, the other temporal prepositions *on* and *at* were applied in addition to anomalous *because*. The relation between these temporal prepositions can, in part, be explained as an inverted pyramid, according to Appendix 15c.

Much like the "You are HERE" arrow on a map, the lower point of the pyramid indicates a specific place — *at 123 Maple Street, at home, at school, at the market, at my lab*, even the "@" in electronic addresses which results in *at amazon.com* — whereas the middle preposition, *on*, indicates a physical road or path on which one travels, including the intricate network of the "information superhighway"[343] (see example 69 and discussion, however, for contrasting data). In spatial terms, the preposition *in* is used for everything else, represented by its spacious setting in the pyramid.

Temporally, the inverted pyramid works as well, demonstrated physically with hands outstretched and moving downward at angles toward the waist where the hands meet with the wrists touching to allude to a wrist watch and the use of *at* for specific time, as in *at eight fifteen, at nine o'clock, at my bedtime*, and *at the end of class*. The preposition *on*, centrally located in the pyramid for time, is reserved for days and dates, such as *on Sunday, on 12 April, on my birthday*, and *on Pancake Day*.

The preposition *in* plays other roles, such as that of relating a field of study; this is realized largely by the prepositions *on*, as follows

(67a)	*on → in grammar	42b Lxl 4/7 a5;
(67b)	*on → in the degree	67a Lxl 2/5;
(67c)	*on → in Pharmacy	72b Lxl 2/6 a0;
(67d)	*on → in the field	71b Lxl 5/6 a8,

but also with the prepositions *for, of*, and *with*, as in

(68a)	*for → in English	10b Lxl 12/15 a10;
(68b)	*of → in writing	13b Lxl 2/4 a5;
(68c)	career *of → in Nursing	52a Lxl 2/7; and
(68d)	*with → in a language	2b Lxl 5/11 a10.

An analysis of the spatial errors for the preposition *on* reveals errors like

(69)	*in → on a website	19b Lxl 17/17 a12,

which is yet another example of a preposition which, when googled, is now found at a ratio of nearly 1:1 (221:220 million hits) for *in:on a website*, challenging the use of the preposition on in this context.

3.3.2.2. Synonyms and near-synonym error type

The lexical (Lxl) subclassification error type identified as *synonoyms and near synonyms* overall is one that demonstrated an improvement of 15% less errors. In addition to the general category of synonyms, subdivisions were further found when lexical notions were apparent (Appendix 15d). As such, the subdivisions observed and treated statistically were *time, belonging, classification, communication, spatial orientation*, and *school/professions*. As in the other error types, the influence of L1 has been assessed as well. For each of the notional subdivisions identified in the synonym or near-synonym error type, fewer errors were

[343] Described in 1991 by then U.S. Senator Al Gore for the passing of the *High Performance Computing and Communication Act of 1991*, at the basis of the National Information Infrastructure (NII).

revealed in the final report. For the remaining synonyms and near-synonyms, there is a 42% increase in the number of errors revealed which derive from L1. Nevertheless, overall, in all of this error type, the synonyms and near-synonyms which were somehow influenced by Portuguese reveal 7% fewer errors in the final report.

Two lexical error types of synonyms and near synonyms were only revealed in the initial report — those related to notions of time as well as belonging and classification. Time-related lexical error types demonstrated pragmatic errors resulting from confusion between expressions like *a few years ago* and *for a few years*, *every time* and *all the time* or *always*, *in the present world* and *currently*, *not always* and *not only*. Others were due to L1 influence, such as *in this moment (*neste momento*)/now; *at the previous moment of (*no momento antes de*)/before; and *passed (*passado*)/after the first year. Lexical error types related to the notion of belonging and classification are *introduce* and *put* for *include*; *element* for *member*; *concerning* for *related*, *stage* for *phase*; and *ranks* for *years*.

The lexical error type identified as related to notions of communication involved using *contact* and *talk* (from L1 *contactar com* and *falar*) for *communicate; speak* and *see* (both from L1 *falar de* and *ver de*) for *deal with*; *answer* (from L1 *responder a*) for *help*; *question* (from L1 homonymous *questionar*) for *ask*; *talk* (from L1 *falar*) and *announce* for *speak*. Other examples related to notions of communication that also seemed to be less L1-influenced were *speak* for *say*; *learn* and *explain* for *teach*; *say* for *refer to* and *tell*; and *dialect* for *dialogue*; as well as *apprehend* for *understand*.

The school/professionally-related lexical errors include the use of the lexical items *class* and *year* for *grade*, both L1-influenced, similar to *output* (from L1 *saída*) for *opportunities*; *study* (from L1 *estudo*) for *degree*; *academy* and *establishment* (from L1 *academia* and *estabelecimento*) for *school*; use of *job procure* (from L1 *procura de emprego*) and *on the job market*. *Come* for *enroll* and *get in (to a degree)*; *enter* for *get in (to a degree)* and *apply*; *bid* and *made the nomination* for *apply to university*; *inquiry* for *research*; *solutions* for *career options*; *degrees* and *titles* for *subjects*; *subjects* for *topics*; as well as *join* for *enroll* and *be accepted*; *teacher María* for *Prof. Ribeiro*; and *candidacy* for *application*; *make* and *attain* for *write a CV*. Contextually-influenced examples were *draw* rather than *study architecture*; *be a resident* rather than *be accepted (in a university in another city)*; *drugstore* (from L1 *farmácia*) for *Pharmacy (degree)*; as well as *attend* rather than *study a degree (in another city)*. Finally, spelling influence is responsible for the use of *carrier* for *career*. To conclude the notional subdivision of synonym and near-synonyms, the few examples of the spatial-orientation-related error is pragmatic, using *universal* and *famous* for *international* when describing the status of the English language in the world.

Other synonyms and near-synonyms that have not been subdivided include *other* for *another*; *deepen* and *toughen* for *strengthen*; *all* for *whole* and *everything*; *changed my opinion* for *changed my mind*; *opinion* for *choice*; *earn* for *gain*; *house* for *home*. Awareness of the confusion specifically related to these dualities can inform not only teaching materials but also activity design.

3.3.2.3. Duality error type

The third error type for lexical errors revealed was identified as *dualities* (Appendix 15e); these included lexical pair choices directly influenced by L1, as well as lexical choices related to quantifiers and the use of verbs related to the pair *do*/*make* (Appendix 15f). The majority of duality errors (57%) remain undifferentiated, with a diversity that defies subdivision. These are attributable to L1 influence without further examination while the quantifier and the verb pair *do*/*make* subdivisions reveal, upon closer examination, that just a few, a mere four cases to be presented with the results for *do*/*make*, prove to be due to metalinguistic approaches that cannot be classified as L1-influenced. Nevertheless, this finding does confirm the care that researchers must take; initial investigation suggesting L1 influence as the source of non-target production may result in a different conclusion upon further inspection.

Some quantifiers, like *very, every*, and *very much*, make up the bulk of the total quantifier errors (71%), with particular emphasis (22%), due to the dual influence of the L1 *muito*, on the use of *very* for *many*. Other lexical items identified were *a lot, much, for (a long time), too much*, *a few, really, most, entire, all*, and *each*. Other duality quantifiers such as *many*/*much*, *any*/*some*, and *a lot of*/*a number of*, representing only a total of 7% of duality error types but 29% of the quantifier errors, only demonstrated saliency in two errors: the use of *much* for *a lot of* and a missing *any* when a negative was used.

For the subdivision labeled *do*/*make*, this included the use of *do* or *make* as well as these verbs for other target forms (cf. Appendix 15f), where the shading indicates the highest frequency error registered. Because L1 *fazer* provides an indiscriminate solution for both *make* and *do*, this source of errors is predictable; as demonstrated in the left column, all but four instances, for a total of 88% of *do*/*make* errors, are due to some L1 influence. Nevertheless, the other verbs that are used for *make*, such as *give, do*, and *take*, pale in the face of the number of verbs for which *make* is used, including *accomplish, mean, obtain, prepare, take* and *write*. The significant finding here is perhaps the dramatic (at 41% of all *make*/*do* errors) overuse of *make* for target *do*, related to *activities, assignments, exercises, experiments*, and *work*. Contrastingly, the use of *do* for *make* constitutes only 18% of all *make*/*do* errors. This finding is supported by Gilquin and Viberg (2009: 67 fn 3), who reported a near three-to-one ratio (560:217 frequency per 100,000 words) of the use of English *do* to *make* in the British National Corpus, posing potential complication for an L2 user whose L1 "makes do", to borrow from their title, with just one verb, like French and Swedish in their study and Portuguese by extension.

The general functions of *do* and *make*, as a support verb with an abstract noun, and specifically of *make* for production/creation or transformation (where the change is in the *nature* of the entity), or as a causative verbal phrase (where English *make* is analytical, or periphrastic, causative) or a causative adjective (where *make* renders a property on the object of the verb); contrastingly, the use of *do* as a pro-verb was not found in this corpus, nor was its periphrastic use in its multiple language-specific functions of negation, of

questioning, insisting/emphasis, or inversion.

Describing the difficulty for Portuguese in sorting out these verbs as a *peculiaridade* of the language, Carvalho (2005) suggested L2 users learn each case one by one. Nevertheless, Gilquin and Viberg's (2009) study of the cognitive saliency of these verbs found that, even through study, this may not be an easy task for the L2 user when the L1 uses just one verb (*fazer*) in the place of two. This may also explain, in part, the dramatic growth in errors from the initial to the final report for this duality; as *appetite to write* grows, as it did overwhelmingly from initial to final report, the metalinguistic approaches required by these verbs does not show indications of growing in similar proportion.

3.3.2.4. Conjunction error type

The conjunction error type for the Lexical (Lxl) subclassification of errors (Appendix 15g) proved to be an increasing source of errors from the initial report to the final report. The conjunction error type covers a total of 44 lexical errors related to connecting words, as grouped and ranked in descending order in Appendix 15h, where the shading corresponds to a frequency above one case and the following lines gather other related target errors. A total increase of 14 new conjunctions (47% more than the original 30 conjunctions) was produced outside of the target in the final report. With so many conjunctions, the study of these subdivisions within the error type of the lexical (Lxl) subclassification of lexically-related errors will be limited to the top five target sources of errors in descending order of frequency: *like, also, as for, although*, and *despite*.

Specifically, the conjunction *as* for *like* also reveals source conjunctions in *as well*, *for example*, and *of which*; similarly, the conjunction *too* for *also* was also expressed as *therefore* and *more*; just as the conjunction *about* for *as for* was also substituted with *in relation to* and *concerning*. Finally, primarily *however* but also *despite* were used for *although* while *although* was used for *despite* as were *because*, *behind*, and *by force*.

3.3.3. Discussion of Lexically-Related Errors

Having been declared to be more serious than grammatical errors (cf. Johansson 1978; Burth 1975; Tomiyana 1980 Khalil 1985, all in Ellis 1994: 63), lexical errors often result in unintelligibility, as "the most distracting and pernicious of all types of errors" (Agustín Llach: 46). The metalinguistic competence required for distinguishing between parts of speech is complicated by the myriad of lexical information — both syntagmatic and semantic — that the L2 user is trying to master.

The influence of the L1 present in approximately half of the errors. Of all Lexical-Morphological (LxM) subclassification errors, a total of 51% (86/169) were identified as demonstrating clear L1 influence, with 48% in the initial report and 54% in the final report. While L1 influence in lexical-morphological errors overall grew at a 21% rate of change, errors in this subclassification itself grew at only 11%, almost half of the L1-influenced error rate of

change.

Examining L1 influence from the more detailed perspective of the specific error types, the noun-related error type showed consistently higher percentages reflecting the greatest representation overall in this subclassification for L1 influence. Nevertheless, in the final report and from a longitudinal perspective without distinguishing L1 influence, noun-related errors diminished to just 29% while the adjective-related error type represented the highest number of errors, at 35%. The intrinsic relationship between nouns and adjectives may be in part responsible for this relationship as attributive adjectives, which are more common than predicative adjectives (Celce-Murcia 1983: 391), are part of the noun group, with their corresponding semantic attributes of favoring negative and/or customary action in contrast with the predicative characteristics of describing occasional and isolated events. For example, the vast majority of errors related to target adjectives were used in the more common target attributive position rather than the predicative, despite their non-nativelikeness, revealing both syntagmatic awareness and possibly semantic reflection.

Although L1 influence was not deduced for all the Lexical choice (Lxl) error types due to the complexity of reading the source of prepositional and conjunction L1 influence, a total of 48% (318/656) L1 influence was identified in the remaining errors. For the error type related to synonyms, a 65% L1 influence was revealed while the duality error type proved to be due to L1 influence at 98%.

The statistical significance of the levels of L1 influence in the Lexical (Lxl) and Lexical-Morphological (LxM) subclassifications together averaging 50% does not go unnoticed and conforms to the research for Portuguese influence in English language learning (Gomes da Torre 1985). This should not mean that teachers should throw up their hands and give up. While an average of half of the lexical errors studied are influenced by L1, the other half derive from the panoply of metalinguistic and metacognitive strategies observed in combination with the L2 target language itself. In conjunction with the detailed study of linguistic performance, a series of applied skills in lexical production was identified in the interlanguage of the written corpus, including phonologic, graphic, and morphological approaches, as well as a preference for the naked verb stem and amalgamation of verb forms into periphrastic constructions. Pragmatic and semantic prosody issues were also present as were semantic issues such as those which distinguish the present and past participle.

The second cognitive revolution opened the collective teaching spirit to the notion of students having active roles in their language learning that went beyond a universal grammar or the use of a language faculty. Learners are not limited to resting passively between L1 and L2, applying only what their lifetime of L1 provides them onto their comparatively new L2 as their biological function for language does its “job”.

Amongst lexical choice errors overall, the leading subdivision for errors was synonyms and near-synonyms in the initial report followed by dualities in the final report. Nevertheless, synonyms and near-synonyms as a subdivision was one of two subdivisions to show improvement in fewer errors, as did the subdivision of prepositions. Nevertheless, dualities

and conjunction errors grew at a rate of change of 61% and 42% respectively.

Appendix 15i unites all of the most representative lexical errors and issues uncovered in this study in a contribution to the English teaching profession in Portugal. While it covers not just the source errors but also the target errors, caution in its use is urged. The danger is that lexical errors occur in a context which will need to be constructed carefully by the teacher. In many respects, the table could best be used as a reference for the creation of learning material for the English lexicon rather than as stand-alone teaching material. The target items are alphabetized within each section for ease of consultation.

Given the fact that English is relatively more morphologically poor, and considering the partial absence of error in the two subclassifications (LxM and Lxl), it is of little surprise that lexical-morphological errors were revealed by significantly fewer learners — 45 compared to 62 subjects revealed errors initially while 42 compared to 67 subjects revealed final errors. This average comparison of more than five-to-one absence of errors may, however, also be due to avoidance strategy when it comes to morphological diversity in the lexicon. It is, nonetheless, important to register that lexical choice errors, especially those derived from synonyms, dualities, and prepositions are more common quantitatively and in more subjects than those related to morphological issues, with the overall ratio of lexical choice errors to lexical-morphological errors at almost four to one (656:169).

3.4. Qualitative Analysis of Syntactically-Related Errors

Following a methodology similar to the presentation of the results and discussion for the qualitative analysis of lexically-related errors, the syntactically-related subclasses of errors to be analyzed represent 51% of the total syntactic classification and 23% of all errors identified in the written corpus. These errors related to verbal groups deal with either distribution (TAM) of verb groups or their very production (Inf).

3.4.1. Distribution Errors

Errors of distribution across verb and noun groups are identified as the subclassification Tense-Aspect-Modality (TAM) in this study of the syntactically-related (SYN) error classification; it was designed to reflect errors of distribution rather than errors of production[344], a distinction which recognizes that L2 users may have a clear perception of the target productions based on syntactic restrictions but may not simultaneously distribute these productions in a target-oriented fashion. TAM errors, then, classify the data which constitutes existing English verbal groups although these verbal groups may be distributed in a non-target fashion.

In this study, students made 213 TAM errors initially and 272 errors in the final report for a

[344] As previously defined in *Chapter 2: Methodology*, according to guidelines proposed by Richards (1971/1974).

total of 28% more errors, all of which were subdivided into the various error types identified in Appendix 16a. In the initial report, five (5) students revealed no errors of this subclassification, a tendency which grew to eleven (11) in the final report, for an increase from 7% to 16% students, just under one-sixth (Appendix 16b), writing with error-free syntactic production. In the initial report, an average number of between 3.3 and 3.0 TAM errors were revealed per student, calculated on the 64 who made these errors and the total 69, respectively. In the final report, the average number of errors per student, calculated on 58 and 69 students respectively, rose to 4.7 and 3.9, resulting in an overall average of 7.0 TAM errors for all 69 students studied.

Corresponding to what is commonly known as the grammatical system of a language, Tense-Aspect-Modality is a controversial subclassification which is further complicated by the fact that, for example, in Portuguese, the imperfective aspect is fused with the preterite, existing only in the past. For its part, English conflates tenses, aspect, and mood in a number of phrasal verbs, such as those composed of *used to* (e.g. *used to want* and *used to go*). This contributes to the justification that the error types identified for this subclassification are not identified separately as *tense*, *aspect, mood* or *modality*; since, in English, the four past tenses, four present tenses, and four future tenses can also be classified according to aspect, be it simple (or indefinite), perfect (or incomplete), or progressive (or continuous), and to mood. This resulted in the decision to conflate some of these notions in the error type *tense, aspect, & mood*, also following Palmer's (2001) indication of notional criteria, like *realis* – where situations are actualized and perceptible — and *irrealis* — where the situations are exclusively knowable in the realm of thought — to avoid semantic and pragmatic complications in this error type. A second error type identified is *non-finite verb forms*, including present and past perfect, passive voice, infinitives, and gerunds. The third error type, *modality*, represents those functions which, in English, are grammaticalized through the modal system.

3.3.3.1. Tense, aspect, & mood error type

The non-target verbal distributions which were grouped into the error type tense, aspect, & mood in this study include the simple present, the simple past, the present and past continuous, the present and past perfect, and the passive voice, all of which were distributed as demonstrated in Appendix 16c.

It was Comrie (1985) who proposed that tense, the set of expressions of location in time that have been grammaticalized, is morphologically expressed by verbal inflection — of the main verb or of the auxiliary in English. The common reference for time (the present) is based on what Comrie (1985: 15-16) referred to as the common deictic center. Specifically for the errors type identified as target simple present, its structure is actually varied in function; notably, one function demonstrates L1 influence, where Portuguese uses the future to refer to notions of realis in the conditional mood and English uses the simple present. Examples include realis notions expressed with *if* and *when*, such as

(70a) When I *will be a pharmacist → am a pharmacist 43a TAM 5/7;
(70b) If this degree *will be → is the best future 26a TAM 2/2; and
(70c) In future I*'ll hope → I hope 53b TAM 1/1 a5.

Also related to realis in what is a significant representation is the use of the simple past, as demonstrated by

(71) When we *finished → finish 32b TAM 3/3 a6.

The proportion of this type of error (just over 50%) in the initial report requires some reflection since it is not predicted by L1. Phonological issues, such as the saliency of the notion of realis in *terminarmos* and the preterite *terminámos*, may curiously be a source of error and certainly merit further research as to whether saliency issued of the L1 can influence interlanguage. Recalling both Best's (1995: 193, in Major 2008: 75) Perceptual Assimilation Model (PAM) and Flege's (1995, in Major 2008) Speech Learning Model (SLM), which proposed *segmental constellations*, and the possibility of a speech sound not being heard, as determining factors in the difficulty of learning an L2. While the difficulty to be considered according to the PAM and the SLM is ostensibly found in the L2, perhaps phonological saliency of L1 segmental constellations (specifically *–ar-* and *–á-*) are at work in these examples of interlanguage.

Yet another source of simple present error is the even more unusual overuse of the periphrastic present perfect, as in

(72) English *has played → plays 52b TAM 1/1 a1.

Also with only one demonstration in the study is the more typically Brazilian Portuguese use of *estou a gostar*, as in

(73) I*'m liking → I like 54a TAM 1/1,

and even the use of *gostaria*, as in

(74) I*'d like → I like dialogue 31a TAM 5/7.

These examples (72-74) may also be the result of the metalinguistic strategies in L2 users who were not content to produce the simple present's non-periphrastic structure but felt the need to "just do something" to the verb, using the various forms at their disposal in a sort of over-production. Other simple present errors were the result of non-parallel sentence construction, as in

(75a) speak and *understanding → understand English 12b TAM 1/1 a0; and
(75b) prepare a curriculum, *to read→read, and understand 12b TAM 1/1 a0,

and of L1 influence in the following example:

(76) *existing → there are 19a TAM 1/4.

The simple present errors improved at a rate of change of 47% from the initial to the final report, with the greatest rate of change demonstrated in improvement in terms of realis, followed closely by use of the simple past and L1 influence. The shift in strategies here may have involved moving from strategies of using the L1 realis system to metalinguistic preference for the unmarked and more frequently used target L2 structure.

Conversely, errors in the simple past are only aggravated in the final report, increased by

142%. The source of simple past errors was overwhelmingly the result of use of the simple present — 82% of the initial report errors and 90% of the final report, for a total of 88%. Use of the simple present rather than the simple past in English L2 users may again be an example of the attraction of the unmarked and/or more frequent[345] forms of the two structures. Following Givón (1991, in Haspelmath 2006), the resulting and ready *cognitive accessibility* of the unmarked structure may in itself be a metalinguistic approach as evidenced in the interlanguage of this study, avoiding the English past-tense suffix *–ed*, which R. T. Lakoff (2000, in Haspelmath 2006: § 2.2.3) described as "[t]his extra morphology". Overall, this error represented 87% of the errors in the distribution of verb groups, making it a substantial and pervasive source of errors for L2 users.

In Kibort's (2009: 9) proposed tense system, the simple past differs from the past continuous in that the continuous "covers a certain stretch of time". Perhaps because Portuguese readily offers a solution for this format, only the following error was revealed in this study:

(77) *realize → I am fulfilling a dream 70a TAM 6/7.

To better grasp this situation and following the information offered by the final number "7" presented in the above taxonomic error identification, an inquiry into the errors revealed by this subject, 7 in the initial report and 14 in the final report, shows a total of 15 of these errors to be based on the simple present form — the unmarked and most frequent verb structure in English — 5 and 10 respectively, supported by Wagner-Gough's (1975, 1978, both in Sato 1990) study of acquisition of the *-ing* form as a progressive aspect marker, where this alternated instead with "unmarked verb stems in the same kinds of temporal … contexts" (Sato 1990:9). The near absence of errors in the continuous form also tends to support Pischwa's (1995: 167) affirmation that dynamic and stative categories "are hardly ever mixed with each other: learners never produce *–ing* for static situations in English". The *-ing* form, which appeared in imperatives and in four different temporal contexts in the Wagner-Gough (1975, 1978, in Sato 1990) data — immediate intention, intentions of the distant future, past, and process-state — "did not entail simultaneous acquisition of its TL function as a progressive aspect marker". Based on these results in her studies, Wagner-Gough called for more detailed longitudinal analyses of learner ILs that would provide opportunities to trace variation in form-to-function mapping. In further support of form-to-function analysis, Bickerton (1981: 204) posited that "the acquisition of a target feature qua feature — a given morphological shape — and the acquisition of an accurate range of target meaning/function are two completely different things", defining SLA as *targeted* language change and affirming that the surface forms that shape learner language are reshaped semantically over time until they "reassume the range of meanings and functions that they had in their language of origin". Pischwa (1995) took a similar stance with respect to German school children learning English who had to reanalyze the English progressive since they had not yet acquired their

[345] See Haspelmath (2006) for the argument against markedness.

native German accusative.

3.3.3.2. Non-finite verb form error type

The present and past perfect were excluded from the tense, aspect, & mood error type to be included in this non-finite verb form error type so that the past and present participles could be studied in their various target forms — present perfect, past perfect, passive voice, and gerund, as well as the contrastive form, the infinitive (Appendix 16d). Overall, the non-finite verb form error type revealed a slight improvement of 2%, based on improvement in the present perfect and the infinitive, despite the dramatic increase in errors for past perfect and the gerund. Like the simple present, the present perfect revealed an overall improvement although at a rate of change less than that of the simple present, at 36% fewer errors in the final report. As a verbal group, the present perfect also stands out for its significant improvement

An exception to the general improvement in errors revealed for the present perfect target structure was the continued use of the simple present for the target structure, as in

(78) *learn → have learned 14b TAM 1/9 a2.

As previously discussed, strategies related to the use of the simple present seem to be at work with the present perfect as well. It is also curious to note that, in the area of greatest improvement, the structures that include the frequency adverb *always*, one of the key metalinguistic markers in learning the present perfect to become aware of target structures like the following:

(79) It *was always → has always been 65b TAM 1/1 a3

Of the unique errors were the uses of the past perfect and the passive voice for the present perfect, as in

(80a) *had improved → have improved 21b TAM 1/2 a7; and

(80b) *was taken → has become 71b TAM 1/10 a7.

In both cases, the awareness of the periphrastic target structure is clear, while the motivation is less clear. Phonological strategies in resolving uncertainty over the initial /w/ and initial /h/ can lead some L1 Portuguese in these situations to the overgeneralization of one or the other, especially given the lack of equivalent for initial, aspirated /h/- in L1 (Shepherd 2001: 92). Nevertheless, further inquiry into overall TAM errors revealed by this subject found no further examples of this strategy.

The past perfect does not reveal the same pattern as the present perfect although it is a verbal group that is far less representative of distribution errors, at just 6% of total non-finite error types while the present perfect represents almost one-fourth, at 22%. As errors increased, so did the use of the simple past, at an even greater rate of change, showing the lack of application of the periphrastic structure for the past perfect. In general, regarding the present and past perfects, Comrie (1976, 1985) argued that, since the perfect does not reveal information about a situation's internal temporal organization, although it is traditionally considered an aspect, it is more of a tense since it grammaticalizes location in time. In a

study of Greek L1 acquisition of the English present perfect, Karpava (2008) found a strong case against L1 transfer for the acquisition of this verbal group. Evidence here shows that the Portuguese preterite is used in 58% of the perfect errors, such that learners may be strategically using some form of a known past structure to communicate what Kibort (2009: 9) referred to as "extended tense or durativity" or they may be counting on the Portuguese preterite, whose functions are more inclusive than those offered by the English simple past. Still another recent finding Odlin, Alonso Alonso, & Alonso-Vázquez (2006: 93) found that, compared with Spanish and Gallego L1 speakers, native English speakers' grammaticality judgements of English present perfect were "hardly different". This demonstration of native speaker tolerance of errors in the present perfect may have significant implications for understanding L2 user acquisition of this target linguistic structure.

Within the non-finite verb form error type, the passive voice had the lowest representation, at just 4%, just behind the past perfect. The few demonstrations of this error were characterized by a multiplicity of existing verbal structures, such as the simple past and present and a variety of periphrastic verbs, including modal verb phrases, the present and past perfect, the present perfect continuous, the past continuous. And while none of these forms were represented more than twice, there was one example of the infinitive phrase in the passive voice which was the closest to the simple past target form in the passive voice. The reduced recurrence level of passive voice errors can be taken as a positive indication, given Givón's (1991, in Haspelmath 2006: §2.2.3) claim that "passive structures are more difficult to process than active structures… and that the instrument role exhibits lower 'cognitive accessibility' than the agent role … that definite NPs are 'cognitively more complex' than indefinite NPs, and so on". Another interpretation for the low representation of passive voice errors may be avoidance; whereas a final contextual explanation may be that the learners, enrolled in a Technical English course for Pharmacy, will have spent the 30 hours actively and passively using the passive voice in a myriad of science texts and activities in which this verb form is most common.

To conclude the non-finite verb form error type, the infinitive and gerund subdivisions simultaneously reflect the most salient characteristics of the non-target structures, specifically when a gerund was used for an infinitive, and *vice versa*, when a naked verb stem is used for the target structure, and in which morphosyntactic positions the non-target structures are used, following another verb or following a preposition. Pointing out that neither Quirk et al. (1985) nor Biber et al. (1999) distinguish between the gerund and the present participle in their grammatical descriptions, Meyer et al. (2005: 29) identified the verb form with the "ending" *-ing* as "the most regular of the English verb forms". Despite its regularity of construction[346], the gerund revealed the greatest number of errors as well as the second highest rate of change (46%) of non-finite verb forms, following the poorly represented past perfect, from the initial to the final report. Within the gerund subdivision,

[346] Note that, of all English gerunds/present participles, only *being* is formed from the verbal stem *be* rather than its (multiple) simple present forms.

one of the most characteristic aspects of metalinguistic strategies was the more frequent use of the naked verb stem over the use of the infinitive for the target gerund, at a proportion of exactly two-to-one (72 to 34 total errors respectively). This pattern was not repeated in the frequency of gerund and naked verb stem use for target infinitives, which revealed a greater tendency of almost three-to-one to use the gerund (49 to 17 total errors respectively).

These discrepancies in use are bolstered by the fact that, although the infinitive and gerund seem to translate roughly from European Portuguese basically undifferentiated and, as a result, demonstrate high levels of L1 influence, the research similarly revealed a greater representation of gerund (41%) than infinitive (28%) target errors, at a ratio of three-to-two. The greater tendency to use the gerund overall is likely to be one of the reasons for more errors identified in the use of this target form. Nevertheless, another tendency in the data revealed that, although prepositions are a marker for use of the gerund, in 25% of total gerund errors (28 out of 113), this information was not employed for a variety of prepositions, as represented by

(81a)	after *take → taking	35a TAM 16/17;
(81b)	of *help → helping	39a TAM 1/2;
(81c)	by *achive → gaining	45b TAM 6/9 a1; and
(81d)	in addition to *leave → leaving	23b TAM 1/1 a2.

For infinitive target forms, 43% of total infinitive errors (33 out of 76) could have been avoided if the use of the infinitive after certain other verbs, such as the most represented *want*, *learn*, and *need,* had been used as a marker, as in

(82a)	wants *transmit → to transmit	44b TAM 3/9 a1;
(82b)	learn *correctly construct → to correctly construct	72b TAM 5/6 a3; and
(82c)	needed *know → to know	61b TAM 6/10 a4,

where errors associated with the verb *need* were the most prevalent.

3.3.3.3. Modality error type

Representing only 7% of total errors in the TAM subclassification, modality is a relatively recent topic in linguistics[347]. Since Portuguese translates rather well into the English modal system, the positive L1 transfer is evident in the low rates of L1 influence and their improvement; like non-finite verb forms, this is another error type that revealed improvement (Appendix 16e). Nearly half of the non-target forms already were using a modal, which demonstrates partial awareness of the application of the modal, as in

(83a)	they *could → can smile	70a TAM 4/7; and
(83b)	will *be going to help → help	19b TAM 1/13 a4.

In the other L1-influenced forms, the use of the L1 form in the preterite and the realis form in the simple present, both in the main clause[348] to mark target L2 irrealis, were responsible

[347] Palmer (2001) reviewed the academic attention to the topic since the first edition in 1986, which had been the first volume to deal with Mood and Modality in language.

[348] See Palmer (2001), in which he affirmed that European languages never treat a proposition in the main clause as irrealis.

for 22% of the modality errors overall, as in

(84a)	*didn't → wouldn't occur	42b TAM 5/5 a3;
(84b)	since they *needed → would need	67a TAM 4/6; and
(84c)	*becomes → will become	51a TAM 1/3.

With so few examples to draw on however, no tendency for propositional or event modality could be established.

3.3.4. Production Errors

Production errors (Inf) involving syntactically-related errors for verb groups and noun groups are a subclassification that is distinguished from the TAM subclassification by the fact that Inf errors are productions that do not correspond to existing English verb forms. Whereas TAM errors were those that constituted existing productions of the English language which were not distributed adequately[349] for communication of intent, Inf errors do not constitute target production for verb groups or their related noun groups. In the present study, students made 215 Inf errors initially and 249 errors in the final report for a total of 16% more errors, distributed in noun groups and verb groups in Appendix 17a. Eleven (11) students revealed no production errors in the initial report, with just seven (7) doing so in the final report, for a 36% rate of change (cf. Appendix 16b). The data showed an initial average of 3.7 production errors for the 58 students involved, at an average of 3.1 for all 69 students; in the final report, the production error average increased to 4.0 for 62 students, at 3.6 for all 69 students. Division of the errors into two error types — noun groups and verb groups — revealed a surprisingly balanced result across the initial and final reports, the consistency of which contrasts with the traditional cry that "English verbs are difficult"; noun groups seem to offer challenges as well.

3.3.4.1. Noun group error type

The noun group error type subdivisions — subjects, nouns, adjectives — can be examined more closely in Appendix 17b. The largest subdivision was subjects, itself further subdivided into an array of the types of errors revealed, the majority of which involve the null subject, of which a number correspond to the target subject *it*. Taken as a whole, null subjects increased 25% from the initial to the final report; nevertheless, a specific characteristic of this error was also clear — the number of students contributing to these errors reduced over the same period, from 28 down to 22, representing a 21% improvement instead. Given the existence of the null subject in Portuguese, the amount of L1 influence would be predictable from the CAH perspective of language learning as habit; but closer examination reveals that a full two-thirds average (90 out of 135) of the null subject errors occur in the context of a relative clause, following relative adverbs such as *that, why, what, which,* and *when*, as in

[349] Robison (1995: 199) preferred the term *skewed distribution*. Following Richards (1971/1974), separate terms have been allocated to avoid confusion. Production (Inf) errors are those which are inadequately formed at production; distribution (TAM) errors are those which structurally are produced adequately despite their inadequate linguistic distribution.

(85a) I never thought that * would have → I would have 26b Inf 3/4 a3;
(85b) who knows what * is doing → she is doing 27b Inf 7/8 a0; and
(85c) knowing why * is that one → it is that one 27b Inf 1/8 a0,

including contexts either following or involving relative pronoun omission, as in

(86a) I hope * had been understood → I have understood 61b Inf 14/17 a1; and
(86b) uncle * are → uncles who are 60a Inf 1/4,

or in the context of a coordinate clause, following markers such as *at first, but, and, because, although,* and *since*, as follows:

(87a) since * deepened my knowledge → I strengthened 57b Inf 1/3 a3; and
(87b) because * forces → it forces 9b Inf 1/6 a9.

The other third of these errors occurs in a clearly L1-influenced context, such as

(88a) Thus, * had to think → I had to think 31a Inf 4/9; and
(88b) * is that motivation → It is that motivation 65a Inf 13/13.

The variety of contexts of null subject errors suggests that this error may instead be due, in part, to incomplete learning of clause construction or overgeneralization of parameters of English relativization, as in Fakrha (2009), particularly related to relative pronoun omission and pronoun retention. Alternatively, as suggested by Pica (2005), the missing subject may be the result of not having adjusted the pro-drop parameter — "simplistically put, a subject is not always necessary…; thus, the pro-drop parameter has a positive setting in Portuguese but a negative setting for English" *(*Everett, personal communication, in Pinker et al. 2007).

Another semantically-oriented explanation for the null subject could be Talmy's (1985) frames, where Portuguese is a verb-frame language while English is a satellite-frame language. Boroditsky (2011) has shown that verb-frame languages attribute less importance to the actor of an utterance, lending support to the act of subject deletion in some cases, although Bohnemeyer et al. (2007) did not come to the same conclusions, possibly due to a much larger sampling of the world's languages of the two types of frames.

The reduced number of linguistically redundant subject errors seems to speak both to overgeneralization of the required subject in English (89a) and to L1 influence (89b), where the subject is repeated in pronoun form for emphasis, as in

(89a) Another problem in my learning of English *it is → is 9a Inf 1/9; and
(89b) English *it is very important → English is 58b Inf 2/2 a1.

Plural nouns demonstrated a low level of L1 influence, with a 5% tendency toward improvement and with many errors showing a combination of target L2 forms, as in

(90a) this *subjects is → subject is 61b Inf 5/17 a1;
(90b) My biggest *problem → problems in English are 50b Inf 3/3 a0;
(90c) every *activities → activity proposed 5b Inf 2/2 a0; and
(90d) one of the most important *language → languages 23a Inf 1/1.

These contrast with the strictly (91a) and partially (91b) L1-influenced example below

(91a) all *type of people → types of people 6a Inf 2/2; and
(91b) some knowledge's → knowledge 60a Inf 2/4.

On the singular-plural distinction for verbs, Langacker (1991, in Haspelmath 2006: §2.2.3) affirmed that "[i]t is natural that… it should be the singular that is left unmarked… the conception of a single instance is simpler than one encompassing multiple instances". With such a high level of improvement in errors, the greater conceptual difficulty of distinguishing the singular form of the verb may have been partially overcome.

Like plural nouns, adjective errors represented less than one-fifth each of the total noun group errors; these were unevenly distributed among exclusively final report errors in comparative and superlative formation (three errors each) and, in both initial and final reports, a far greater number of plural adjectives (35 total). The comparative errors were due to incomplete learning of the way to deal with a stem with a final *–y*, as demonstrated by (92a), or L1 influence, as in (92b):

(92a) *more easier → easier 12b Inf 1/1 a1; and
(92b) *more easy → easier 69b Inf 4/7 a9.

The superlative errors were clearly formed using L1 lexicon *o mais*, as in

(93) one of the *more → most common languages 1b Inf 4/4 a5.

3.3.4.2. Verb group error type

Appendix 17c demonstrates that, just as subject-related errors led the noun group error type at 66%, non-periphrastic verb forms lead the verb group errors at 73%, followed by non-finite verb forms (18%) and modals (9%). For the verb group error type overall, the low ten percent average tendency for increased errors from initial to final report was based on some improvement in negative simple present formation and a reduction in non-target simple past forms, as well as in continuous forms and infinitives, among the non-finite verb groups, and in modals.

Of the non-periphrastic verb forms, two-thirds of the errors are in the simple present and the other third in the simple past. Few negative errors were made related to the simple present, one of the four areas in the verb group error type that demonstrated fewer errors in the final report, along with the non-target simple past and present forms and modals. Errors in communicating the negative simple present involved using the auxiliary *do* with the copula *be* and combining the negative marker *not* with the naked verb stem, as in

(94a) English * don't are → is not 7a Inf 1/4; and
(94b) representative * not end → does not end 51a Inf 3/7,

as well as the "stone soup" version, including four unrelated verb particles, represented by

(95) I*'m not will be to speak → do not speak 50b Inf 2/3 a0.

In addition to errors in the negative form, simple present target forms could be detected, in order of descending relevance, in third person singular errors, non-target third person singular errors, other non-target simple present forms, and those missing the verb *be*. For the most common third person singular errors, these were cases where the naked verb stem was overwhelmingly used for the target form, such that, of the total 67 errors, only 11 were due to other sources, most of which were related to the copula *be*. From the opposite

perspective, the third person singular final *–s* was used when the naked verb form should have been used or, in more than half of the cases, involving the other simple present conjugations of the verb *be*. Non-target simple present errors unrelated to the third person singular form derived from infinitives and present participles, as in

(96a) I think *to be → I am 17a Inf 4/4;
(96b) when I *working → work 8b Inf 3/6 a3;
(96c) people that *living → live 13a Inf 2/2; and
(96d) who *seeking → seek 51a Inf 5/7.

Despite the L1 influence of (96a) above, it is clear that these errors are also related to the presence (or deletion) of a relative pronoun or the use of the simple present in the future conditional.

The copula *be* was also a problem for its absence, especially following a relative pronoun like *that, which,* and *who*, such as

(97a) my spelling which * I was worst → is where I was 27b Inf 8/8 a0;
(97b) and that * why → is why 1a Inf 4/5; and
(97c) who * always necessary → is always necessary 34a Inf 1/1,

or in the rendering of *Sou capaz de* as *I able to*, where *able to* was apparently learned without its preceding verb, and *Penso as aulas muito fixes* as *I think the classes very cool*.

The simple past errors consist of one-third negative simple past formation and two-thirds non-target simple past form, where the simple past formation is in part due to the creation of a new structure, as in 98a-98f:

(98a) *choised → chose 2a Inf 4/9;
(98b) *choosed → chose 52a Inf 1/2;
(98c) *maked → made 69b Inf 5/7 a9;
(98d) *founds → found 40a Inf 2/4;
(98e) *founded → found 54a Inf 1/4; and
(98f) *becames → became 45b Inf 1/4 a0.

These creations are based on regular verb formation rules that add the suffix *-ed* to the naked verb stem (98b and 98c) or even to the irregular verb form (98e) as well as adding the third person singular *–s* to the irregular verb form (98d and 98f). The case of 98a reveals an array of linguistic tuning, from recourse to the noun form *choice* combined with awareness of the regular verb formation and a spelling adjustment to an apparent voiced ending, albeit incorrect.

Other simple past errors derive primarily from use of the past participle and present participle for the target function, as in

(99a) I never *known → know 14b Inf 1/5 a0; and
(99b) *preferring always → always preferred 62b Inf 3/7 a5.

The past participles involved — *speak, know, begin, choose*, and *go* — are examples of the strong classes of irregular verbs, with three different forms, revealing the difficulty posed by existing variety among similar linguistic forms. The place of the alphabetical list of irregular

past tense forms is on the reference shelf for occasional use; the use of the six verb classes is long due in the classroom[350].

Another strategy was the use of the present perfect or the passive voice for the simple past function, both choices of which revealed not just a temporal difference but also a lack of awareness of the non-periphrastic formation of the simple past.

Finally, the non-target simple past forms involved new language creations that join forms in violation of co-occurrence restrictions, as in

(100a) *have was → was useful 20b Inf 7/7 a3; and

(100b) *did my knowledge had → my knowledge had 17a Inf 3/4.

For negative simple past errors, other language creations that do not belong in the same verbal group were produced, such as

(101a) didn't *knew → didn't know 69a Inf 6/9;

(101b) *don't had → didn't have 29b Inf 1/1 a0;

(101c) *no wise person → I didn't know 62a Inf 1/5; and

(101d) *will not I felt → I did not feel 20b Inf 3/7 a3.

The case of 101c reveals that the translation from Portuguese *sabia* was confused with *sábia*, resulting in a lexical and pragmatic in addition to a syntactic error. The case illustrated by 101a was the most common, where learners created a past form for both the auxiliary and the main verb, be it regular or irregular. Another less common strategy involved using the naked verb form, the simple past form, or the past participle in conjunction with *not*, as in

(102a) * not participate → did not participate 73b Inf 2/2 a4;

(102b) it * not went → did not go 25b Inf 1/5 a1; and

(102c) that I *unknown → did not know 24b Inf 3/9 a0.

In 102c, in addition to the use of the past participle, the prefix *–un* is used to communicate the lack of knowledge in an agglutinative and perhaps more sophisticated manner.

At less than one-fifth of the errors for all verb group errors, the subdivision for non-finite verb groups finds its greatest number of errors in infinitives and perfect forms, evenly distributed to account for almost 80% of this subdivision. In the case of infinitive target forms, the particle *to* was used in half of the cases, in combination with primarily the past participle, as in

(103a) helped us to *improved → improve 70b Inf 7/7 a4; and

(103b) separated them to *made → make 68b Inf 1/2 a5.

It is, however, possible that these non-target forms were, instead, being used coherently as a parallel simple past form based on the preceding verb, thus revealing awareness of textual

[350] In nearly twenty years of teaching adults and young adults in Portugal, one year at the American Language Institute in Oporto, and the remaining years at the Guarda Polytechnic Institute, I have never once encountered a student who was familiar with irregular verb classifications. Unfortunately, this state is both predictable, given the generalized absence of this very useful learning tool from published learning material, and a shame, as it contributes greatly to cognitive accessibility of irregular verb formation which is rather clearly divided into three classes each for weak and strong verbs.

coherence. Other attempts involved the L1-influence *para poder tomar* in *for I can take*, and a few cases of the gerund.

For perfect forms, creation was patent in the order "swapping" of *had have*; other auxiliary combinations involve primarily the auxiliary *have* in its possible manifestations followed by the naked verb stem, with some other formulations that differed as follows:

(104a) *had been understand → have understood 61b Inf 15/17 a1;

(104b) *was wanted → had always wanted 56a Inf 2/4;

(104c) I*'ll never thought → had never thought 69a Inf 2/9; and

(104d) had *learning → had learned 44b Inf 8/8 a1.

It is important here to note that, despite the errors, the periphrastic creations in 104a-104d above demonstrate awareness of the more complex formation required of this target form. This was also true for the passive voice, perhaps most dramatically exemplified by the following example,

(105) I *don't was not prepared → was not prepared 69a Inf 1/9,

although in most cases, the passive voice was formed with the auxiliary *be* and the naked verb stem. The final case of continuous form errors only showed examples of the naked verb stem and the present participle or gerund at work:

(106a) *study → studying 2a Inf 3/9;

(106b) I *working → am working 8b Inf 4/6 a3.

Modals constitute the final and least representative subdivision of the verb group error type, wherein the majority follow the modal with an infinitive while others extend the verbal group to insert other verbal items, as in

(107a) This will *go help → will help 16b Inf 1/3 a3; and

(107b) will *be include → will include 61b Inf 13/17 a1.

Only four cases did not involve use of some modal combination, using instead L1 influence from *capaz de levar* for *capable to carry*, or the L1 in irrealis demonstrated in

(108) *was even liked → would most like 51a Inf 2/7.

3.4.3. Discussion of Syntactically-Related Errors

As has been demonstrated through the analysis of the corpus, one perspective on interlanguage is that, if a structure is marked in the target language, according to the Markedness Differential Hypothesis (MDH), it will be more difficult for the L2 user. In general, Givón (1991, in Haspelmath 2006: § 2.2.3) insisted that marked categories tend "to be cognitively more complex – in terms of attention, mental effort or processing time — than the unmarked". Haspelmath (2006: § 4.4) argued that marked categories, among other characteristics, are simply categories that are used less frequently, distinguishing them from unmarked categories, which seem simpler since they are "used more frequently". His claim rests on psychological literature which supports the "connection between frequency of use and ease of processing". Evidence of the overgeneralization of the naked verb stem, as a frequent or unmarked form, has been abundant.

The metalinguistic strategies apparent in the written corpus related to the syntactical subclassifications analyzed were primarily phonological saliency, the cognitive accessibility of forms that exhibit the greatest frequency or are unmarked, and uncertain or incomplete awareness of segmental constellations and parallel sentence construction. The use of the L1-influenced forms for realis and irrealis, which are patently different although they only require use of the simple present and simple past respectively, is another manifestation of a metalinguistic approach. Further awareness of periphrastic and non-periphrastic structures was manifested despite both non-target production and distribution in verb groups.

Appendix 17d unites the most relevant findings for syntactical performance in the interlanguage of Portuguese learners of English, as revealed in terms of distribution and production, in an attempt to contribute to the teaching of English syntax in Portugal. As with the guide to lexical errors in Appendix 15i, this guide to syntactic errors is not intended as a learner guide but rather a teachers' reference, especially given the metalanguage involved, although it can readily serve as a solid base for the creation of adequate learning material for young adults. In the specific case of the third person singular *–s*, however, it is important to note the question as to [w]hy… an 'easy' rule like the third person 's' is so late in finding its way into productive use" (Corder 1983a: 58).

Cullen (2008, in Fakrha 2009: 274-275) recommended comparing texts to make it "easier to focus on form and to notice and record features of grammar which might otherwise be overlooked" with the additional advantage of noticing their own linguistic gaps. Nevertheless, where Cullen advocated comparing learners' texts with other learners' texts, research on noticing and orthography previously presented (cf. Brown 1988; Jacoby & Hollingshead 1990; and Dixon & Kaminska 1997) has opened this teacher/researcher's eyes to the nefarious effects of non-target production on awareness, extensible to other linguistic areas[351]. Andrews (2007: 8) study of instruction of grammatical structures distinguished between simple rules, including subject-verb agreement, and complex structures, whose rules cannot be induced through implicit teaching, concluding that "teachers could spend the majority of their limited, grammar-teaching time on complex structures and allow the students to induct the simple rules themselves". Andrews' study has particular relevance for the students of the present study, who represent between zero and just 30 hours of instruction beyond her college-bound subjects.

[351] Anecdotally, a Secretarial Studies student suddenly began using the expression *Secretary Executive* when she had previously controlled the preceding adjective parameter perfectly; when asked why she thought she might have changed, she said, "Well I saw it somewhere recently." "Recently" meant the month before when students had been marking errors in a peer correction of a business letter in class.

Conclusions

Non-nativelikeness, the "ontological linchpin of fossilization" (Birdsong 2006: 173), has been the focus in this study coupled with the possibility of coexistence of both success and failure within an interlanguage (Han & Odlin 2006: 12). Recalling Van Lier's (2005: 201) affirmation that adult learners have consistently demonstrated "very little grammatical improvement over time" (Cf. Schumann 1978; Huebner 1983; and Ioup et al. 1995, in Van Lier 2005: 201) and adding to this Van Lier's (2005) finding that "even studies of exceptionally successful learners show a process that takes several years", then the identification of 6% fewer errors overall gains more significance in the present error analysis of interlanguage after a short module of 30 hours in Technical English for Pharmacy.

Based on a written corpus by 69 Portuguese learners of English, this study was designed to look beyond a quantitized error analysis of interlanguage to discover insights into the metalinguistic competences of young adult L2 users, at an average age of 19.8, over a short module for first and second year students at the School of Health of the Guarda Polytechnic Institute in Portugal. The longitudinal study effectively covered a total of 138 texts submitted as an initial and final report by each learner, written in conditions similar to those of the International Corpus of Learner English (ICLE) to prove the general thesis proposed by determining that Portuguese students of Science and Technology working and writing in an intensive genre-specific English for Science and Technology syllabus for a Technical English course for Pharmacy develop general writing skills and demonstrate the development of metalinguistic approaches over a 30-hour module.

Analysis of the initial report serves as the basis for a portrait which emerges of the written interlanguage of Portuguese science students after their K-12 course of study, with errors distributed among syntactic (43%), lexical (36%), and style and spelling (21%) sources. Ascribing a number of interpretations to this distribution pattern, the static portrait was distinguished from the dynamic perspective made possible by comparison of the same students' performance after 30 hours of language instruction dedicated to English for Science and Technology, in the specific context of the Pharmacy professional. The contrastive dynamic rendering of the performance of the subjects of this study revealed a thirty percent rate of change in errors for style and spelling mistakes and just a three percent rate of change for both syntactically- and lexically-related errors, although these classifications increased and decreased respectively, for a contrasting initial to final distribution pattern of 43-36-21% to 47-37-16% for the trio of *syntactic-lexical-style & spelling* errors.

The written interlanguage analyzed consisted of 28,069 words, constituting 1,311 T-units, which revealed a total of 4,143 errors. This total reflected a 42% growth in the rate of change in the number of words produced, and a corresponding increase of 17% in the number of T-units as well as a 23% rise in their mean length (MLT-U). These changes were further explored to determine that, of the three groups studied, one first and two second year groups, with average ages of 19 and 20.13 respectively, age is a significant factor for improvements,

particularly in the increase in both the number of words and T-units.

In general, with respect to overall growth in language performance, the learning context for the 30-hour module, designed around a professionally-motivated lexicon with writing genres and activities aiming to promote engagement, autonomy, and creativity within the topics selected by both the students and the teacher, provided ample opportunities within a well-established community of practice for interaction, feedback, socialization, and repeated practice, all crucial factors for SLA. Specifically, while error analysis of the interlanguage of the written corpus determined an overall error recurrence of 45% syntactic, 37% lexical, and 18% due to style and spelling; further analysis found that, in six of the ten subclassifications, representing 57% of the written corpus, errors due to collocation, pronouns, Portuguese-influenced lexical choices, style, such as repetition and punctuation, and spelling showed patent improvement over the 30-hour course. The remaining 43%, distributed among four lexical and syntactic subclassifications in which more errors were revealed in the final reports, specifically for lexical morphology and lexical choice as well as for errors of distribution and production of verbal groups, were closely examined for insights into the metalinguistic competences of these subjects.

Due to its exploratory nature, this study forged beyond identifying L1 influence on errors, established at a total of at least 39% of the syntactical and lexical subclassifications analyzed qualitatively, to reveal a myriad of highly dynamic metalinguistic approaches to syntax and word formation, the awareness of which can be productive for both learners and teachers. Among these were found a greater tendency to apply metalinguistic approaches involving phonological approaches as well as those based on spelling and morphological awareness. Perception of frequency or marked status of structures in the target language also was a prevalent strategy, particularly with regard to verbs, to which were also applied amalgamating strategies in the periphrastic construction. Issues of pragmatics and semantic prosody were also found in addition to semantic distinctions between linguistic groupings. Phonological saliency and cognitive accessibility as well as segmental constellations and parallel construction also form important sources of information for language production as does an understanding of the expression of realis and irrealis in the target language. Final metalinguistic strategies involved evidence of reflectivity on the (non)periphrastic structure and use of linguistic redundancy.

Cook (1991, in Madeira 2008: 201) affirmed that "[m]ore information about how learners actually learn helps the teacher to make any method more effective". As such, several tables and figures have been proposed to contribute to a better understanding of the metalinguistic approaches which are identifiable in the performance of Portuguese young adult learners of English, notably Appendix 15i and Appendix 17d, respectively a lexical and a syntactical error reference guide. In addition to the numerous tables itemizing, and ranking the relevance of types of errors amongst the lexical and syntactically-related subclassifications which were selected for detailed analysis on the basis of their characteristic lack of improvement over the 30-hour course, a number of others have been proposed to contribute further to the

teaching profession. Among these, Appendix 15h details and ranks conjunction error sources and their targets while Appendix 15f does the same for the verbs *do* and *make*. Appendix 15d reveals some notional semantic errors and both Appendix 15b and Appendix 15c deal with prepositions, the first ranking the top ten error sources and targets for prepositions and the second proposing an illustrated explanation of temporal and spatial relations using *in-on-at*.

Learner awareness can be cultivated in all of the areas analyzed although this depends in part on the orientation of the language teacher. For example, the teacher, in conjunction with the students, will find it essential to first establish a clear basis of terminology with which to teach target grammar conventions, successfully blending textual illustrations with kinesthetic, visual, and oral explanations and examples. The actual performance of students of English should be a constant source of information for close analysis to determine where improvements can be made. Since metalinguistic and metacognitive training are known to make a difference in language learning, these areas present themselves as well worth the classroom time.

As such, the revelations of metalinguistic, reflective approaches have been interwoven with a number of suggestions for best practice in the classroom based on the specific insights from Portuguese-English interlanguage as revealed in writing. Chief among these is the all-important cultivation of teacher awareness of learning that transcends habit formation, a powerful realization that can alter teacher views on the use of corrective feedback, activity design, and the contextualization of teaching grammar. This awareness can also serve to promote a more contemplative approach to vocabulary instruction given a greater understanding of the developing lexicon in the L2 user. The complexity and creativity involved with an approach to language learning which is seen as recursive in nature involves a clearly distinct set of expectations from language learners; rather than a product-based approach for writing and for language acquisition, the process and post-process approaches in writing already reflect what a position informed by learner language results makes evident, which is that language learning does not take place on a pure unidirectional continuum. Instead, learner progress measured overall reveals an increasing willingness not only to communicate but also to take risks at revealing non-nativelikeness in that very communication. And with risk comes error, in a great variety of forms, but which is not exclusively developmentally related, deriving largely from the crucial role of cognition in language.

The reflexive nature of language learning, including manipulation of language objects and the objects themselves, can only be enhanced by the creation of language learning materials which are meaningful to the learners. This relevance can include topics which are stimulating and unfamiliar, as the unknown is transformed into something new and provocative. In the case of students who are learning under the auspices of English for Specific Purposes, this is a more obvious objective which the students will appreciate for corresponding to their immediate and long-term needs. In levels through 12th grade, the topics of choice are less obvious but it seems worthwhile to try to improve the breadth of topics to which these

younger students are exposed in their language learning texts to perhaps better contextualize their learning and promote more cognitively challenging experiences. These would involve other higher level metalinguistic tasks employing creativity and reorganization of information as well as the translinguistic task of translation in keeping with a recursive, spiral model of non-linear interlanguage development, with its constant interaction of bottom-up and top-down cycles of perception and learning.

Self- and peer-assessment, group work, moderation of debates and discussions, regular and effective corrective feedback, peer tutoring, and a greater effort to teach through problem-based learning are just some of the other reflective practices that can be encouraged through teaching in general although their application in language teaching has long been a constant reality in some motivating language classrooms. Nevertheless, the assessment-driven nature of teaching in general and the overwhelmingly modular system of stand-alone lessons that can but do not always discourage links between learning events are direct barriers to reflective practice, which ultimately has the potential to make the most of an educational activity while it "sets the scene for and creates life-long learning; maximizes personal and economic potential, [and] enhances employability and enterprise skills" (Philip 2006: 37).

Certainly Portugal, as a nation intent on producing English users based on current education policy offering cultural enrichment classes in English at the first grade level, should be vested in considering the competence desired in these L2 users. The students of this study had been given very few opportunities to perform in English — whether orally or in writing — interacting with their book and their teacher but rarely with each other. Giving students more opportunities to perform in L2 will contribute to their status as true L2 users instead of limiting the use of their interlanguage to test-taking and the execution of workbook exercises in the classroom. The opportunity to flex the linguistic memory, to engage in a spontaneous conversation, and to write a text for more than the once-a-period exam is essential for L2 users. With more regular practice, communicative sensitivity and metapragmatic skills will thus receive further attention, coupled with exercising "the dominant function of grammar [as] social rather than cognitive or communicative" (James 1986).

While there are surely other reasons, primary among them may be lack of confidence on the part of teachers about revealing their own performance in the target language. Beyond performance is the confidence necessary to expose oneself, as a teacher, to the myriad of doubts that the thinking language learner will have and for which the teacher, more often than one would like, will not know the answer. The teacher's competence, and willingness to venture beyond the book, can be greatly assisted by the constant study of language corpus articles to understand just how the target language is used as well as enhanced study to gain a firm basis in contrastive analysis of the L1 and the L2 in the case of homogeneous L1 classrooms. Specifically, Casanova's (2006) contrastive approach for Portuguese learners of English can be greatly informative to the perplexed and Gozdawa-Gołębiowski's (2003, in Paradowski 2007) Language Interface Model may present an appealing form for engaging the

learners in an approach which explicitly values the learners' L1.

Furthermore, when observing and more closely analyzing learner error with an objective, teachers must resist the temptation to defensively affirm, "But I've taught them that already." From a cognitive and social perspective, well-founded in both L1 and SLA research, a single lesson is not sufficient exposure to the target language for changes in the learner interlanguage system to take place. Instead, the slow, non-linear process that is SLA can only be affected gradually and cumulatively through instruction. Other factors, such as the learners' social context and perceived support, attentiveness, awareness, intentionality, consciousness of control, and curiosity, are beneficial to the language learning process as is recourse to teaching/learning strategies involving mnemonics and visual and physical stimulation of target language structures.

For further research, investigation into the specific methods which can affect greater change in the syntactic and lexical subclassifications identified in this study would contribute greatly toward preparing students for university studies which include reading and English use in general, as is the current case in the areas of Science and Technology. More studies, of the type demonstrated in the project at hand, to assess changes in the learner interlanguage system, although time-consuming, may contribute to revealing just what L2 users are doing so that the information can be applied in the classroom. Following a group of learners over a long period would also provide interesting insights. It would also be fruitful to study the other side of the coin, that is, the subclassifications in which improved performance was identified, especially for the pragmatic and semantic aspects of both clearly L1-influenced errors and linguistic redundancy and for the syntactic information which would be revealed with respect to collocation and pronoun-related errors. Regardless of the focus on specific types of errors, a fundamental guiding perspective must be that of going beyond the error classification; instead, the detailed analysis of the learner activity which contributed to these errors, contextualized in the interlanguage, can effectively create more appropriate learning materials and help teachers to acquire a better understanding of the metalinguistic approaches at work in their students.

Young adult L2 users of English in Portugal, however, are multilingual, in most cases having learned more than one foreign language in school. A perspective to follow in future research will necessarily cover metalinguistic awareness in multilinguals which, in turn, will necessarily take into account Jessner's (1999) Dynamic Model of Multilingualism and the growing literature on third language acquisition (cf. Cenoz & Jessner 2000; Jessner 2008; Suisse 2011). The crosslinguistic interactions to be identified, then, should reveal "linguistic and cognitive transfer phenomena with non-predictable dynamic effects of a synergetic and interferential nature which determine the development of the multilingual system" (Jessner 2008: 7). Other multilingual approaches are encompassed by Klein's (2003) EuroCom or European Comprehension project (www.eurocom-frankfurt.de). While the German versions of this ambitious site providing lexical, semantic, and syntactic data for Slavic, Germanic, and Romance language have been concluded, the others await development.

Now approaching a century ago, Bloomfield (in Yang 2006: 8) remarked that learning a language "is doubtless the greatest intellectual feat any one of us is ever required to perform"[352]. In this vein, and as a tribute to the cognitive adventure that language represents, the present study of writing by Portuguese Pharmacy Technician students of English in higher education has attempted to contribute to the field of language teaching, particularly in the development of practices and material that are contextualized by the learners' identified needs as well as a more and better-informed foundation on which to build language policy.

[352] Chomsky, too, would have agreed with this aspect of language (in Yang 2006: 8).

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Appendixes

Appendix 1

1a. Some criteria for error classification

Source: Original table based on Corder (1967) and Norrish (1983)

Type of criteria	Type of error
linguistic	addition
	omission
	false selection
	false collocation
	juxtaposition
etiological	intralingual
	interlingual
	simplification
communicative	ambiguity
	irritating
	stigmatizing
pedagogical	induced v. creative
	transitory v. permanent
	fossilized v. "fossilizable"
	individual v. collective
	written production v. oral production

1b. Types of intralinguistic and developmental errors

Source: Based on Richards (1971/1974: 174-181)

Type of intralinguistic error	Context
Overgeneralization	Based on some L2 structures, other structures are created that deviate from the norm
Ignorance of rule restrictions	Rules are applied in incorrect contexts
Incomplete application of rules	Errors produced in attempting to develop a structure completely
False concepts hypothesized	The distinction between L1 and the target language has not yet been understood.

1c. Contrasting terms in cognitive/complex systems

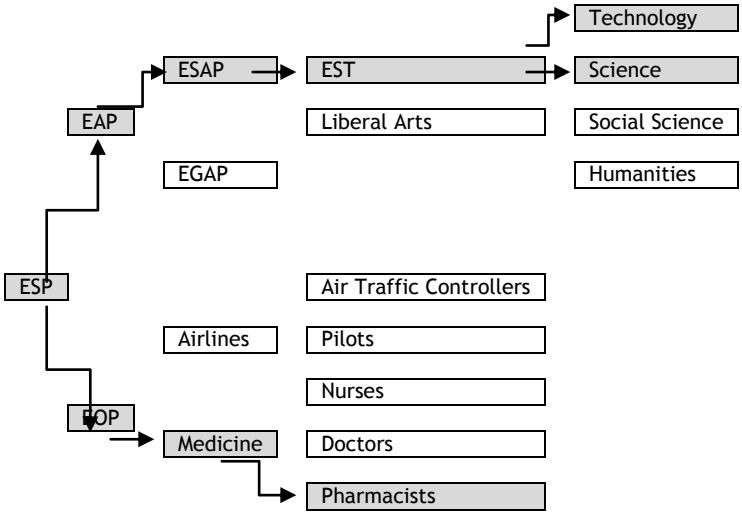
Source: Thornbury (2009c)

Cognitive paradigm	Sociocultural/ecological/complex systems paradigm
input	affordances, usage
output	talk, usage
interaction	co-construction
acquisition	appropriation
error	non-standard form
interlanguage	ELF (English as a Lingua Franca)
fossilization	partial competence
motivation	Investment
learner	(multilingual) user
teacher	learning manager

1d. English for Specific Purposes (ESP) hierarchy with examples of courses

Source: Adapted from Clapham (1996: 4 figure 1.1)

(shading refers to the context of the Technical English course for Pharmacy Technicians of this study)



Key –
ESP: English for Special Purposes
EAP: English for Academic Purposes
ESAP: English for Special Academic Purposes
EST: English for Science and Technology
EGAP: English for General Academic Purposes
EOP: English for Occupational Purposes

1e. English language/communication skills requirements in professional situations

Source: Adapted from Viel (2002, based on Huhta 1999)

Ranking of relevance for Engineers	Communication situations	Relevance for Technicians (%)
3	Social situations (introduction, small talk)	80
11	Reading manuals, instructions	78
2	Travel	71
8	Discussion on deliveries, installation, maintenance	60
9	Analyzing, solving problems	60
7	Describing a process or working methods	57
4	Routine telephone calls	52
1	Talking about oneself and one's work	48
5	Client contacts	42
6	Hosting visitors visiting companies	40
13	Writing email messages, faxes, notes	28
16	Meetings, negotiations	26
12	Reading Company documentation	24
10	Tutoring a new employee	22
14	Writing, documents	20
15	Giving a presentation	20

1f. Some Portuguese language corpora

Language Corpora	Language Focus
Lácio-Web[353]	General Portuguese
CorTec, COMET — *Corpus* Multilíngüe de Ensino e Tradução[354]	Specialized Portuguese
CorTrad COMET project	Parallel corpora (original text + translation)
COMPARA[355]	Parallel corpora (original text + translation)
Br-ICLE[356]	The Brazilian Portuguese Sub-corpus of ICLE
Banco do Português[357]	Contemporary Brazilian Portuguese
CETENFolha — *Corpus* de Extractos de Textos Electrónicos NILC/Folha de S. Paulo[358]	Brazilian Portuguese from the newspaper *Folha de S. Paulo*
TychoBrahe[359]	Historic Portuguese written texts
CoMAprend — *Corpus* Multilíngüe de Aprendizes[360]	Brazilian Portuguese learners of not only English but also German, Spanish, French, and Italian.

[353] Lácio-Web can be consulted at http://nilc.icmc.usp.br/lacioweb

[354] CorTec and CorTran, each part of the COMET project, can be consulted (limited access) at http://www.fflch.usp.br/dlm/comet

[355] COMPARA can be consulted at http://www.linguateca.pt/COMPARA

[356] Br-ICLE can be consulted at http://www2.lael.pucsp.br/corpora/bricle/index.htm

[357] Information about the Banco do Português, with 223 million words in 2004, can be consulted at http://www2.lael.pucsp.br/corpora/bp/index.htm

[358] CETENFolha, with 24 million words from Brazilian Portuguese, and CETENPúblico, with over 190 million words from Continental Portuguese, along with the project, AC/DC — Acesso à Corpora/Disponibilização de Corpora, which boasts a total of more than 374 million words in both Continental and Brazilian Portuguese, can be consulted at http://www.linguateca.pt/ACDC/. From this site, others can be accessed to search the various data bases, such as http://www.linguateca.pt/cetenfolha/

[359] Tycho-Brahe, covering written Portuguese texts from authors born between 1380 and 1845 for a total of nearly 2.5 million words, can be consulted without restrictions at http://www.tycho.iel.unicamp.br/~tycho/corpus/index.html

[360] CoMAprend can be consulted (limited access) at http://www.fflch.usp.br/dlm/comet/comaprend.html

1g. Approaches to L2 writing instruction

Source: Original compilation based on Raimes (1991) and Silveira (1999)

Approach	Context	Audience	Objective	Writing is…
Controlled Composition	Classroom	Teacher	Formal Accuracy Practice Vocabulary	A means of assessing manipulation of structures practiced
Current-Traditional Rhetoric	Classroom	Teacher	Text organization	The use of prescribed patterns[361]
Process Approach[362]	Varied The writers themselves undergoing a process while composing	Varied Unspecific	Holistic concept of the composing process Unspecific	A complex, recursive, and creative process, considered to convey meaning
English for Specific Purposes[363]	Specific, e.g. academic or business world	Pre-defined readers	To produce written texts that will be accepted by experts Recreate the conditions or the actual writing tasks or genres	Concerned with the reader's reaction towards the written text.

[361] Silva (1990: 13) referred to writing in the Current-Traditional Rhetoric as "a matter of arrangement".

[362] The process approach is theoretically founded on Flower and Hayes' (1981) model.

[363] Silveira (1999: 110-11) included in the orientation of ESP the Task-Based Approach and English for Academic Purposes.

Appendix 2

The Pharmacy Degree (1st cycle) in 12 Institutes of Higher Education in Portugal 2010-2011

Source: Adapted from http://www.acessoensinosuperior.pt/indcurso.asp?curso=9549&frame=1

Institutes of Higher Education in Portugal offering a Pharmacy Degree	ECTS of English in the curricular study plan	Maximum new 1st year students 2010-11	Approx. total students in a year
Instituto Politécnico de Bragança — Escola Superior de Saúde de Bragança	0	40	120
Instituto Politécnico de Coimbra – Escola Superior de Tecnologia da Saúde de Coimbra	0	30	90
Instituto Politécnico da Guarda — Escola Superior de Saúde da Guarda	3[364]	30	90
Instituto Politécnico de Lisboa – Escola Superior de Tecnologia da Saúde de Lisboa	0	35	105
Instituto Politécnico do Porto — Escola Superior de Tecnologia da Saúde do Porto	0	60	180
Universidade do Algarve — Escola Superior de Saúde	0	25	75
Escola Superior de Saúde Egas Moniz	0	50	150
Escola Superior de Saúde Jean Piaget — Algarve	0	30	90
Escola Superior de Saúde Jean Piaget de Vila Nova de Gaia	0	30	90
Escola Superior de Saúde Ribeiro Sanches	0	50	150
Instituto Politécnico de Saúde do Norte — Escola Superior de Saúde do Vale do Ave	0	50	150
Instituto Superior de Saúde do Alto Ave	0	50	150
Approximate number of students studying Pharmacy		480	1440

[364] These 3 ECTS credits are half of the total 6 credits attributed to Information and Communication Technologies, where one module is Technical English and the other is Computers.

Appendix 3

Common European Framework of Reference for Languages (CEFR)

Retrieved 3 January 2011 from
http://www.coe.int/T/DG4/Portfolio/?L=E&M=/documents_intro/Self-assessment-grid.html

2.

3.

Understanding: Listening

A1	A2	B1	B2	C1	C2
I can recognize familiar words and very basic phrases concerning myself, my family and immediate concrete surroundings when people speak slowly and clearly.	I can understand phrases and the highest frequency vocabulary related to areas of most immediate personal relevance (e.g. very basic personal and family information, shopping, local area, employment). I can catch the main point in short, clear, simple messages and announcements.	I can understand the main points of clear standard speech on familiar matters regularly encountered in work, school, leisure, etc. I can understand the main point of many radio or TV programs on current affairs or topics of personal or professional interest when the delivery is relatively slow and clear.	I can understand extended speech and lectures and follow even complex lines of argument provided the topic is reasonably familiar. I can understand most TV news and current affairs programs. I can understand the majority of films in standard dialect.	I can understand extended speech even when it is not clearly structured and when relationships are only implied and not signaled explicitly. I can understand television programs and films without too much effort.	I have no difficulty in understanding any kind of spoken language, whether live or broadcast, even when delivered at fast native speed, provided. I have some time to get familiar with the accent.

Understanding: Reading

A1	A2	B1	B2	C1	C2
I can understand familiar names, words and very simple sentences, for example on notices and posters or in catalogues.	I can read very short, simple texts. I can find specific, predictable information in simple everyday material such as advertisements, prospectuses, menus and timetables and I can understand short simple personal letters.	I can understand texts that consist mainly of high frequency everyday or job-related language. I can understand the description of events, feelings and wishes in personal letters.	I can read articles and reports concerned with contemporary problems in which the writers adopt particular attitudes or viewpoints. I can understand contemporary literary prose.	I can understand long and complex factual and literary texts, appreciating distinctions of style. I can understand specialized articles and longer technical instructions, even when they do not relate to my field.	I can read with ease virtually all forms of the written language, including abstract, structurally or linguistically complex texts such as manuals, specialized articles and literary works.

Speaking: Spoken Interaction

A1	A2	B1	B2	C1	C2
I can interact in a simple way provided the other person is prepared to repeat or rephrase things at a slower rate of speech and help me formulate what I'm trying to say. I can ask and answer simple questions in areas of immediate need or on very familiar topics.	I can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar topics and activities. I can handle very short social exchanges, even though I can't usually understand enough to keep the conversation going myself.	I can deal with most situations likely to arise whilst travelling in an area where the language is spoken. I can enter unprepared into conversation on topics that are familiar, of personal interest or pertinent to everyday life (e.g. family, hobbies, work, travel and current events).	I can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible. I can take an active part in discussion in familiar contexts, accounting for and sustaining my views.	I can express myself fluently and spontaneously without much obvious searching for expressions. I can use language flexibly and effectively for social and professional purposes. I can formulate ideas and opinions with precision and relate my contribution skillfully to those of other speakers.	I can take part effortlessly in any conversation or discussion and have a good familiarity with idiomatic expressions and colloquialisms. I can express myself fluently and convey finer shades of meaning precisely. If I do have a problem I can backtrack and restructure around the difficulty so smoothly that other people are hardly aware of it.

Speaking: Spoken Production

A1	A2	B1	B2	C1	C2
I can use simple phrases and sentences to describe where I live and people I know.	I can use a series of phrases and sentences to describe in simple terms my family and other people, living conditions, my educational background and my present or most recent job.	I can connect phrases in a simple way in order to describe experiences and events, my dreams, hopes and ambitions. I can briefly give reasons and explanations for opinions and plans. I can narrate a story or relate the plot of a book or film and describe my reactions.	I can present clear, detailed descriptions on a wide range of subjects related to my field of interest. I can explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.	I can present clear, detailed descriptions of complex subjects integrating sub-themes, developing particular points and rounding off with an appropriate conclusion.	I can present a clear, smoothly-flowing description or argument in a style appropriate to the context and with an effective logical structure which helps the recipient to notice and remember significant points.

Writing

A1	A2	B1	B2	C1	C2
I can write a short, simple postcard, for example sending holiday greetings. I can fill in forms with personal details, for example entering my name, nationality and address on a hotel registration form.	I can write short, simple notes and messages relating to matters in areas of immediate needs. I can write a very simple personal letter, for example thanking someone for something.	I can write simple connected text on topics which are familiar or of personal interest. I can write personal letters describing experiences and impressions.	I can write clear, detailed text on a wide range of subjects related to my interests. I can write an essay or report, passing on information or giving reasons in support of or against a particular point of view. I can write letters highlighting the personal significance of events and experiences.	I can express myself in clear, well-structured text, expressing points of view at some length. I can write about complex subjects in a letter, an essay or a report, underlining what I consider to be the salient issues. I can select style appropriate to the reader in mind.	I can write clear, smoothly-flowing text in an appropriate style. I can write complex letters, reports or articles which present a case with an effective logical structure which helps the recipient to notice and remember significant points. I can write summaries and reviews of professional or literary works.

Appendix 4

4a. Sample SafeAssign™ Report of initial and final reports (1a and 1b)

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Paper Information

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Paper Text

My name is Ana Anselmo. I have nineteen years old and I'm from Aveiro, more specifically, in Ílhavo. In this moment, I study in Escola Superior de Saúde da Guarda in the course of Pharmacy.

I can say that I know English because I had this language seven years in school. However, sometimes, I feel some difficulties to understand and pronounce some words.

At the moment, I think the English one of the languages more used in the world of science, where we can introduce the Pharmacy. In this year, I would like to learn more about English because is one of the several languages necessary to contact and talking by many people with different nationalities that use the Pharmacy where I work. In the presents

world, all of people envolved in science can't escape to the English sphere because the aim of science is to be divulgate in all world and so that the scientist write all the articles in English.

In my opinion, I think that English is one of the more common languages in the world of science, specially in technology, that includes Pharmacy. Therefore, the English classes that I have were very important to my development while a person and as a future pharmacy technician.

In these classes, I have the opportunity and the possibility to learn some technical English which include the name of some medicines, pharmaceutical forms, chemistry lab equipment and the meaning of pharmacy terms. For other hand, the teacher gives me some homework, during the classes, that I considered very interesting and useful because they help me to understand better the language and others words that I don't understand so well and improve my development in writing with the correction of the same due to the fact that I can see how some words are written correctly.

For example, in the first assignment that I need to do, I wrote that I would like to learn more about English because I think that it is one of the languages necessary to communicate with many people of different nationalities, and I believe that I learned more that I expect.

These classes permit, also, the development of my language skills because in these I spoken in English and with the help of the teacher I can improve my speaking.

All these classes were very important to me because now I feel that I have more knowledge that I can use in my future.

4b. Subjects in the study

Groups	Subject identification	Subjects eliminated	N.° of valid subjects
1	1-23	—	23
2	24-48	n°.s 46, 47, 48	22
3	49-73	n°. 64	24
Total	73	4	69

Appendix 5

Course Curriculum

Escola Superior de Saúde

Instituto Politécnico da Guarda

PROGRAMA DE UNIDADE CURRICULAR

Curso	**Curso de Farmácia**				*Ano lectivo*	2008/2009
Ano Curricular	**1º Ano**	*Semestre*	**1º**	*Horas de trabalho*		*ECTS*
				Total	*Contacto*	
Unidade Curricular	**Tecnologias da Informação e Comunicação**			162	**TP:45 PL:15 OT:6**	6
Regime	**Obrigatório**					
Docente(s)	**Maria del Carmen Arau Ribeiro e Rui Pedro Marques Pereira**					
Regente/ Coordenador	**Prof. Samuel Walter Best / Prof. José Carlos Martins da Fonseca**					

1. OBJECTIVOS DA UNIDADE CURRICULAR E COMPETÊNCIAS A ADQUIRIR

A unidade curricular é composta por duas componentes: Tecnologias de Informação e Inglês.

- Proporcionar aos alunos a aquisição de conhecimentos gerais sobre tecnologias de informação.
- Como disciplina de Inglês com Fins Específicos, e neste contexto este fim sendo claramente Técnico (da área de Farmácia), esta pretende transmitir aos alunos a capacidade de comunicar, por vias escrita e oral, no mundo cada vez mais dependente da língua inglesa. A unidade assim aborda sobretudo a área de expressão ligado ao meio profissional mais directo, contando com os conteúdos programáticos abaixo descritos, sempre em contacto com as necessidades desta área profissional, em termos lexicais, mas bem enraizada nas exigências de um inglês correcto, incluindo a sua gramática, pronúncia, normas de escrita, e um bom entendimento da sua cultura.

2. CONTEÚDOS PROGRAMÁTICOS

- **TECNOLOGIAS DE INFORMAÇÃO**

Conceitos gerais de informática – hardware e software
Introdução à arquitectura dos computadores e seus periféricos
Sistemas operativos
Redes de computadores
Aplicações informáticas
Bases de dados
Internet
Informática e a sociedade

- **INGLÊS**

Qualificação da actividade de farmácia no mundo anglófono e em termos do uso de inglês internacional
Caracterização dos clientes
Caracterização do local de trabalho
Descrição de hábitos, rotinas e responsabilidades nos locais de trabalho típico da profissão
Descrição de produtos, a sua embalagem e os seus efeitos
Análise estrutural e linguístico de artigos científicos
Conhecimento das organizações mundiais ligadas à farmácia bem como as associações profissionais internacionais
Investigação sobre cursos de farmácia em países de expressão inglesa para melhor conhecer as disciplinas e áreas científicas ligadas à profissão
Elaboração do currículo profissional no formato Europass
Preparação de uma carta de apresentação para acompanhar o Europass

3. BIBLIOGRAFIA

- **TECNOLOGIAS DE INFORMAÇÃO**

Campos, L., *Iniciação ao Computador Pessoal*, Editorial Presença.
Costa, M., *Noções de Informática*, Plátano editora.
Ferreira, A., *Encontrar a Informação Certa na Web*, FCA editora.
Introdução ao Windows XP, Microsoft.
Livro Verde para a Sociedade da Informação, Missão para a Sociedade da Informação/Min. Da Ciência e da Tecnologia.
Lopes, J., *Introdução à Informática e Computadores*, Editorial o Livro.
Monteiro, E., Boavida, F., *Engenharia de Redes Informáticas*, FCA editora.
Pereira, J.L., *Tecnologia de Bases de Dados*, FCA editora.
Sousa, M., *Domine a 110% Excel 2003* , FCA editora.
Sousa, M*., Fundamental do PowerPoint 2003*, FCA editora.
Sousa, S., Sousa, M., *Microsoft Office XP*, FCA editora.
Vaz, I., *Domine a 110% Word 2003*, FCA editora.

- **INGLÊS**

Swan, Michael and Catherine Walter. *The Good Grammar Book*. Oxford University Press, 2001.
Swan, Michael and Catherine Walter. *How English Works*. Oxford University Press, 1997.
Actividades originais da autoria do docente para execução multimédia, nomeadamente tradução de léxico específico, WebQuests da área de Farmácia e audição guiada em ficheiros MP3
Referências recentes e informáticas, incluíndo, entre outros, www.englishmed.com e www.pharmacist.com

4. MÉTODOS DE ENSINO E AVALIAÇÃO

A avaliação terá o peso de 50% por cada componente da unidade curricular (Tecnologias de Informação e Inglês Técnico). A reprovação numa das componentes avaliadas implica a elaboração de um exame à unidade curricular completa.

- **TECNOLOGIAS DE INFORMAÇÃO**

Uma prova Teórico/Prática

- **INGLÊS TÉCNICO**

A abordagem teórico-prática terá sempre como base uma metodologia holística, contemplando as competências iniciais individuais e gerais da turma, apuradas através de um teste diagnóstico. O arco de ensino-aprendizagem a seguir, que irá contemplar sempre as vertentes de expressão oral individual e interactiva bem como expressão escrito e compreensão oral e escrita (leitura), baseia-se na participação plena do aluno que, sempre mediante uma preparação prévia de leitura, escrita e/ou investigação guiada e livre, encontrar-se-á a simular situações de foro profissional no âmbito da cultura e língua inglesa, debatendo e analisando as melhores soluções comunicativas e adquirindo competência linguística para pô-las em prática. As soluções e competências serão sempre aplicadas por via escrita para consolidar e verificar o nível da sua aquisição.

A avaliação será contínua, sendo obrigatório a presença do aluno na aula de modo a poder ser avaliado tanto através da qualidade do seu empenho na aula e na elaboração de investigação e trabalhos para efeitos de melhoria em língua inglesa como através de eventuais mini-testes escritos. Os trabalhos escritos, reunidos no Portfolio Individual de Inglês, poderão incluir exercícios de gramática, vocabulário, diálogos escritos, estudos de casos e relatórios de investigação que demonstram efectivamente que o aluno adquiriu a competência de manusear as ferramentas de pesquisa numa língua estrangeira. Todos os trabalhos do Portfolio terão um *feedback* individual, sendo corrigidos pelo docente, para serem de seguida aperfeiçoados pelo aluno, atendendo os comentários e sugestões, para uma melhoria contínua das competências linguísitico-cultural.

O desenvolvimento do Portfolio será complementado por um forte vertente oral espontâneo exigido em cada aula, assim como apresentações preparadas, em grupo e individual, e discussão de temas específicos ligadas à futura profissão. Assim, a participação activa e sempre actualizada (50%), aplicando as competências línguístico-comunicativas adquiridas sucessivamente de modo cada vez mais eficaz, será a base da nota a atribuir, apoiado nos trabalhos escritos do Portfolio (50%) que demonstram uma aquisição de competências.

No caso do aluno não ter elementos para a nota de participação, este terá a nota em Inglês Técnico calculada da seguinte maneira: Exame escrita (50%) + Portfolio (50%).

Appendix 6

6a. Identification and description of writing topics

Activity	Description
*	an Initial report on the learner's personal development story related to language learning, in general, and learning English, specifically, and projecting expectations and proposing objectives for the 30-hour class;
a	an assertive, problem-solving dialogue to assess the state of a belligerent pharmacy client;
b	analysis of a detailed medicinal product label;
c	a proposal (written description) for the design structure of the ideal community or hospital pharmacy;
d	a detailed report on a professional Web site, selected at the discretion of the learner, of general or specific interest to the class;
e	synthesis of three technical articles, also selected at the discretion of the learner;
f	a detailed, personal, professional quality Europass CV
**	a final report, qualitatively assessing individual learner participation and progress in reaching the objectives of the curricular unit.

6b. Writing-related activities distributed over fifteen classes

Class/activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
T assign topic/brainstorm	*		a		b		c		d		e		f		**
Present/assess 1st draft group		*		a		b		c		d		e		f	
group assess T indications			*		a		b		c		d		e		f
Read/assess 2nd draft group				*		a		b		c		d		e	
Read aloud					*		a		b		c		d		e

* Initial report in the first class. The Initial Report, as was clearly indicated to the students, was not considered for attribution of final grades, serving instead as a marker of the learners' initial interlanguages.

** The final report was also not a component of final grades, yet, unlike the Initial Report, it was neither subjected to peer assessment nor was it rewritten through the activities identified for the other assignments.

Appendix 7

Error classification and subclassification code

Code	Description
SYN	Syntactically-related errors
Inf	Production of verb group errors
TAM	Distribution of verb group errors
Clc	Collocation error
Prn	Pronoun-system derived error
LEX	Lexically-related errors
Lxl	Lexical error
LxM	Lexical-morphological error
Prt	Portuguese lexical interlingual errors
S&S	Style and spelling errors
Rpt	Repetition error
Pnc	Punctuation error
Spl	Spelling error

Appendix 8

8a. Original initial and final reports

1a.

My name is Ana Anselmo. I have nineteen years old and I'm from Aveiro, more specifically, in Ílhavo. In this moment, I study in Escola Superior de Saúde da Guarda in the course of Pharmacy. I can say that I know English because I had this language seven years in school. However, sometimes, I feel some difficulties to understand and pronounce some words.

At the moment, I think the English one of the languages more used in the world of science, where we can introduce the Pharmacy. In this year, I would like to learn more about English because is one of the several languages necessary to contact and talking by many people with different nationalities that use the Pharmacy where I work. In the presents world, all of people envolved in science can't escape to the English sphere because the aim of science is to be divulgate in all world and so that the scientist write all the articles in English.

1b.

In my opinion, I think that English is one of the more common languages in the world of science, specially in technology, that includes Pharmacy. Therefore, the English classes that I have were very important to my development while a person and as a future pharmacy technician.

In these classes, I have the opportunity and the possibility to learn some technical English which include the name of some medicines, pharmaceutical forms, chemistry lab equipment and the meaning of pharmacy terms. For other hand, the teacher gives me some homework, during the classes, that I considered very interesting and useful because they help me to understand better the language and others words that I don't understand so well and improve my development in writing with the correction of the same due to the fact that I can see how some words are written correctly. For example, in the first assignment that I need to do, I wrote that I would like to learn more about English because I think that it is one of the languages necessary to communicate with many people of different nationalities, and I believe that I learned more that I expect. These classes permit, also, the development of my language skills because in these I spoken in English and with the help of the teacher I can improve my speaking. All these classes were very important to me because now I feel that I have more knowledge that I can use in my future.

2a.

Hello! My name is Catherine. I have 19 years old. I was bor a 10 of November of 1988 in Paris, France. I lived in France 10 years. After, my parents, José and Ana, my sister Sandra and me came to back for Portugal. Everybody question me likes more Portugal or France. I respond always Portugal. Now, I live in a small village, the Póvoa de Lanhoso. It's small but has everything I need. My house is a normal house and I like so much. I loved to be in house with my family watching TV. Now, I'm study Farmácia in the Escola Superior de Saúde da Guarda. I'm in the second year. This a diferent experience, very good because we want new responsabilities. We grow. In the high school, I only had 3 years of English. It was little and insuficient because I don't learn very thing. I lear so basic: names, colours, months, verbs and basic gramatic. In the secundário I choised study French because I was living in France very time. But, the English is a very important language today! The English is presents everywhere: TV, music, cinema, work, vacantion, books, everything. This year, I think that I learn, very news things and adquire bastantes conhecimentos. The first class was very cool and very productive. The teacher has a metods of learn very intersting. I think that the classes are very interactives, interstings and funny and I know that I learn very, well, I find that so.

2b.

During all these classes, my knowledge about English has developed and perfected. Initially my knowledge about English was basic. Now I perfected my knowledge and acquired new sskills very important for our future as pharmacy technician, for example, prepare a curriculum, to read and understand articles, be capable to write letters to compete with job procure as well as things simples things as knowing the names of materials used in the laboratory and a pharmacy.

I think the work proposed by the teacher is very good to develop our capabilities and we don't forget that without work and effort is not achieved anything. Another point made by the classes was searching sites about our future profession, followed oral presentation for the class. I can not say that I did not like this work but talk for everybody with a language they do not our language know something was a little difficult. We have also made lighter work; for example, search a song with the lyrics in English, after making the translation into Portuguese.

This serves to show that English don't use lonely in formal occasions but to in informal occasions and is present in our day-to-day. We also did a very interesting work, which us make a presentation about medicines. I think the classes very cool, the teacher learn very well and make us repeat as necessary. The works were also interesting and helps in the development of my skills and knowledge. Frankly, I think that my Technical English is much better and can meet the challenges that my future profession will bring me.

3a.

My name is Daniela Faustino and I am twenty years old. I started to learn english when I was ten years old, in fifth class, and I finished in tenth-one class. I studied english for seven years. Even the none class, english was obligatory in our course. At the thenth class we had to choose one language to studie, and I choose english because I think that it is an universal language that give me the possibility to reach news experiences. After this, I stoped to contact english unfortunately but when I go to the university I felt necessity improve my english. Whith this class I hope learn more about english in order to be a good professional.

3b.

These thirty hours of technical English, for me, was very grateful in the way that I learned very about my professional future. I learned a lot of vocabulary that was very important for my knowledge and my pharmacy technician carrier. In these classes I did all the assignments that were proposed by the teacher, and in my opinion it was a good method of evaluation for us. Made the assignments and corrected them was a way for my development seeing my wrongs.

On the ends of these classes my personal skills and competences were better because remembered and learn more about speaking, understanding and writing. So, based on my CV, my level of technical English was:

In writing: A2

In speaking: to spoken interaction – A1; to spoken production – A2

In understanding: to listening – B2; to reading – B1

My oral presentation was good for me because I practice my spoken English with people listen me and interaction with me. But I know that I had some difficulties to transmit my ideas for the class.

I like to say thanks for my English teacher, Maria, which was a very good teacher that helps me to learn many thinks and very interesting for my training as a Pharmacy Technician. On the other hand, the teacher is a very good person, is dynamic and very fine for the class. I agree withe the method used to teach in classes, because learn and develop a lot with works. Although is a tiered method for the student and for the teacher, it is very good.

In concluding, Technical English is very important for our degree as a Pharmacy Technician because we learned how to speak with patient over the counter of a pharmacy, and for interpretation of labs etc… My congratulations to teacher Maria for your excellent work.

4a.

Of all foreign languages of which I am knowledgeable, English is the one I like the most. I studied in a private school, and because of it, I have studied English since my first class. By this time, I learned simple vocabulary, such as, the colours, the school supplies and the alphabet. We used to sing songs and watch movies. From my fifth to ninth class I learned not only grammar but I also deepen my vocabulary related to various themes. Late on my tenth and eleventh class I studied the culture of United Kingdom, the differences between British English and American English, and it was more based in writing essays about social problems that we face every day. I also analysed some tales in English and studied some poems.

In this year, I hope I get to learn more vocabulary directly related to my area (pharmacy), and I personally would like to learn more about England's culture because it is a dream of mine to live there. In my opinion, English is very important mostly because it is a global language and in conferences and in our professional life we will meet a lot of people that do not speak our mother language, so it is crucial that we have at least the basic of this language as it will facilitate our communication with the world.

4b.

I thought my technical English improved a lot since the first lesson: I noticed that in the analysis of research articles, where I felt that I understood must better their content. What I liked the most in the English classes were the lessons where we had the opportunity to examine the medicines and train the vocabulary to use in community pharmacy. I found very interesting the comparison between our pharmacy system and the United States one. The assignment related to aspirin was also interesting but we could have worked other medicines. The work with the article was very valuable, although this was an article addressed to the vocabulary of pharmacy instead of pharmacy itself. What I liked the least is that the classes focused little on grammar and very much in writing. The work ended up being excessive in number and less varied due to excessive rewriting. The oral expression work was poorly developed what has caused most of my colleagues with difficulties to end up not improve their pronunciation and keep making the same grammar mistakes consecutively.

Considering the duration of classes there should be more than thirty hours because many subjects were not spoken, although many of the lessons were extended beyond the time established. I found the work of the oral presentation interesting and good for the development of speaking, though perhaps a site was not the most appropriate theme. I think the interpersonal communication between the members of the class should have been further developed since this is the type of communication that we use with patients.

Since most people will eventually work in hospital pharmacy and the English was more directed to community pharmacy, there would be many technical/basic aspects of English that should be spoken because in this component we are not in contact with the patient but with our colleagues and other professionals. I must say that since the levels of Enlgish are very different between the members of the class, I felt that some of my colleagues had great difficulty in following the lessons which in my opinion in most of the English lessons we developed the technical English but we forgot basic English (where many of my colleagues had difficulties, such as basic grammar and vocabulary of communication).

About my works at English classes, I guess sometimes I could make an effort in the way of participate a little bit more, but sometimes I feel quite embaraced to speak in public. On my homework I guess they could be better, but because the lack of time, I can't focus only in English homework. But I feel that after my English classes I've learned more vocabulary and the pornutiation of certain words I had difficulty on say them. About rewriting homework, I guess is a good thing because I understand my mistakes and sometimes I see I did stupid mistakes and I think: "Of course! How I did this wrong?"

5a.

I consider myself a reasonable student in English, because I study this language a few years ago. Regarding my experience with the English, the first contact I had with the language has been in the 5th year of shooling. Over the years, I worked a lot to enrich my vocabulary and to become myself able to speak fluently this language. However, some of my teachers didn't motivate and stimulate me, because their level of demand was low.

Outside of the middle school, the experience I had in English was not very rich. On a trip to Azores, a couple of tourists asked me to help them to clarify a doubt, and the conversation was in English. Sometimes, I help a classmate with the vocabulary, when she has some difficulties. To me, the English language is very important, because it will be needed in my trips, either recreational travel either in work (for example, conferences). It is also important to review scientific articles, in research, and to become myself enable to attendance of users who use the Pharmacy, and don't speak the Portuguese language.

5b.

First of all, I consider Technical English crucial in Pharmacy degree because there are many labels which are written in English (for example dietary supplement) and are not translated to Portuguese. Furthermore, foreign people can go to the pharmacy and we will need to speak English. Classes were very important in my formation in English because I learned some lab equipment scientific articles that I will have to analyze in my academical journey and also in my professional life and in my supplementary training in the future. SO, I consolidated some basic knowledge needed to establish a conversation between me and patients who go to the pharmacy and I also acquired other even more important information because they are a specific knowledge to my professional life. However I think that we should have more hours in this subject.

Relating to my presentations about two web pages, they were about schools whose teach my degree. I think that my presentations were good because I spoke slowly and clearly. Nevertheless, I could speak more time but my classmates would think that my presentation was being boring. Therefore I think that my oral expression is good. Relating to my homework, I endeavored every day to give my best in my compositions. So, I conclude that my written expression improved considerably and it was due to teacher's corrections and also my efforts. During classes, I demonstrated interest in matters lectured and made every activities proposed. So this subject was very important for my training as a Pharmacy Technician because it will help me in my job, facilitating the dialogue with patients and who knows if I will go to work in a country whose language is English.

6a.

Hello, my name is João. I am twenty years old and I am from Lamego. My experience with english is very bad, because I had a bad learning, not getting to overcome my difficulties. For me I consider the English language a little difficulte, but that hope to overcome with this new learning. In this discipline, I hope to learn the necessary vocabulary, for when he will work for a drugstore to assist the whole type of people arrivals of everyone, because the english is universal language.

6b.

In my understand the Class of English has been framed in this coming semester, since language is a key to succeed in communicating with all the people who do not speak Portuguese. In this class could learn how to communicate with a person to meet him achieve his application, learning technical terms the area of pharmacy and they explain everything that should explain to a patient when using a pharmacy, providing all the information so that the therapy is especially effective as the right one.

Over the lessons of English could learn to pronounce the words correctly but also acquire a sufficient "range" of words and terms that must use when we are dealing with a person who helps us helpful but not announced nor understands Portuguese, so that do we perceive a right way and simple.

In my opinion, I think these lessons were an added value, since we trainee a community pharmacy where we have to be ready to communicate with anyone seeking our help. I think I liked the way of the instruction was given because it allowed us to participate and we ask for help students to better understanding of the issues addressed in the classroom and beyond; enjoying more to address some topics than others because of their content.

7a.

My name is Olga Galvão, I'm from Braga but I study in Guarda in the course bietápico of pharmacy. My experience with English don't are very good, because in spite to have had English during seven years in the school, eram a little hourse for week and no existed much attendance. This year I expect learn to write and talk correctly english principally the terms utilizados in area of Pharmacy and healthy.

7b.

I feel that the portfolio is significant for us to learn very thinks about English, like write correctly English, know analysis texts in English, prepared documents in English, increase our vocabulary… Because in each composition and assignment we learn more about how to write English, how analysis texts and increaseour vocabulary and, when we rewrite the text, we learn from our mistakes. In the portfolio I have difficulties in some assignments principally in writing, but I try to learn from my mistakes. I also have a little of difficulty in the assignments who need Internet. The assignments for English portfolio and the class also help us to understand the differences to the pharmacy in other countries like USA and the pharmacy the Portugal. The classes are crucial for to improve our vocabulary and for pronunciation correctly the words in English. The class are also important for increase our knowledge about the culture English. I imagine who is interesting sing one song in the classes and maybe see movies without the legends in Portuguese.

8a.

I'm Ana Pina and I'm student in Escola Superior de Saúde da Guarda in the II course of Pharmacy. I'm from Viseu and I have nineteen years old. My experience with english languages is a little bit limited in spite of I had have english's classes for seven years but in the other hand the teachers didn't motivate the elevens to speack english or practice the english grammar. One of the opportunities that I had for to practice my english was in one holidays in Unites States, but I had some difficulties to speack because of differences at British and American English. In the other hand, in the day to day I practice the english language when I help my parents in your job in the contact of many immigrants. As a technical of Pharmacy the english is very important not only in the contact and comunication with the customers but also in the name of some instruments that Pharmacy need for to understand the development of sciency.

8b.

This portfolio contains the assignments that I did during the semester, note classes and dictations realised in classes. Classes and assignments was important for me to remember and adquire new knowledge, wiche are and will be very useful. For example, often to study and do works for other disciplines, I have to rely on books and websites in English. Also when I working in a research, I necessite to linguistic competences to understand and speack the "universal" language, especially if I working in other country.

For me the more interesting assignments are "How to fill a prescription", Europass CV and cover letter because they will be very useful for future. The assignment we liked least was the oral presentation of the website because although interesting and useful, I still do not feel much the desire to speack in public and I was very nervouse.

I think the method used by the teacher is very productive because I think we could achieve some the objectives that I initially proposed. To finish I would emphasize once again that this discipline is very important in that it allowed me to remember contends and learn new things related to Pharmacy.

9a.

My experience with the english it is very low. I have only five years of english and the most with a bad teacher, and it cause that I have lost many steps to learn and understand english.

Other problem in my learning of the english it is because I have nationality swiss, and the official language speak in my zone in Switzerland it is the French, wich cause many problems in the learn of others languages, a lot caused by a change many big of the pronounce.

I hope with these lessons learn the basic knowledge to help a citizen of other country, that don't speak Portuguese, and go at the my workplace, I hope that be a pharmacy.

9b.

In my opinion, English classes were very productive. Despite the great difficulties we had was good to get some foundation that had not. My main difficulties were the writing and pronunciation, but managed to overcome some of which had difficulties.

The was the instruction was given I think that helped a lot and the criteria used for evaluating think it's much better, because forces are working more and thus understand even better the English. This method of evaluation also seems to help the students better. In general I think the discipline of English this semester became interesting because of the fact that we worked with matters relating to our area of work and was also important to create a base of the tongue to the case of any need in our life future.

10a.

Hello, my name's Joana Dias, and I attend the course pharmacy in the second year. I'm a Portuguese, and I'm from Portugal since that I was born to nineteen years, and I always lived in the beautiful city Guimarães. I have to say that I was a reasonable student to English, like most of my collegues I had not great support, during seven year of English. But, I think that my Englis is sufficient me to get understand what the teacher speak and I to manage to have successful.

This year in English I expect to learn very things, since to deepen my English, up to I get to talk with very people and with people of different social status. And, in this area I need of being always up-to-date, and for that I need to have bases of English, because articles are published in English. I wait, in this way, that the classes are quite productive.

10b.

This is a conclusion about my development in English classes directed for teacher Maria del Carmen Arau Ribeiro, that she took of English classes something interactive and a research system where I and my colleagues could develop my English for situations with the care in pharmacy and at the end of this class I can find the positive and negative aspects about homework's, the class, and others.

In general, I liked very much the classes of English. I think that these classes were very interesting because I achieve increase my English vocabulary about the Human Body, of pharmacy, and other vocabulary that I learned in this class.

I loved to take the europass because I think that this work will be very important in my future, because I can want work in other country and the English is almost an universal language. I liked too to talk about the how a pharmacist fills a prescription because I could have a notion about the differences in Portugal and the USA.

Therefore, all the work served to increase my skills for English in many areas. In part of understanding I developed very skills, mostly in area of reading, in part of speaking was developing along the English class, as well as my writing. I liked too the dictation that we take in class, but I think that then it becomes quite annlying always be doing them. Concerning the evaluation, I believe that this is a good method, one continue evaluation is the best method for evaluated the students, because one student shouldn't be evaluated just with one frequency.

11a.

In my opinion every pharmacy need to know how to speak na dissecus certain matters of the area. And it's also very important knowing how to interact with every sick person that comes to us in our work establishment when they are from a foreig countries. Every person from foreign countries use to communicate in english. We need to understand a lot of scientific names such as names of medicins. I used to have englsih at school since my 5th grade, but I still don't fill confortable speaking and writting in english.

11b.

Reaching the end of the English classrooms and of the realization of the portfolio I can affirm that these classes in certain way contributed for development of my linguistic and writing capacities. The group works or even individual works, exercises of grammar, vocabulary, dialogs, investigation/presentation of specific themes help me to develop English skills. I think that the corrections of the homework are extremely important to know and understand my mistakes.

Of all the works which I find more lucrative were:

"The Aspirin Label" – allowed me to obtain enough knowledge in the pharmacy area and some scientific terms;

Prescriptions in Portugal" – through this work I can have a perspective of the type of prescription that is used in USA and compare it with Portugal;

"Pharm site" – I can develop my linguistic capacities and make an oral presentation;

"Europass" – gave me the possibility to know how it is filled out and the importance that this one represents.

My expectations to learn in English classes this year were surpassed, because now I feel more comfortable speaking or writing English.

12a.

My name is Adriana Silveira. I'm twenty years old and I am from Resende. My experience in English is scarce because I had English only three years old because I had peu support for part of the teachers. Nevertheless I think that the English is a very important language. This idiom is the first world-wide language. Along these thirty hours of English I wait to come apprehend concepts basics connected with the pharmaceutical activity, because I need to be prepared to communicate with all the patients. With this discipline, I wait also to come to know better the english culture.

12b.

Although English has been a half subject, the classes will be very important to my life because this language is used around the world. Despite this, I consider that it will be even more important in my professional future and in the end of my degree, because much literature is in English. The assignments that I performed helped me in classes, because learning was easier for me. Despite my difficulties I think I improved along the classes, and I committed less mistackes and I improved in the understanding of English. The assignments that helped me more were oral presentations, because I could deepen the research into English and training this language. The dictations that I made in classes were very important in the improvement of my writing. Over the lessons I think that vocabulary related to Pharmacy helped me but I think we could have trained more communication between us, to understand better people who go to the Pharmacy. The possibility of having done a CV and a letter will be very useful finding jobs in several sectors. I think that we should have more classes in English, to become more easier for me to speak and understanding English.

13a.

Hello!! My name is Daniela and I am 19 years old. I am from Sabugal. I studyed English for seven years in school. In spite of this contact with English language during these years, I haven't many practice both orally and in writing. I think that I have only bases and I can't dominate well this language. I have difficulties for understand it, especially when someone speak English.

I never speak or write in English, too because I haven't friends and family that speak English language. In this year I want to learn more English. I hope to acquire new bases, more knowledge about this language, useful vocabulary by me and to my future job. English is the famous language for many people and it is very important for my profession. I want to dominate this language with more facilities because I will be contact with people that living in many countries.

13b

I think that these homeworks are very important and useful for me because it help me to increase my capacity of written. I learn more English with these assignments. The correction of its help me to see where I have difficulties of written or in vocabulary. I think that the rewritten of the assignments is ver very important because I can to correct the sentences, vocabulary and written wrong. So, I will improve in some aspects of the English language where I have some difficulties. For these assignments is necessary some free time, dedication and effort.

The classes are also very important because I can improve the some aspects of English language, like to speak, to understand and to listen the English. I agree with these methods because I think they help me to improve and to correct where I wrong.

14a.

Hello! My name is Simone. I'm nineteen years old. I'm a student in Escola Superior de Saúde da Guarda in second course of Pharmacy. I'm Portuguese and I live in the north of Portugal, more specifically Bragança. Speacking about my experiences with english language, in the school I had this discipline for seven years. One of the way for to learn, more easily is to watch films, listen some musics in english and sometimes write the letters of this musics. In spite of having english in school, I still have some difficulties, particulary in grammar, pronunciation and understand some words.

Looking to the future, I hope that english's classes help me to improve and learn more things about english vocabulary, because it's the language most important in the world, and more used in science, were we put the Pharmacy. I think, English language ist's very useful to my future, because I can go to work for a contry in wich they speak English, or having to provide care to a foreigner, and I can go to work in research, and I will have to write the articles in English.

14b.

At the end of English classes, I think that I learn a lot of things, and I think them will contribute for my future.

I confess that in beginning I had some scare, because I forgot some concepts and grammar, but these classes help me a lot to remember them. These low me learn new things, about my degree, and other things there are not related with the degree, but they are very important for my professional life.

So, as I refer these will contribute for my future life, because I never known when a foreigner comes to community pharmacy and I must have capacity to communicate with hime, to give the best advice about medicines. Other point, in future I can go work for a country that speaks English, and I have to know how to communicate with the people. I can also work in research, so I have to written the articles in English.

Now the English classes help me, because whenever I have to do an assignment, the big part of interesting information is in English, and secondly, our teachers give us many articles in English to study, so these classes contribute for my better comprehension of them. These are some positive aspects about English classes, the others are: the methodology, I think the fact that we are constantly making assignments and searching, helped much in learning, I also think the classes were very motivating and fun.

The only negative aspect, is the fact that when the tests begun I don't have so much time to dedicate for the classes of English, so I not make a such big effort, so the assignments are not so good, and I thing that I stay harm.

To finish, as I refer, I think that I create new languages skills, and their will help me in the future, so the Enlgish classes should continue as they have been, for the future students.

15a.

My expirience in English started when my brother finished the primary school, and he said, "I'm in trouble, i don't like and understand anything." Three years later, when it came my time, to counter my brother, i chosen English to show at my brother that could be fun. So i had five year of English, from 5th to 9th. In most classes the teachers spoke in Portuguese however in 9th teacher spoke every time in English and it was amasing.

But, when i went to secondary, i and 5 friends, we wanted to continue with English lessons, however the most students of my classe thought English very difficult, and thy were to French, we six don't have the opportunity to have more lessons of English, although sont important for our future.

Now, i am very thrilled whit this lessons, but i think it forgot some things importants like grammar (some parts like combined verbal)however this will be exceeded with commitmet and effort. This lessons are very importants and indispensable since in many countries this language is the most spoken and all we need to move on in our journey of learning, like scientify article are everytime in English. And that language is the language of future.

15b.

For me these classes were very interesting, because I can explore my forgotten knowledge but I can also learning other things very important like doing a cover letter and Europass CV. All the time accorded to the work of English at the time seemed excessive, but now you just give great value to this time because it served to learn many useful things for my future career.

Now I have got much more knowledge, not only necessary for the career but also with knowledge to deal with people, to know fill a prescription, respond his duties and all they need in a stranger country. I able to survive and adapt myself to a job outside of Portugal. All assignments that I have done contributed also to socialize with tourists, giving them some information basic and useful.

To complete I liked so much the way the classes were given, in start I was considered work very exhaustive, but now I see that all of it was necessary for the development of my capabilities and useful for evaluation. Thanks for time dispended with me and all my assignments.

16a.

My name is Ana. I am nineteen years old and I am from Sabugal. All of my family is portuguese. My experience with English isn't much, in spite of has had classes of English for seven years. Just now, lot of the things are already forgotten, therefore already haven't classes of English for two years, what increase my difficulties. In these lessons, I hope improve my English knowledges. I hope to increase my English vocabulary and that it helps me to deal with English people, that may contact me during my future profession. With this, I hope that the lessons help me professionally, in the relations with other foreign people, in investigation, in articles and many other things.

16b.

The English classes were very useful and profit. I think that I improve my English knowledge, both in writing and in oral and written comprehension. I learn many concepts about health, human body and my profession (Pharmacy Technician). This will go help me in my future career and in the communication on the world of health.

The assignments were very interesting and important for a future communication with a English client because I can give him more information about drugs and understand better the situation of client and what he want. I liked to do, especially the assignments about drugs, for example the description about a drug, its indications, side effects and many other things that can help me understanding the characteristic of drug in English. This is useful for many sites when there are much more information and sometimes more credible. I had some difficulty in the group presentation because I don't like to speak in public. The europass can help me in future and it was a good experience for know one way to find a job in future. In conclusion, the classes were very satisfactory and productive for my future career and they will help me to be a better professional.

17a.

Hello! My name is Filipe. I am twenty years old and I am from Viseu. English's discipline integrated in the drugstore course is extremely important to acquired competences and aptitudes that I will go apply in my future work. Along all these years of study I had opportunity to have seven years of English, acquiring English bases. For besides, the contact with British friends did my knowledge had developed.

In a personal perspective I think to be in an intermediate level of English. I hope to take a lot of advantages from English's classes to carry out the functions of a drugstore technician's with the largest efficiency, because English is a global language, and I will see this in the contact with people as well as in many documents related with the contents of the drugstore course.

17b.

This portfolio is a compilation of all tasks accomplished along English's discipline, with the orientation of Maria del Carmen Arau Ribeiro. All activities that are exposed show the effort and dedication. I have learned so much throughout this process of writing and searching. Each activity enhanced my skills such as decreasing grammatical errors. I liked immense of some of the assignments as like: chemistry lab equipment, parts of human body, the aspirin label, how a pharmacist fills a prescription (was excellent!), and the construction of a curriculum vitae, that will be very useful if we want work in other country. The presentations of the sites were beneficial for the improvement of my speaking skills.

I don't have any negative aspect to say, for me I loved this classes. I am very proud of my development, and I acquire competences and aptitudes that I will apply in my future work. I know that I will continue to grow and develop all my English skills and competences throughout my lifetime. This class was an overall success for me and has left a good impression of what an English class should be. I learned through group work, and assignments. I agreed with all the methods and procedures used in it. This class definitely helped me with my future.

18a.

My name is Adriana, I'm from Leiria Portugal and I'm taking a degree of Pharmacy, in Guarda. This semester, my class is having english lessons to improve our knowledge, especially in technical english. This way, I will be able to practice my future profession with competence and efficiency. My first contact with english language was in fifth grade. Since then, I had seven more years of english, only in school. I always like this classes and I believe that is really necessary to speak english properly because, nowadays this is one of the most important languages in the world. This year I hope to learn new vocabulary and some better ways to communicate with other people. Besides that, I think that this classes will be pleasant because it's different than the others where we learn scientific facts (biology, chemistry, physics, etc…). So, I'm expecting to become better at english language, particularly, I'm hoping to acquire some of the specific vocabulary in the Pharmacy area.

18b.

Now that the English classes finished I can make a reflection about the assignments realized, the linguistic skills developed, the relevance of this class for the future and some positive or negative aspects.

I assume that the English classes are very important for my future because this language is global and having some linguistic skills can be really important to the evolution o f my career and to solve some problems, for expel to attend to clients in a community pharmacy.

I had English classes during a semester, where I can develop several assignments related to pharmacy. I consider that this assignements was an essential part of the classes because with them we not only developed our linguistic skills but also learned some things related to our future professions as pharmacy technicians. The homeworks help me increasing my knowledge (particularly my writing) and it made me work constantly what I believe was good because this way I contact regularly with English language and the teacher could accompany my development. I think that the presentation of the websites were especially challenging because of the searching of the sites and the oral presentation. The assignements I prefered to do were the research of the lyrics of the songs and the europass. On the other side, I think that the homework I did on Spring Break about "How a pharmacist fills a prescription" was the most difficult.

I conclude that the activities we did on classes contributed widely to our improvement because we acquired new linguistic competences and culture. Between these activities I emphasize the reading of research articles and the learning of scientific information and materials, because this are directly related to our future needs and duties.

I believe that all the aspects in this classes were positives but I am mainly pleasured with the continue evaluation, which I believe that help the students working more. Besides this I think that when the teacher corrects our homeworks, it brings benefits because we can see our own mistakes and correct them and this is excellent to clarify our doubts, correct ourselves and learn.

19a.

Hi. My name is Joana. I frequent the second year in the degree of Pharmacy in Guarda, where I meet from monday to friday. On weekends, I to to my house, Trancoso, that is near Guarda, where my family is. During my life, my only contact with english language was through to school, once neither my parents or other element of my family wasn't emigrant. In the other hand, besides existing some teachers in my family, none of them have a course in languages. In school, I studied english during five years, since fifth to ninth years. After all, I don't consider that I control the english language once most part of classes was just to talk about grammar, don't reading and exploring textes in the way that it should be, because the textes I can't understood the most part. After ninth year I don't have contact with english until today. Through this english classes I'm expecting consolidate more previous knowledge, besides being low, to learn other, principally tecnical concepts concerning to pharmacy, and impruve the english language, to express myself to the future english people can understand me, making me a competent professional.

19b.

First of all, I think that the discipline of English is very important in my course, so I can to acquire much knowledges, principally vocabulary scientific, what it will be going to help enough in the service to the balcony, case I'm going to work for a community pharmacy.

As well as the remaining disciplines, this one in my opinion had aspects more interesting than others. There are aspects that I liked more along these classrooms, first of all, it was the fact of doing works instead of a frequency, since it so becomes more accessible to whom have more dificultiss with this language, besides to learn much more, since it becomes a work of searching what obliged me realizing what we are seeing. Another aspect much interesting was the fact of the teacher to speak in English most the time, since besides to call more to the attention to try to understand what she was saying, the contact with the language helps in the process of apprenticeship.

A negative aspect was the little time what we had of classrooms and for times a little time during the resolution of the works at home due to works and frequencies of other disciplines.

The works what I more appreciated went to was the description of the medicine, because if relate with my area, and in order that besides we learnt new vocabolary, we also learn new medicines, as well as the musicians, because I think that it was an interesting activity principally when we sing in the classrooms.

The works that less I liked were to description of sites because I do not find that it is anything essential, and since the pharmaceutical make up the medical prescriptions because it was a text that, besides to be very extensive, had many words scientifics what were of dificult translation. For near classrooms I was suggesting only more any some classrooms, to do only a work in website and to do more dictations and translations.

20a.

Hello! My name is Rute Santos and I'm 19 years old. My nacionality is Portuguese and I'm living in Seia. I'm a student and my favourite hobbies is listen to music, read, watch TV and pratical differents sports. The English is very important language to comunicate with other cultures. I have learn English since the 5th year to the 11th years. I had very years of English lessons, but I have some difficults in this language. This year, I hope that this lessons will be very enriquecedor and I think that I will improve my knowledge. I hope to learn new words that will make me able to comunicate with the others when I practice my future profession.

20b.

Over the lessons of English learned important things. I learned many technical terms related to pharmacy and I learned to speak a few words that do not knew. I think that in relationship part written I developed some features. But in relationship to oral part will not I felt very comfortable. For example the work we do on the presentation of the websites was important because it was a good way to help us communicate in public. I think the work we have done on the scientific articles was also important because over the course in various disciplines will work with scientific articles in English. Also the attainment of a CV and a letter were important because if we want to send CV to foreign companies already we have an idea of how to do.

In general all the work done helped me considerably in the development of my level of English. It was also important to learn how to talk with English persons, for example in community pharmacies or any other service. The teacher was also a key element in the way helped in carrying out all the proposed work. So I think as have was useful and enriching for my future as a pharmacy technician of having learned technical English for pharmacy.

21a.

Hi. My name is Rute. I'm from Aveiro. I have seven years and one semester of English. My bases and knowledge aren't very strong but I hope than will be better. With English classes, I hope to better and remember things that I forgot in writte, read and oral comprehension. In the future my plans are continuing my study to finish my carrier where, in my country or in other, and start work in a hospital.

21b.

The English classes came to an end. In there I developed my knowledge. I feel that the homework and the other tasks that was proposed made a lot of difference and developed my English. I learned some technical language and that make to me and for my future a lot. I think that my objectives were accomplished. I had improved my pronunciation and I see than in my write is better.

The English classes contribute a lot for my future because of my objectives I dream make a specialization in other country, and that made me feel more confidant and believe that I can communicate much better with others. And contributes to for increase of my culture.

I loved the classes and I think that the titles we talked are very useful.

22a.

My name is Sandra Oliveira and I'm 20 years old. I'm studing in Guarda where I live during the week but my hometown is Batalha where I go at the weekend and vacations. I've burn in Holland where I live for 7 years but I have Portuguese nationality.

I have learn English since the 5th year to the 11th year. I've some difficults with English: the grammar, vocabulary and construction of frases. I expect to learn more vocabulary in specific of my area and be able to communicate better with people in this language. English is very important to communicate with persons from others countries, so we can demonstrate that we understand them bem and being more hostels. It's also important if we gonna do investigation to writte cientific articals. I hoope so that I can superate any difficults that I have at the moment to be a god professional.

22b.

I think that the English classes has make me rebember how to pronunciate a lot of words that I had forget, and I fill more confidet spiking English. All the works make in classes have help me a lot for the written homeworks that we have to do every week.

Every homework that we must do expend a little time, and sometimes I've no vontade to do them, but after do it I feel better, and I think that with them I developed my English. When the teacher give back the works that I've donne sometimes when I see my errors I feel that I've not donne a good work but I think that's normal because I've give always a lot of errors. Writting a second time the works is very good to understand my mistakes, and for not reapit them. I must not firget he say that is very good for us that the teachear speak in English at the classes because make us feel more confurtable to speak and to learn pronunciate the words.

23a.

My name is Marta. I'm 19 years old, I live in Braga. I have seven years of school learning in English, but I don't speak corectaly this language. In this year I expect to learn in English more vocabulary, to gain more capacity to talk with other people and I believe english is one of the most important language today. In my future I believe in following research and I know, I will effectivally need English language to talk with other researchers and understand the articles.

23b.

Ending the lessons of discipline curriculum English and taking into account the entire journey travelled, sea that the balance was very positive. Relatively on classes given by teacher Maria they were given in a way very much didactic and also directed to the course. Along a lesson we are in contact with very kind of vocabulary also pushed the tasks required for an effective and continuous learning. Were constantly proposed work to our ability in English, was the best possible advantage of the short period of hours available to the discipline in question. However, believe that deadlines for the delivery of business sholeld be much longer because sometimes it was difficult to adapt the work of English with the study to other disciplines.

The oral presentations were made, in my view, one of the most enriching the discipline provided in this because, in addition to leave us more at ease in public speaking, allowed us to peeceive what we know and we convey to others in English.

Ending the latter report, I believe that my development in English was quite good taking in account the number of classes and I am glad to say I learned much in this course and I feel I've created, not only my writing, but also how to talk in English.

24a.

Pharmacy wasn't the degree of my dreams. However, when I was a child I liked things related to health. At the beginning, maybe when I was six or seven years old I wanted to be a doctor, but later I knew the difficulty of the course and decided to continue studying, completing the 12th grade and then thinking about the better choice for my future. Last year, my interest in the Pharmacy degree began. I always thought that dealing with health would be better for me in all aspects. So, I looked at all the information this degree and I decided to try.

My motivation started here. Then I saw the career opportunities too and my motivation. First I thought cures, the production of drugs in laboratories, pharmacies on their own, everything in this way and then I thought that it was something that I would like to do. After my interest in pharmacy I considered my future around diseases and cures. I think I will be able to live much of my future life in laboratories.

Now we have a lot of information about career opportunities in the country and even abroad and this also influenced my choice too. Pharmacy is a course with plenty of employment opportunities today. But the motivation decreased a little when I applied to higher education, perhaps because my fear. But when I saw that I was accepted I was very happy. I got what I really want. Like I said, this degree wasn't something that I wanted to since I was small, but it's what I want for my future.

24b.

Over the lessons of english in the "Escola Superior de Saúde da Guarda", I think that evolves essentially in some technical terms that I unknown. The classes were very productive. I know that I had some difficulties because I do not know very well English. However, tried to make the best of me to take good results. Thus, I think that I learned a lot and I am sure that I learned will be useful for my future. I am not saying that I dominate English because I am not yet able to dominate, because we had little time for lessons to deepen our understanding. But I know that the work done helped us a lot, even in areas of education or culture. Despite the language learned important aspects such as give a simple handshake.

It was a good layout and the creative responsible for my attention in lesson. It help me in progress of learning english. My learning experience is positive. I think that the most important was the lessons and the continuous avaliation. In classes we learn aspects related with our future lifes. We can apply the learning every day. I think that all work done in classes was funny because it interest us. In my opinion, the class evolve. And I like very much the all lessons.

25a.

I chose this area of health, because my favourite subjects was always been physics and chemistry, and I always liked to work in laboratories. Before I had Physics and chemistry, that is, when I went to the high school I thought I want physiotherapy, but I didn't need too much time to understand that what I really like is pharmacy because of the pratical lessons.

The fact of this degree now being enough output also had a high weight in my choice, that is, this degree has many choices available and I hope I can pick up the best. My first option was not Pharmacy in Guarda, though at this time I really like to be studying here and no longer left out.

25b.

Although I was about a year without any contact with English language, this always has been a very present subject on my scholar years. But, when these classes just began I realized that there was a huge difference between this form of having classes and all the others that I had before because this was the first time that they weren't only about theory but also about the all practical matters too.

This kind of English was a lot more objective and the way how the classes were given made them much more productive as the most of the times it is easiest to expose a doubt to a friend, to a partner, than to a teacher. In this way, interacting with them in the classes and also in the works outside classes it came to be really rewarding. For example, I never did a one single presentation of a work in English until I come to this university, so I was very nervous when I did it. However it not went for the better I know that in the second time I speak a lot better to the class, without such fear and not looking for the support paper. I never thought I had to go through this experience but the truth is that I liked it although all the difficulties.

In relation to classes' subjects, in my opinion, the revision of verbs was fundamental, because in this way I became conscious I didn't record a lot of important things. Other, not less important, thing was learning new vocabulary. And the most funny is that with this vocabulary was possible to know a bunch of other things about English and it culture that I had no idea. All these contributed positively to my attention in classes, trying to achieve the most information than I could.

But know that I've done the portfolio and checked the works done I realize I could put more myself in this, and in that way take more advantages of this curricular area so important in my future life. As well as, if we think well English (more and more often) has a heavy weight in our society and is extremely advantageous make an effort to has at least the minimum knowledge of this idiom.

At least I just have one more thing to say, is that this curricular area, as I said before, was very important, but not only for the English itself also because the things and matters we've talked in classes prepare us to our future life, things so simple as know how to walk, how to be in certain situation, the first impression on the first contact, things that I certainly will remember all my life.

26a.

Nowadays there are more and more sick people and we know that they need help. Everybody knows that to be a doctor in our country is very complicated because we need to have great marks. I really wanted to be nutritionist because I would like to treat people who has problems with food. Anorexia and bulimia are diseases that capted my attention. This degree were my dream but this year the average increased and I didn't have the opportunity to realize my dream. In 2nd stage I chose pharmaceutical science but the average increased too and I lost the opportunity to experiment this degree. And here I am in the Pharmacy degree.

I read some information about this one and I think that the future for a pharmacy technician is very strong and has great career opportunities. Some people said that now is an excellent time to become a pharmacy technician. The search for pharmacy technician is increasing. Although I don't know if this degree will be the best future for me, I will try and then I will decide.

26b.

With regard to my progress in English, I have to admite that I was surprised with myself, positively, because given the experience I had in the 10th and 11th grades, I never expected return to like this discipline. Up to 9th grade, always had excellent teachers of English, which motivated us enough and encouraged us a lot, getting to the point of pass to us the tast for English. When I moved from school and went to the 10th year, I had the bad luck to stay with a teacher of English that for some reason which until today I don't know, was constantly to imply me, briefly never liked me and took me all the taste I had for this discipline. In the 11th grade, unfortunately I continued with the same teacher and since the beginning of the year knew what I would expect. I lost quite a flavor for discipline and all the motivation I had to study English has been losing little by little. I was very happy when I realize that in the 12th grade I didn't have the discipline of English and I thought: "finally ended my nightmare! I'll never have to worry about this discipline anymore."

As incredible as it may seem, at the 2nd phase of candidacy, I concurred to pharmacy and was placed in my city. When I was doing registration, I realised that would have a discipline that was English… I was very disappointed and worried because I never thought that would have to revive this language again. The truth is that it should never say never, but here I am happy for this has happened since I won back the taste for English and I think I made significant progress. Again I felt good to make a composition in English on the theme proposed by the teacher. I felt quite well, despite being nervous to make my part of the group work in English, because it was a new experience.

With all the experience over the years with the discipline, I concluded that everything in life happens for a reason, and in this case, my place in the degree of Pharmacy, although this was not really what I wanted, it made me restart to like English.

27a.

Pharmacy was always what I wanted, so being here is already a small step completed. Every single day, advances are being made in Medicine and it's necessary that a pharmacist learn more even after graduation. It's a degree; we can't say, "Hey, it's done, let's now just work". What I like is that we always need to know new substances, new cures for new illnesses. We have to improve our skills every time.

All health degrees have one goal: help people. Pharmacy is like a complement of the treatment already given by doctors and/or nurses. However there are cases where substances created or discovered by pharmacists are the only method to reach the cure. Knowing these facts it's good to have a career like this, where we can save lives that are important to other people.

27b.

Before starting the 30 hours of English in Escola Superior de Saúde da Guarda I already had bases from previous years (fifth to eleventh grade). I had good bases not only in grammar but in writing. However some grammar subjects, like prepositions and some past tense verbs, were not very developped and my spelling level was very low.

During these 30 hours we did a lot of exercises, reading and work presentations. All of these works tested our difficulties so that we push harder and harder to make the best result we can.

Like I said my main difficulties were prepositions and some past tense verbs. To work these difficulties we made many exercises like making questions. To make questions we have to know all verb tenses including the ones I have difficulties. We did more than thirty questions and discussed the best tense for each questions. Listening all possibilities, knowing why is that one, why is not that one, become the best way to learn. Finally, I can work with all past tense verbes without being worried.

Another thing was the prepositions. To know this subject I just needed to work: a lot of exercises and reading. I read a lot of rules. With rules, I can just put my knowledgment in practise.

I have great interests in english, which is the motivation for me to do better and better. I think i do well in listening and reading. As to the oral english, it is more comfortable for me to communicate in face to face situations, that's because i always get nervous when speaking in front of people. It is the limitation of my progress in english speaking and i have to overcome it; meanwhile, I just have to speak alone in front of a mirror and after some time maybe I can do conferences in front of thousands of people.

Right now my spelling is still not perfect however my difficulties in past tenses and prepositions are now gone. This "technical" English was very, very productive because we learn a more useful English not just theory theory theory.

I can now say a did a very good progress.

I started to learn English when I was 10 years old, which means when I was in the fifth grade. And I finished on my eleventh grade. However it was pure theory and simple exercises with no excitement. What helped to improve my English in these past years was the reading. First of all, attentive reading can help one build up one's vocabulary. As we read more, we will inevitably encounter words and expressions that we have never learned before; and by making sense of them through the context or by later referring to some sort of dictionary, we will notably increase our vocabulary in a very short span of time. When I say reading is not only from books, but also on forums (Internet) and movies or TV shows. Reading also helps writing. As you expand your vocabulary, you have more idiomatic words or expressions at your command for you to use when your write articles of one kind or another.

But it was in Escola Superior de Saúde da Guarda that I expanded more my English vocabulary and spelling. For example, the work about searching a good internet site for a specific theme we had to search a simple internet site with a good content. For that, we need to read and hear all options by all group members. This type of works develops a lot our English and it's a simple exercise for who doesn't have many skills. It was my favourite work because I developed my spelling which is not that great and also I tested my fear of public presentations. Also a thing that in these days is very important: improvisation.

The most amazing about these classes is that we "mixed" English with our future work, pharmacy. It makes English more useful that the one we learnt in the past years. The teacher always wanted us to express our opinions about a specific subject or just answer some questions. That is the key to have perfect English. Our head is full of thoughts, ideas, opinions, and we need to speak them out, to share them with anybody.

Basically the English we learnt in these 30 hours were more useful the 10 years I studied before. I think the only useful year was the fifth grade because it's when we learnt all the bases. Without the bases we don't have anything more… These 30 hours were very productive because of many factors: interactivity, good teacher, good class mates, participation, good themes to work with and so on. When I say good teacher, I mean, a teacher who knows what is doing, a teacher who changes lessons for a specific degree (if this English needs to be useful we have to work things related with our future job, in this case pharmacy. Here the teacher chose exercises and texts specifically for our degree), a teacher who is always worried and always delivers the corrections in the next day, a teacher with patience and also always with a smile in the face.

English is an important language nowadays, becoming an international language. Studying English can make life fun. It enables you to watch American movies, read English books and listen to English songs. Moreover, as English is an international language, you will be able to communicate with foreigners when you are on a trip abroad. Traveling will be more interesting that way. Well, I truly believe that my English improved and also my spelling which I was worst. I can now be a pharmacist and never be worried when a foreigner comes.

28a.

Being honest, there wasn't any motivation to me to get the Pharmacy course. My first option wasn't Pharmacy but Biomedicine. In the difficult moment of choice of my second course option I had to research and find something similar to Biomedicine in case that wasn't give it to me. My conclusion was that the Pharmacy would be the best choice because this two courses have the same goals, professional exit and duration. My mains goals are to get the best possible qualification, to adapt to the teaching method and the country, and finally to transfer for the course that I desire.

28b.

As everyone know, English is a very important language, it's the world's language, that's why, soon I wanted to learn it. This year, at my first year in pharmacy degree, I was pleased to study it again, but this time it was technical english to be applied in our future jobs as pharmacists. Sincerely, I think my english improved specially my pronunciation, speaking and vocabulary. The classes were great and I know that I'm going to miss them.

29a.

Since early age I wanted to work in healthcare, because my pediatrician was nice and I wanted to become like him. Then, when I entered in high school, I learned some chemistry and I got very atracted to this science. So, when I had to choose a degree, I looked for something in health brand, with chemistry and also, suitable with my grades. I applied for Pharmacy because it fits perfectly with all I wanted, and now, here I am to learn how to be a chemist.

Being a chemist also interests me because they are in great demand these days and because I will be skilled to work as volunteer in needed countries which I would like to do since my pediatrician has been a volunteer himself.

29b.

This year, the first year of pharmacy degree had technical English classes. Personally, I enjoyed the classes, they were funny, I learned some new words (like q-tip), practiced speaking but we also had a problem… time. I think we were too short on time, we needed more time so we don't had to rush, and also we would take profit of more activities.

About the advantages of the English classes, I am now able to write an europass CV, which might be useful in my "Get a job" plan and I am a better speaker and writer than in September when I started these classes. I am also glad because, with English classes, we have proved that learning can be fun for students and teachers if we play with it and don't take it too serious (extremely serious people are boring, be clown sometime helps you shine)… I will miss those classes!

30a.

Pharmacy! I had never thought in the pharmacy degree. In my childhood I used to say: "When I grow up, I want to be a teacher", like almost children. Then, I come to the stage of adolescence the stage where our mentality changes and where we begin to define the goals for our future. And it was at that stage that I decided I wanted to be a nurse. Then, I finished high school and I realized that actually, pharmacy degree offers more opportunities allied to the fact that I would study near my hometown, made that degree, the ideal degree. And it was so I decide to choose this degree in Guarda.

30b.

At the end of this journey, I considered that my passage through all these classes was positive once my technical English improved a lot. Since we started these classes, I noticed that when I speak English I feel more confident than after. English classes also help me to figure out the importance of English and how they were useful in the analysis of research articles for the Cellular Biology classes.

I liked a lot of things in these English classes such as the technologies used in these classes, the lesson where we saw the dialogues in englishmed.com and others… But what I really liked was the lesson where we had to present one interesting Internet site because we had to present this in English, which was very grateful to me once I never had the opportunity to do something like that.

I also found interesting the way how teacher Maria teach the grammar which includes NO SAS COM (in adjective's order); V1, V2 and V3 and "Eduardo" (actually I find this one very funny). I also liked the fact that we had the opportunity to compare our pharmacy system whit the United States one.

Actually, I liked all these things but there was one thing that I found boring: the lesson where we talked about the body, which was too much monotonous, although this lesson was very useful to complement our vocabulary. Even the English classes had should be more than thirty hours, I think that the most important subjects, the ones that we really need to our degree, were spoken.

Finally, I can say that these classes was positive because of its dynamism and because there was interpersonal communication between students and between students and teacher.

31a.

Life is made up of phases. The transition from primary to secondary school is an example. It is at this stage we chose a part of the way we want to follow the professional level, that is, which chose the area that interests us more, and so within that area, we decided later, by the way we want. I said the word "later" but noted that it was not so late, because the school went very quickly and there was plenty of time to be sure of what I wanted. At first only knew that I wanted something related to animals, because of my passion for them. I thought in veterinary medicine or veterinary nursing. The moment the final decision was to bring… I started to consider such courses and came to the conclusion that it would not be able to exercise this profession. Due to my tremendous love for animals, would not bear see the suffering of them, not even treat them when the wounded had in my hands and suffering. Certainly would quit. Thus, had to think in another way that I attract. I'd like dialogue related to health. Within this area, consider several factors: the career opportunities, the content of the profession, that is, what kind of skills would acquire the kind of job, and it was then that I came to the course of Pharmacy. This idea, among many others, it seemed to me to be one that fits best in me, because in terms of job opportunities is an option on reliable and knowledge which enables me to have, like me! For now, I liked of academic life, are the worst miss home.

31b.

When I heard that would have the discipline of English in my degree I confess that I was extremely worried, even scared. I fear this is because of my educational background, for more than me by force, could not get good results, I always spend more to get to this subject than in others, and still have my notes not passed beyond the minimum positive, I was accustomed to me, and then that little positive was enough for me to come to the conclusion that because more effort the English that I would not be a discipline that I received good grades. I like to think that we can't have skills for all, and I definitely, was not born for languages. Despite everything, I still have a hope of one day later, calmly, with my life stabilized, take an English course and dedicate myself entirely to their study, because it would be a pride to understand more English. I am fully aware that English is central to everything, especially in working life.

I was surprised by the positive lessons of the English teacher Maria. In my view it makes sense to tackle issues of the scope of our progress, learn English to apply in our future profession. All work has been made interesting and contributed to enriching our English, especially in pharmacy. All classes and the work learned something new and important for the degree. Thus conclude by saying that our various new vocabularies and also remember the already learned.

32a.

When I was a little girl and went with my mother to the doctor or to the pharmacy I stayed admired with everything around me: the doctors, the nurses running in the corridor, the pharmacists writing in the boxes of medicines, the prescriptions with that weird doctor letter, but what I admired must were the scrubs that they all wear. I loved going to the doctor and I didn't mind when they took my blood. And loved all that environment! Of course when I has a little I didn't have that fix idea of being a pharmacist, I dreamt being a hairstylist or a fashion designer! Child dreams that rapidly gone away and I grow up and realized that I would like to follow something related to health. And of all the jobs related to hearlth, pharmacy was the one that caught my attention the most.

Being a pharmacist means dealing with people, help them with their health problems, give them medicines that will help them to cure their diseases, five people health advices, and then there's the other part which also attract me, the laboratory part of the degree. In all my student life I loved the lab classes, because it meant putting in practice what we learned in theory! Having a degree chosen it was only missing the city I would like to study in. Everyone was talking about Coimbra, and it's fame is known in all the country – Coimbra – the city of the students. And because Coimbra University has a good fame, that was the city I would like to go! But unfortunately it wasn't possible, and here I am in Guarda and until today I'm loving it, except the cold water! The fact that Escola Superior de Saúde da Guarda is a small school gives me that cosy look and the fact that our class has only 24 students and everyone knows everyone give me that family sensation.

32b.

I always loved English ever since my fifth grade, because it is a language that is global and more important nowadays. When I was a little girl and saw English movies on the television I was curious about that strange language they spoke. Then in the fifth grade, when I started learning this new language, I was very committed in classes. Step by step I was evolving in English and started understanding some expressions I saw in movies and docs and heard in the music that didn't had translation. My passion for English was growing and then in the 10th grade when I needed to choose between English or French I didn't had no doubts: I chose English! During the 10th and the 11th grade I attended an English course in "Wall Street Institute", that initially was attended by my father, but how he didn't had time he pass the course to me. It was a great opportunity to deepen my knowledge in English. In summer time I have opportunity to speak a lot in English with foreign tourists that visit my village, so by doing that I trained my oral skills. All those factors contributed to raise my English level that was reflected in my grades: 18 values both in 10th and 11th grade.

When I knew that one of my subjects in Pharmacy degree was English I was very pleased, but I didn't knew what to expect of the classes, what would be the program. In the first English class I had the best impression of the teacher because she made us comfortable, we could laugh, we could ask any question to the teacher, she told us a bit about her personal and professional life and I think this kind of approach should be adopted by every teachers to created bounds with the students that will be reflected later in their work. In that class we also learned how to shake hands properly if we attend a conference for example; it was a great opportunity to interact with each other and to laugh a bit more. The following classes were developed in the same molds, a constant interaction with the teacher and between us, the students. The activities were varied, factor that contributed to my constant motivation. I like to speak English so I liked the style of the classes because our participation is imperative to the development of the lesson.

Of all the subjects I had this semester this was the one that was most directed to the Pharmacy degree because, for example, we learned how to speak to a foreign customer that comes into our pharmacy, we learned vocabulary related to body parts, the differences between Portuguese and English pharmacies, how to make a Europass CV which will be very useful when we finished our degree. This subject didn't tough me only English, it also prepared me to my future, how to deal with people that look for help in a pharmacy. It is a subject for life!

One of the activities I enjoyed most was the presentations of two sites, in our case online pharmacies because it "obligated" us to look for information about this theme in group and select the most interesting site and them presented to the rest of the class. It increased our social, investigating and speaking competences.

33a.

Nowadays, it is hard to find a way to immediately exit from employment. But the important thing is like what to do. One of my choices of course was pharmacy, as a matter of course interesting, be in contact with the public and curiosity for new drugs on the market. After an investigation on the course, I found that the subjects which were quite interesting, certainly, would motivate me to compete for this course. The technician of pharmacy is empowered to intervene in various stages of my circuit of medicine, since the production, acquisition, and distribution of medicines, through management, quality control and marketing, in which I awakened interest in the way. Anything beyond this, being near family is very important, and it facilitate the lives of students.

33b.

My experience in the classroom of English was very positive. The way to teach was quite different than I was accustomed and have an English teacher was very good because she helped me to improve my performance in English. We have made many compositions and as we had to correct errors that had always been a good way to improve my English and see where we failed in most compositions. I really enjoyed the two oral assignments about "Online Pharmacies", although I knew something about this subject I learned a lot through this search. Through this activity of Brainstorming parts of the body was much fun and I learned many word that I don't know. The organization of verbs by families was much easier for me because I memorize more quickly. The translation of the song about parts of the body was a very creative activity, although we had not had an opportunity to sing, which should be very funny. As my course is Pharmacy and English is very important, we have develop many activities since the questions about the laboratory, our motivation to study this course, the dialogue, the description of a product among other things, and this gives me a lot more facility to talk with foreign people. One thing that I cannot fail to mention is the development of the Europass CV, which will be useful throughout our lives. I learned so much in our classes!

34a.

I am a student in the college of health of the guar, in the first year of Pharmacy. This course always motivated me, when I was a child I can remember me playing to pharmacists. After my secondary, I joined for higher education for this course, mainly by vocations who feel that I have provided much new, and even by going to be a professional manner when necessary for public health. Physiotherapy was also a course that I wanted most, unfortunately I couldn't come. However, I am very pleased to be in Pharmacy, as well I wanted. I like of my colleagues, colleagues exits and also teachers… I feel me in home. I'm having a bit of fear, because I have some difficulties in interpretation of English, but I think, with effort and honesty I can complete the degree.

34b.

To be placed in the course of pharmacy in the college of health of the guard, I was investigating what would be the subjects that would have to attend over the four years of the course. I have noticed that in the second year, would have the discipline of English, I was a little scared because my English is low. However I came to the class of ICT and heard the teacher to speak English and only English, but there I was very scared, I realized that English would be the first year, and for a moment thought that the teacher did not speak Portuguese, I did not know where I get because I could not talk with my colleagues do not even understand the jokes… Over two hours of the first class I thought it should or should not inform the teacher of my difficulties, reaching the conclusion that it would be better to really show what was happening to me so I would not feel so bad to attend the classes. I can say I had great shame in being the first class but with time I won a little more confidence in me and my colleagues also helped me to face some of the difficulties.

I cannot say that after thirty hours of English I speak and write correctly, but I tried to accompany my colleagues to carry out all activities, learned some things that are simple but now that I will never forget. The classes are very dynamic and always different, so that students have more interest in that they are seizing, and also the classes have always been looking for our future employment. I confess that I am keen to learn the same but in English, because I would like to develop the language they studied more, and learn how can use this technique as a pharmacy in my future. This new discipline I developed my skills in English, as it had was small, but the most important was to have attracted the interest of a time when available, to develop my English, how to get a client, how to analyze a medicine, among other things.

I am happy to have got me by my colleagues to follow the more difficult of course but did all the tasks required, and has captured more than thirty hours in three years of English.

35a.

Why I choose take a pharmacy degree? Well, I really want take forensic sciens, but in Portugual there only is master degree. So, for I can take forensic sciencs I need take a degree first. The options are pharmacy, lawyer, chemistry, medicine, psicologie and others. I choose pharmacy because they give me the possibility to take forensic sciencs, and because in our days we can find easily a job. The great job opportunities was the major element in my decision. But, I always liked the laboratory work, and with this degree I can do research laboratory and that will be amazing.

35b.

What I have to say about my English language learning experience? Well, just different, pleasant, nice, funny, practical, interactive and intensive. With this teach method student need work, and work hard, but in a easy way. I want say, we need study to learned, but we learned with a healthy way, without hours and hours in a boring study. In my English language experience with teacher I learned English but a coordinated and accompanied study. I understand my mistakes, and corrected it. I see my weakness in English dialogue, written and English grammar and corrected them in my homework, and in a graduated process I was eliminated bad English habits.

This English experience made me better in English language, not always in dialogue, written or grammar aspects, but too in cultural aspects relative to my profession. I study the English Pharmaceutical System, the differences and similarities between them and the Portuguese system, I did a Europass CV and I study the Human Body and other staffs utilities in my professional career inside my country or out the Portuguese country. I don't have anything bad to say about this English experience, they open my eyes for the world and how hard is it, I can't stop after take my degree I need more, I need innovate, create my own project, show to the world I are good enough to work in my profession.

36a.

What motivated me to come to the course in pharmacy was the direct contact with users and the fact that you can work in the laboratory. I think the course is quite interesting, but feel difficulties in some disciplines. But with study, motivation, commitment and some help from my colleagues come to believe it.

Before joining this course went a bit lost, indecisive because it is a big step for our future life. For me, working in a pharmacy will be very satisfactory. As we all know and unfortunately there are more and more sick people, which in turn need medication and many of them in order to stay alive. It is good to know that we can to help these people, have access to medicines in order to have a better life.

36b.

English classes are finishing. During the lessons, we have learned many things related to our area of study that will be useful for our future. We have learned new technical vocabulary which is at the same time very actual. We also learned how to use popular terms and expressions that are used every day, a more simple and clear languge that hadn't been taught before to us. Through this subject we can access huge information in English about our course (pharmacy) and about health areas in general.

These lessons have been very good for me then I have learned new things, and at the same time have allowed me to have a new vision about my course in English studies. It let me see that I still have much to learn. The method used by the teacher is great because it allows us to correct our mistakes and make us learn from them. I intend to continue to learn English then it is a very important language, which is spoken worldwide, and is useful in many activities and professions.

37a.

I choose Pharmacy degree because this represent a Great opportunity for people to like the work in the área of health care, research and development of new medicine and therapies in recovering the health of many people. This is my case!

Pharmacy is a degree with a high employability in the future job market and with many career opportunities. I believe Pharmacy, although being a difficult degree, with some complicated subjects, however will have a great importance in my personally an professionally life because I have knowledge that I will grow as a person and as a health care professional. The area of health fascinates me but I am not corageous.

37b.

English is not a language of which I like much. I have difficulties in the understanding the language and in verbal and writing expression. As only entered in the third phase in university, I did not have chance to know the teacher of the English module. However, for the lessons the one that attended, I evidenced that the lessons were very dynamic and the teacher was worried about the students. Although the few lessons that I had, I had chance to practice knowledge of previous years, for example the writing and the orality. Creating a portfolio is an important aspect in the English module. It also help me to a lot of aspects, as for example: increase my English knowledge, enrich my vocabulary.

38a.

First of all, the pharmacy degree wasn't my first option so I can't talk about truly professional motivations in this kind of situation. I chose Pharmacy because I think it is more related to what I pretend to do which is Life Sciences. So I could start learning some things that seems to be the same in Life Sciences degree and I would need somehow. In general, I like subjects related to living being and medicine as Chemistry, Biochemistry, Cell Biology and Anatomy, so that I can say that's my main motivation to be here today. However I didn't want to study Pharmacy degree, I'm loving the experience because I have met so many good people in this small city and I can also say that I'm creating a family here beside I may move to Aveiro City next year.

38b.

First of all, I would like to thank my teacher María del Carmen Ribeiro for the great classes and her disposition to be there every day, smiling and giving more strength to us to continue studying English.

The classes never were boring and depressive although we used to have a lot written production such as compositions and some other grammar exercises. I like the fact of doing exercises in class on pairs because that way helps who knows less to learn better with who knows a little bit more. Our classes always had some vivacity because the teacher was always saying jokes and smiling so we never go home sad or bored.

In my opinion, there's nothing I would change next year if I had English next year with the same teacher. I have learnt a lot with her and enjoyed the classes, always asking for more and thinking about when would be next class. Finally, I would like to say that I learned a lot beside few hours of classes and I wish we could have more English classes with Mrs. Ribeiro.

39a.

Since I was a child, my motivation was to study and later, enter in an health-related degree. I was always thinking help sick people that need our help to survive and that is why I choose pharmacy. In this degree we can have a variety of jobs: hospital and public pharmacy or working in labs. My preference is public pharmacy where we can answear people needs and, besides, that we can also give advices to people who have simple medical problems like headaches. In summary, this is my dream job and I intend to achieve it with a great sucess.

39b.

My progress in English during the classes was significantly reasonable. Because the four years that it had lessons in English, and the classes I had not spoken much to practice, practice more grammar. I think we should have more classes to remind me better that practicing and practicing for the better and harder because my oral progress with so little class. Despite all think it was good to be reminded some content, in addition these classes were very interesting and fun. However, I think I should have worked more because I had personal problems that led me to fail to give importance to studies.

40a.

Above all, when I thougth which profession to follow, I dicided that I would chose something that allow me to contact, interact and help, in first hand, people.

First of all, I thougth in Nursery but, dispite the economic crisis and the negative situation about work, nursery was in bad sheets. So imagin my future I would have to dicide something that, at least, grants me a job, dispite the payment. With this in my mind, the will to contact, to interact, help people, the economy of the present and the work marketplace, I questioned myself "Why not pharmacy?" With pharmacy in my mind, I started to wonder how would the degree be. What would I abord. Which subjects would I love and, later, the residency. And I didn't disliked it.

The next point to cross my mind was, how would be the work. I searched a little and founds that I could work in pharmacies, selling meds to the public, in hospital pharmacies, in helath centers, also in investigation and anothers with all this in acount. I kinda liked the idea of being a pharmacy technician.

For the future, and considerating the semester introduction, the ord of pharmacists is gaining power, day-by-day, and pharmacist are expanding their range of work. So, in my point of view, is, indeed, a good an interesting job for the future, because, more and more pharmacists are being requested to work.

40b.

Analysing all the classes, all the work realised and all the experience, I think I've improved my English skills in different ways and areas. So, I think I can divide it in two topics: development and expansion of my skills relatively to English and to English associated to a Pharmacy Technician.

So, from my point of view, abording my English skills, I think I've:

- Improved the pronounce and fluency, as the result of all the dialogue, brainstorming and debates:
- A little progress in my writing. (The position of the different constituents of a phrase);
- Expansion of the vocabulary;
- Development of the translation skill (English-Portuguese);
- Consolidation of the verb times.

In the English related to a Pharmacy Technician, I think I've:

- Learnt how to have a proper dialogue with a customer, that only can express in English;
- Learnt to describe a product, with the objective to help the client;
- Gained knowledge of the basic chemical safety and the laboratory etiquette.

41a.

The pharmacy always captived me. In my opinion this profession is very important to society and acts directly on people's lives, helping them to find the best product for their needs. The pharmacies are the place where we can find the cure our disease, so I think this job is a positive job because almost always when the people go to the pharmacy, they return with a smile on their faces. In the pharmacies we can ask for advices, control our health, ask for important information and shopping. We can buy accessories, toys, shoes and even makeup. For all these reasons I choose the pharmacy to be my profession, but the most important reason is that I feel that I will be happy being pharmaceutical in the future.

41b.

The lessons of English were very interesting. The teacher uses different techniques for teaching and I think that her techniques helped me to evolve in English language. With the completion of this portfolio I could see that the last assignments that I do are must better than the firsts and this make me happy because I feel that my work for this class had positive results. We did very different assignments that required work, investigation, creativity and after each exercise or composition we expand our vocabulary and the understanding of English language.

About my personal work, I think that I try give my best in response to the asks of the teacher but sometimes is difficult. I think that my biggest difficult was the oral participation. However, I think that I went a good provision in English class and I like very much of this experience.

42a.

When I finished high school I had no idea of the university course I wanted, probably I would go to any engineering. However, when I was eighteen years old I went for the army, and the studies were left behind. One day I needed to go to a pharmacy, get some medicines and while I expected to be answered I saw how the pharmacists worked, so I thought, how would be working in that place? From that day, came the desire to work in a pharmacy. My main motivation came from those people behind the counter, the technicians of pharmacy, always smiling and ready to help who need it, this is their work.

Nowadays the people have difficulty to find the job which would like to work, and with the unemployment rates, which exist today, the perfect job has become increasingly complicated. This pharmacy degree, for now, has fairly output, which makes me even more motivated. So apart from enjoying this university course, I know that probably there will be jobs when I finished.

42b.

Maria del Carmen is the name of my English teacher, during thirty hours she had taught my classroom. The classes are based on my pharmacy degree, we do a lot of things that you can see on this portfolio, related with that degree. The most interesting on these classes was the relation between that we learned and the way it was taught.

As a student of her classroom I can say that was not an easy work, we had a few classes to do everything, and we did all quickly, it was a pity because I think we need more time to learn more things. I have some difficulties such as the tense of verbs that I should use and more particularities on grammar I know but sometimes I'm distracted and don't do the best choice.

When the teacher delivered to me the correction of my works, I saw the correction and thought to myself how was it possible because I made errors that I knew what as the correct form. I have consciousness that I need work more my English but unfortunately alone. However my teacher give us an helpfully site, that was called englishmed.com: it is a good site to practice my English.

My global vision about that discipline was positive, I like the teacher and the teaching method. I do my best or try at least. There was something that was less well, I explain that, for example the teacher wrote the vocabulary and others things on her computer and the students passed that to their notebooks but while we wrote sometimes we lost some important things said by the teacher. I think that if we had more time this didn't occur. In my opinion in the future the others classrooms should be more hours of English because nowadays that is an important language.

43a.

The dream of my life is to go to univeraty to health area. In the my first candidature, I cannot enter. But I tried again and I can enter in environment engineering. But I did not like for this degree. Now I can change to Pharmacy, although I liked more nutrire or nursing. The Pharmacy is a beautiful degree, because we can to recover the sick people with remedies. My mother has a natuel products shop's and healthy food shop's in Arganil (my place). When I had my degree in Pharmacy, maybe I will can help my mother in her job. I think that when I will be a pharmaceutic, a good pharmaceutic, perhaps I can to rescue the people from diseesses and to open my own natural products and healthy food shop's, like my mum.

43b.

I started the classes later than my mates because I'm, the 3rd candidature. Although I had had less classes I learnt everything. For example, I learnt to make a curriculum vitae and a cover letter. This is very important for my future because when I finished my degree maybe we can find job in another country.

I liked the teacher, I think that she's a good person and a good professional. I think that the classes was different and dynamic because the teacher asks us to make interactive works, we need a lot of technologies to make it. For example the work about sites. All works that teacher asked us to make, I think that was useful work, because we learnt things to our career, as important as like others subjects such as biochemical and biology or anatomy. I suggest to the teacher to transformer all future classes in the must dynamic classes, because it's becomes funny classes where the students can learn more. I had a good experience in English Subject in my degree in Pharmacy. I just sorry my less class time.

44a.

I have to say that my dream job never included anything to do with pharmacy because, sine I were a little girl, I have wanted to be a veterinarian. I don't know if I grew up or if my ideals changed because, in these three days three I have been studying in the Polytechnic Institute of Guarda (School of Health) I'm starting to believe that this is my best choice for the rest of my life.

The reasons why I want to be a pharmacist are that I love to talk, I love to sell and I love to help people. Yes, I love to talk (most of all in Portuguese) and I think if a pharmacist wants to work in a pharmacy you have to talk with the costumers. I don't know if my passion for selling is good in this case but I promise that I will never sell a product to a customer if he doesn't want it. Helping people to have everything that they need to have better health and, of course, a better life is probably the biggest reason to become a pharmacist.

In conclusion, I think that although my first dream job was be a veterinarian, now I believe that pharmacist is the ideal job for me because I can do the three things that I truly love to do.

44b.

This is the first reflection that I make about English's classes and, I think that I can't write a lot. I arrived in these classes in the ending because I enter in the Institute in the third candidature, so I only had two or three classes. In my opinion these classes are very interactive (there is interaction between teacher and student), in classes we didn't found only teacher talking about the subjects, but we have found someone who wants transmit the maximum of information as possible.

For my learning I find that speaking English was very important, it doesn't mean that I've speak a lot because I know that I didn't had time, but hearing the English language released me about writing English, and maybe with other vocabulary and also, maybe, without many errors. About the presentation that we make about the site, I think that I like more the first because the site was more appealing and had a lot of categories that the second didn't had. All the others work were interesting and they have helped me to develop my English, also the correction of them was important to see our mistakes and to try not repeating them.

I can't forget to say that I like this kind of evaluation without a test because I think that the work made in classes or at home represent more than an evaluation from the 30 hours of classes in only one hour in one day on a test. So, I have to work a lot because I arrived in the ending and I confess that every time that I had to do many works I "lose my way" because I didn't know where to begin, because we have also evaluations in others disciplines but now I know that the works are the biggest reason for me to get better in English language because I could remember everything that I had learning.

45a.

Nowadays pharmacy is a very good degree and in the future we may have a pleasant job. We can provide medical treatments and explain how to do it. Pharmacists can solve simple medical problems without going to a doctor and spend money. Pharmacy has many job exits: we can work in a regular pharmacy, in an hospital, labs and investigate new substances to get new cures. Pharmacists are very well respected, since without them many diseases can't be treated.

45b.

To long from 30 hours of english course, I realise the evolution of my knowledge about the language. I didn't have must bases but I achive some real knowledge for my life. With the help from the teacher and from my collegues the English lessons becames my favourites. Since the first class I became a participative student, triyng to do all the works passed by the teacher, the classes were very interactive, we could do our opinion, talk to our collegues. In the classes we talk about themes releate to our area.

This is good for our future, the teacher was very rapid to bring the homework corrected, that way in the next work me could be more affirmative and do less mistakes. The works that we do by achive knowledge in the websites was very rewarding because that way we could give information to our collegues and vice-versa. The dialogues betwen us was very refresing, because we could realise what we do wrong and right. In the end I like the englishes classes and learn more about the language that government the world.

46a.

Description of your professional motivation for studying in this Pharmacy degree. I aply for this Pharmacy degree because I was always fascinated with the area of health care and investigation because I would like that in my future carreer, to have a job which I could people in need. I that that Pharmacists have an important role in the health of today's society. Pharmacy, although being a difficult degree, with some complicated subjects, it's a degree with a high employability in the future job market, and nowadays it is something that I have to consider in the decision of choosing my future professional carreer.

47a.

When i had to choose the course, for my life, then i perceived that it would have of being something that was related with the health. I chose pharmacy, therefore because it was always become entranced to be able to work with medicines and to help that more it needs. Also it fascinated me the course, because of the professional exits, therefore we can work in small farmus as hospital pharmacies, centers of health, etc.

48a.

I always dreamed to work with sick persons. When I was a little girl my dream was to be a doctor, but as everybody knows being a doctor in Portugal is a little complicated. A few years ago I thought on the possibility oto be a nurse but my country broke this dream again because of the job opportunities on the last years there's many nurses who lost them job.

So I was forced to find another degree related with those areas so I began thinking on pharmacy. When I have discovered that it has this pharmacy degree next to the city I live I really decide to go ahead so here I am.

49a.

The pharmacy was my first option in my candidature, hense, I stayed very happy. I dicided to frequent the pharmacy course because, I always liked to study sciencs. I have curiosity about the mistery of science.

I think that pharmacy will be a good course for me, because I like the contact with a different persons, and I feel myself good when help the people. The possibility of being able to continue to study, continuing to live in my city, also helped in my decision. Therefore I have a big family, and I like to be close to them.

Now, I am very happy with my choise, the course this to be that I waited.

49b.

The english class were very productive, it were possible improve my english level. The 30 hours that complete this discipline were insufficient, to us is impossible to talk about all themes, the time, was very short. Learn to write a dialogue was very valued; in future will be very important, so we go be able to talk with different customers. The class room's ambience is very good, all students are very confortble with the possibility of participate. Learn the name in english the object and tokes in laboratory, also, was interesting. Because we can work in laboratory, for any corporation. To know how to make a C.V., was important. Because, it is a indispensable tool, in job search. The apresentations allowed a better contact with the language. However, I think the groups shouldn't have so many people. Groups of 2 persons are more organizated and each person have more space and time to talk. I think that is important to say thank you to the teacher for the work and dedication and patience.

50a.

Hello! My name is Ana and I started my university life in the last year in Excola Superior de Saúde in Guarda. The pharmacy degree was my first choice for to integrate the university. This choice was based in my life because I'm diabetic and my dream is to find one drug for to try cure my disease. My family is involved to the medicine world because my grandmother and a wife of my father are nurses. But my really passion is the pharmacy because I'm curiously for the mechanisms and behavior the drugs in the human body. With this profession I can not only find new drugs but also help people and hinder or cure new diseases. The pharmacy is my world, the world is my limit.

50b.

The experience of english language during eleven years of school. I like english but I'm not will be to speak very much. My biggest problem in English are in the act and the ability to speak. The English is very easy to work and to understand but these classes help us in contact of one different language. The class ran the best and surprassed my expectations because they were given a more dynamic and fun. So, the students could enjoy the english vocabulary and taking notes useful in the future. The teacher is fantastic because she helped your students to overcome the difficulties. As a suggestion, I suggest that students explore more dialogue and interaction of vocabulary, type question-answer.

51a.

What's the reason to be a pharmacy technician? Nevertheless, pharmacy, is not the first course where I am. Before that, I was in biochemistry, in UBI, and also in thte military academy in the course of military sciences. However, pharmacy, is not where most of the courses would like to be. In the fact, the course that was even liked to draw is architecture, but for reasons of force majeure, now it is not possible. Perhaps, in the future, that dream becomes possible.

But nevertheless, there are reasons to be on the course where I am. On of them is the hope that the profession of delegation of medical information not end because that's what I like to do professionally. But I am fully aware of the importance of this profession in the society of today and as a pharmacy technician can help and advise people who seeking our services. The pharmacy technicians have a vital role in the health system because they are to play important roles in hospital pharmacies, in community pharmacies and parapharmacy. Be a pharmacy technician is to be important.

51b.

In my opinion, the English classes were very productive and they prepared me to my future work. As you know English is the most important language in the world and is necessary learn every day a little more about this language. This happened to me in English classes. The methodology used in English classes gives me this opportunity. My knowledge about the English language grows up this year and now is stronger and I have more bases. In the future I will hope that my knowledge about English help me to pass my difficult in my work and any difficult every day.

52a.

Nowadays it's not easy to decide what you'll choose to do for the rest of you life. It is, in our adolescence that we have to take that important decision. When I started my high school I choosed study in scientific course, because it was the most attractive for me. At that time I wanted to follow my career of nursery, because my desire was to take care people and help them to feel better. But in the course of time I found other interesting subjects where I would like interfere, as the medicine department, from its productions, acquisition and distribution to its arriving to the patient. In this moment I made my decision and I chose them a course that was related with Pharmacy. Today I feel happy, because I have done the right decision, although I know that this job needs responsibility, I feel I can carry out efficiently in the future.

52b.

It was with pleasure that I assisted to classes of this English degree. First of all, because it is really important for my future professional life. As we know, with globalization English have played a central role in most part of our activities and it makes that a good knowledge of this language is more than required. In the specific case of pharmacy, we have to admit that part of a pharmacy costumers are non-Portuguese speakers, so in order to provide a good service to them; I need to be an English speaker. We also cannot forget that some companies in this area are foreign companies, so again, the English will be indispensable.

After all those classes and written works, I'm more able to communicate in English, both in written as in oral ways, especially in a pharmacy context. I acquired indispensable vocabulary for my future as a Pharmacy technician. For example, I learnt the names of the organs and parts of human body, the symptoms and diseases. I also learnt the technical terms used in a health unity as the names of the products that we can find there (especially in a pharmacy).

I also have to say that I revised some grammar concepts. One example is when I was doing the written works, in order to do them in a correct way, sometimes I had to go back to the grammar times.

In my opinion, the classes were organized in a way that really helped me in my learning process; in big part because they were quite focused in daily life situations is a pharmacy.

To conclude, this was a good experience for my and I really hope that in the future I have the opportunity to use all the things I learnt with this degree!

53a.

Nowadays when you chose anything in the health field you must consider several topics related to this subject, as well as the responsibility and the will of helping the others.

When I was a child, my desire was to be a Doctor, afterwards I chose to be a Vet, maybe because I liked animals very much. When I started high school the acquired information and mind were different and better, so I began to have more interest for two courses related to the health field: they were Nursery and Pharmacy. Then, I was sure of what I wanted, it was help people to be good, or to be better than before; I needed fell myself useful to the people and can understand each situation and act in an efficient way.

Along my 12º school year I´ve got better information about the two courses that I was decided to follow in and my opinion was Pharmacy, mainly because it was more related with chemistry and medicine subjects I´ve always liked. Thus I could do the two things I loved, taking care people and work with medicines in a direct way. However to be a good health professional, it is necessary love the work he roles and besides to be responsible with their attitudes and actions; after all we all have people lives in our hands.

53b.

My English time in degree of pharmacy was a rich experience for my professional life. I learned several technical terms about the language pharmacy and about pharmacy´s products. I remembered some basics and complex concepts about English grammar and some new vocabulary that have consolidated more my English knowledgement.

Every classes were taught in an open and clarified way, what made the "break-ice" between students and professor. The planning classes was good, however I think students could have more research work about new technologies used in pharmacies and a deeper study about the differences between the three countries, USA, England and Portugal.

This experience was enriched for my knowledgement and I reached all the objectives which were purposed.

In future I´ll hope going to enriched my knowledgement by my own.

54a.

First of all I have to say that I came to this degree almost on a parachute. I mean…I've always wanted to take a degree on something related to health and my first choice was nursing. I just placed pharmacy on my application form because I founded it interesting and had a big advantage: the degree existed at Guarda, my little home town.

When I didn't entered the nursing degree I thought for once that I could try again but as the time passed I noticed that this is a very good degree for me in several ways: I was liking the friendships that had been created with those that are now my schoolmates and also loved the several degrees I had to face at this school (at least a large part of them), and by staying here I saved my parents a lot of money, and in the end and maybe the less important thing although I love it a lot, I can continue playing soccer at a local team and professionally has a lot solutions. As a pharmacy technician I can choose where to work (hospitals, community pharmacies, clinics and other home health care facilities), and more important than all of this, on this job I can interact with patients, helping them by informing how and when to use the medication prescribed by doctors.

This is why I'm liking this pharmacy degree, when it's complete I'll do something I enjoy and in this four years I will also be at home next to my family and next to some of my friends that also study at Guarda.

54b.

This final report is a conclusion of all the work done in this English degree. I have to say that this degree was a little bit responsible for my choice of being here, at this Pharmacy degree, because I've always loved both the American and English cultures, as the language, and I don't know why but it fascinates me, it's awesome! As we all know English is nowadays an universal language, so I think that every human being should learn the language, because in the future I believe it will be essential.

Now talking more about my development in these classes I guess I can say that I've learned new things related to culture, the profession that I'll hopefully perform, as new vocabulary. As for the reading/writing and speaking exercises I think that I haven't evolved, maybe because I was already well prepared since my high school, but as everyone else I've committed some mistakes in my assignments, but it also happens to me when I use my mother tongue, so I believe it's perfectly normal.

As for the homeworks I can assure you that I did them all and right on schedule, such as the powerpoint presentation, which was a group work. In classes I consider myself participative, but sometimes I was caught talking to the nearest colleagues about some topics that weren't related to the classes' topics, but it just happened because sometimes it gets boring to talk about the very basics things, things that supposedly we should know since the fifth grade. But I'm not criticizing that the teacher shouldn't talk about some of those things, because I understand that some of my colleagues have no basis in English and its vocabulary, but for some students the basic things make them loose interest about that topic, and therefore distract themselves with other dialogues.

To finish I have to say that anyone who frequented these classes has to be prepared to deal with several different situations in our future employment, since we've approached the different areas/tasks a Pharmacy Technician can perform, as working in a public pharmacy or in the research area, in laboratories.

I hadn't any English classes for two years and now that this degree is over I won't probably have English classes anymore, and all I can say is that I'm going to miss them, for sure…

55a.

Why I choose the Pharmacy degree? Well, that's a long history, but I'll tell you the shorter version. It wasn't the degree that I always wanted, but I couldn't choose for it. Back in High Shcool some of my grades were very good and the others weren't for many reasons. I finished High Shcool with a good grades but not enough to get into the degree that I wanted. I had another six options to choose from. I were accepted into five of them, I choose Pharmacy degree and here I am.

55b.

In English classes I learn things that I new but I forgot because I didn't have English a long time, I can say that those lessons helped me a lot. I also learned very important notion for my future profession. I think that we should have English classes in all degree or in one complete year and not only for one semester because it's important for us, it will help us in our professional life. Today it's crucial to know more than our maternal language; it is good for our professional, cultural and social life. These classes made me realize that we need to take all of kind of opportunities to learn new languages because they will help us a lot. I wish that we had more of those opportunities in our school, because we could take more advantages in Bolonha.

56a.

The degree of Pharmacy was not really the what i wanted to frequent, but it also belongs to the area of health also like. I was wanted to medicine, but it was not possible. Another degree that also wanted was Pharmaceutical Sciences. The degree of Pharmacy was as a last resort. But i am not penitent to be attending this course, quiet the contrary.

The degree of Pharmacy is interesting and stimulating, but in my opinion has a weak point: when graduates we cannot pursue the pharmaceutical activity. The name of degree take the students into error, because the area of work of professionas is related to the pharmacy, but just cannot practice the pharmaceutical profession.

56b.

I have studied English along seven years, where I have acquired good skills related to writing and oral communication. I had a major contact whit English language during my staying at London. I learned about their culture and life modes. I have the developed more my oral communication skills.

With English classes, I have extended my skills of communication, grammar, and pronounce. Also, new skills related with expressions used in Pharmacy, Anatomy, laboratory and pathologies were reached, that will surely help me to find a job opportunity in international enterprises. Concluding, my development was positive and I have reached the objectives.

57a.

I chose the Pharmacy Degree for several reasons. I always wanted to go for a course related to health. As in the Pharmacy Degree disciplines exist as anatomy, chemistry, biology, pathology, pharmacology, clinical pharmacy, among others, motivated me to choose this degree, because they are subjects that I find very interesting and I may have a wide knowledge about what surrounds us from day to day. Also, one of the reasons that led me to choose this course was that at present the situation of Pharmacy Technicians in the labor market is positive, in that unemployment is uncommon.

Thus, it should be noted that the pharmacy degree has many career opportunities and, thus, of Pharmacy Technicians can work in different places such as hospitals, community pharmacies, parapharmacy, laboratories, classrooms, pharmaceutical industry, marketing, education and scientific research (search of new pharmaceuticals). How has this course output is easily get professional jobs and that's what I hope.

In addition, I like me relate and communicate with people and Pharmacy Technicians have frequent contact with the public, inform and advise users, other health care professionals and the community at large for a proper and rational use of medicines, alerting them to how they should be taken, their interactions, their contra-indications and side effects that may result. In turn, I like to work in a team and the technicians pharmacy contact with pharmacists, nurses, doctors… In my opinion I think I have vocation to the profession, because I am very curious to know things about all the medicines, since its production until its use.

The fact that the Pharmacy Technicians can acquire throughout their career expertise, enabling the prevention, diagnosis and treatment of disease by increasing the average life expectancy, also influenced me to choose the course in pharmacy.

In my view these professionals have an important role in society, insofar as increasingly involved in campaigns to promote population health, clarify doubts on the subject of prescription drugs and give advice about medicines not subject to medical there by promoting safe use of these.

57b.

For me the lessons of English were very important and very profitable, since deepened my knowledge and I acquired along of lessons vocabulary related to pharmacy.

I liked to do the dialogue, the description of medicine and Europass CV, since as are works that are more related with the Pharmacy degree, will help me for the future: the possibility of have made a curriculum will be very useful for to find employment. It should be noted, that dictations that I did were important to improve my writing. In my opinion the first oral presentation about international conferences was difficult because I was very nervous and then the presentation didn´t come off very well. However in the second presentation I applied me more and this presentation came off much better: I think that I progressed. Lessons in English will be useful for my professional future, because this language is used throughout the world. However, I think we should have more lessons in English, to better understand this language. I think the lessons were very positives and they were in agreement with my expectations. So, I can say that of teacher the methodology was appropriate and it enriched my knowledge. Despite some difficulties in relation to presentation of the site, I can conclude that I achieved all my objectives, I acquired a broad knowledge and improved along the lessons.

58a.

My name is Dora Rodrigues and I am twenty-one years old. I study in Escola Superior de Saúde da Guarda in the pharmacy degree. I come to this Pharmacy degree because I like chemistry and biology very much. The medicaments word fascinate me.

58b.

During these thirty English classes, I think it was noticeable the crescent development. Although I do not feel quit comfortable with the language, these classes made me see that English it is very important for my degree, because with this language I will be able to communicate with foreign people. Known as the universal language English appears as the most spoken language in the world, so it is important for me to learn it. For this I am thinking to deepen my knowledge. I would also like to give thanks to my teacher Maria del Carmen for the support and dedication.

59a.

Actually, I was indecisive for a long time about what course to choose, or rather, what the course that I identified. The options had Medical tests, pharmacy, psychology and social securaty. The big question is because I am an island, or rather, the island of Madeira. Various courses existed in University of Madeira, but I identified with psychology and social securaty, perhaps because not have to leave my family, my boyfriend and all those I love.

After days of anguish, came the day of application. Thus competes for pharmacy, as my first option. I began getting increasingly motivated by the fact way course with many output professional. With this course I can advise users on how to use medicine and other therapies. With a degree in pharmacy, becomes more family with our organization, as well as the way drugs act in the human body. Many were the times that I quit but still continue to fight for a better future what I like.

59b.

After this time we had English, there was work that great attention had to them, because they were of my liking. Particularly liked the dialogue between the customer of the pharmacy technician, the search for music, the soup of letters and englishmed, with interactive work.

But also liked the classes because they are different, giving bit of autonomy. During this time, develop much homework, with the support of grammar. Although my English was a relatively low level, I thought could evolve with the work proposed. I can understand more easily what you are saying, and I manage to free little in the presentation of the site in English, thus improving my foresaw. But the two months of English are not sufficient to end this chair to speak English.

60a.

Hello! My name is Liliana, and I have twenty-one years old. I am currently studying in the school of health of Guarda, in the second year of pharmacy. When I finished high school, my first idea was to study nursing, this decision was related with the fact of having two uncles nurses, what allowed me to have some knowledge's of the reality of this health profession. However, in the day of all the answers it was written that I was accepted in pharmacy. This new way that my life was gaining was initially a disappointment, I can't lay.

Well, I did not know anything about what was to be a pharmacy technician, what was their work of everyday, in which places can they work (hospital pharmacy, community and selling to the public, among other career opportunities).

After a while I started to think that this was the right course for me, the formation that I received and that I had at my disposal gave me the certainty that this was the right decision. This sensation was more accentuated after my first week of training, after being a truth pharmacy technician. Despite being such a short time it was a good experience that gave me the opportunity to see in locus what makes a pharmacy technician for pharmaceutical services in a hospital. I also acquired the perception and notion that the circuit of the drug, in which the technician operates, is very important for the hospital but particularly for the patient.

I also believe that I will like my future practices in the different field of the pharmacologic science. My biggest professional motivation, what I think that it is crucial in my future career, is that I can help the others while I enjoy what I am doing, so I will be doing well and I will be useful to society.

60b.

My initial English was very weak; because I only had three years the English, from seventh to the ninth grade, which had to do with the fact I always chosen French instead of English. Have English classes now, after some years of not having them, was something I faced with some concern since my contact with this language was basically through movies. However, the lessons were good for practice some aspects as: the verbs, the grammar, and vocabulary using many exercises. The homework's also allowed me to learn a lot because through the corrections made for the teacher I got able to see where the errors were and correct them. This curricular unit was also essential to understand as the English is important for the professional future, of a Pharmacy Technician. Thus I find that I felt a positive evolution in my learning, however I recognize that I have to continue to improve my English.

61a.

Composition about the motivation I had to came me in Pharmacy Technician degree. I wanted to come in this way simply because I think that job Pharmacy Technician is good. I interest me with the activities that this Technician of Health execute, I like the simply act of attend the vast community, interact with the public and help who need. I have much appreciation for the health area and have always wanted to work in this area. The fascination and curiosity for the vast and diverse range of pharmaceutical products also contributed to this my choice. Now, I hop continued motivated in rest of the degree and in the future job.

61b.

During these seven weeks I learned many things related with my future job Pharmacy Technician.

In that period I learned lot of vocabulary and expressions about health, pharmacy, attend on pharmacy, parts of the body, laboratory's objects, medication and their characteristics, and other more of general context.

I learned to article some English expressions related with the context through of compositions elaborated by me as "professional future", "the dialogue between the pharmacist and the customer", "description of a product", "intercultural and professional analysis" and "Europass Curriculum Vitae". Some topical of grammar also were purpose in this subject's program, for example construction of interrogative phrases, the verbal forms, knowledge or remembered of modals verbs and their applications and function, irregular verb forms and their grouped by families verbs and the rule of "NO SAS COM + noun". Finally, we did some dictations and had two summary of internet research oral presentations.

I think that this subjects is very useful for Pharmacy Technician students because the English is the language more talked around the world and for that it's always interesting we have the best knowledge and performance about it to can contact with people that talk English and because of much important literature information is in English and can be important to do works along my degree or job.

I opine that the teacher's contents elaboration and exposition and her availability permitted a positive learned and evolution of each of us because it is concentrate in the more crucial themes that we need know or improve. The active and gradual participation of students in learning is very important and I think that the work, enforcement and progress of each one is the most important to considerate in subject's evaluation. I had more difficulties in understand the vocabulary before of I consult the dictionary used correct expressions in writing, understand about modal verbs' applications and functions, remember about irregular verbal forms, and in dictation and oral presentations because I don't have extremely capacity to express me in English.

I think that learned many interesting things and I evolved in some aspects of knowledge and I would have more hours of classes of this subject in my degree for to learn and to improve more aspects. To combat the most relevant difficulties I enforced along these seven weeks and did some exercises of improvement of my English' difficulties, that I will be include in my English portfolio. Finally I hope had been understand the subject' purposes and realized them and that I can use theses knowledges and capacities in my future.

62a.

At the previous moment of my candidacy wise person wich the options would not go to fill in the leaf of ingression. My only predefined objective was to choose courses related with the health. It also had conditions, of wich to have note to enter in superior education and the establishment if to find close to house. In the day of the candidacy, a friend folloied me, hesitated sufficiently in the choice of the courses. I thought about nursing in diverse establishments, clinical analyses and cardiopneumolgia. My friend repaired that the pharmacy course satisfied the conditions imposed. It had never passed me for the idea of be pharmacy technique. I thought seriously and I decided to place this course in second option, exactly knowing that it was a madness. After the candidacy, I decided to get information on the course properly said. Always thinking about the professional exits, you discipline, the notes of the previous ranks. Happily, I entered in pharmacy and I do not repent myself minimum. I consider my entrance in pharmacy a miracle, a time that my first option was nursing and it would not go to get as many advantages in relation to the professional exits. Passed the first year I carried through one week of period of training in a hospital pharmacy. After the first day, I discovered my identification in this course. I liked to discover the on that one pharmacy technician and capable to carry throught. He was fantastic. Thus I wait to get my licenciatura and power to exert the wonderful profession of pharmacy technician. I ponder my motivation of course as a miracle and an evolution throughout my first year. In conclusion, I like my future profession.

62b.

Throughout this discipline, found that the English is very important and very useful to us. In my life, I only had two years of English. I perceived the knowledge most basic and to acquire some vocabulary in these two years. Sincerely never captivated me very to have this foreign language, preferring always the Frenchman a time that is my mother tongue. In this discipline I was verifying some ways to act of the English, some customs, the university preparation, the elaboration of one CV, the form as the English if they communicate, the assignment of certain instruments in a laboratory, an article was analyzed that if related to the way of a druggist to elaborate its work in a communitarian pharmacy, I sufficiently acquire relative vocabulary to the pharmacy degree, it was verified way as the druggist dialogue in a public attendance and not forgetting the grammar and the verbs in English.

In the lessons of English, we had the chance to present different sites. Acquiring some pronunciation and sotaque. Allowed to verify some English universities, some articles, the presence of conferences, pharmacies online and some companies.

During these lessons, I can say some critical ones that they bothered me. It was the fact of the groups to more have elements in the accomplishment of the presentations and I felt a certain incomodity, therefore never I had lessons of English where the teacher only spoke English. Thus I felt me lost for moments, but I was becoming accustomed and perceiving each time more.

In conclusion, I changed my opinion concerning the importance this discipline in our degree and day-by-day. I learned sufficiently, remember me acquired concepts previously and to have an extra knowledge never is excessively. I thank to the teacher Maria del Carmen Arau Ribeiro, as well as my colleagues of group for the supplied support.

63a.

My name is Ana Rita Gonçalves. I have 29 years old. I'm from Lisbon and I'm graduated in Chemistry, by Lisbon University. For five years, I worked in investigation, on dioxin food analysis on a national state institute. I made a specialization in Aplicated Analitical Chemistry. Then, my parents, who live in Guarda, got sick and I decided to left my job and come to Guarda, to take care of them. When I arrived, I decided to try Pharmacy School here in Guarda.

Pharmacy degree was my second choice. It was a big change in my life, but I like to live here in Guarda and I'm loving my pharmacy classes. When I graduate, I will try to get a new job in pharmaceutical or in chemistry industry. I love to work on a laboratory and make scientific experiences. I am planning to return to Lisbon because I was born there and my parents are good for now.

63b.

I think that this principal subject (English) in our Pharmacy Degree was very useful because it helped me to learn some important vocabulary and it also helped me to speak english a little better, by making exercises, dictations, a list of important verbs and other assignments. These classes taught me to do my Curriculum Vitae in english and a cover letter, both very important to future employments.

I read many english scientific articles and I understand them, but I'm not used to speak english. In high school, my teachers were not good teachers. Despite all my english difficulties, I learned a lot with these english classes and the teacher taught us so many important things, that I think these classes are very important and useful to our Pharmacy Degree.

64a.

My name is Marisa. I'm twenty years old. I'm from Vila Real, Alijó. Overcoming my expectations to enter this course. Mine was the first option, although they would prefer entering Pharmaceutical Science, but the average was slightly higher it. But end when the licence in Pharmacy, want to get a master degree in Pharmaceutical Sciences. For the course itself, shows very good knowledge, deepens what is really important in our area. I hope to achieve all my objectives for the future have a proper life with my expectations to achieve success. I hope this academic time very useful for my training, then labor market.

65a.

Pharmacy Technician - the life that I chose. The Pharmacy studie is a four years duration studie that forms professionals with Pharmacy Technician heading. In short, the Pharmacy Technician is a qualified professional to intervine in the different stages of the medicine circuit, since the production, medicine acquisition and distribution, passing for the management, quality control and marketing, among others. These kind of professionals are able to develop their abilities in laboratories, pharmaceutical industry, in hospital and communitarian pharmacies, in the inquiry and education areas and giving information/formations next to the usuaries.

About my studie choice - Pharmacy, was always the health branch that would like to follow, however I've spend some time to perceive/realize that Pharmacy was the right studie, and that could be what I would really like to do in the future. Although pharmacy technician be an professional with great responsibility and great requirement, since he has to deal everyday with human, people who look for their illness cure, is undoubtly the certain choice, what I always dreamed to be.

The passion for Pharmacy grows in each day and each moment, and what helps me to keep motivated in order to continue it's to know that exist many people who still waiting for us, and needing our aid to exceed their pathology. Is that motivation that makes me want to go much more far and to want to increase my knowledge degree to be on the right level, satisfying the necessities of each patient/sick.

65b.

In my opinion, English is one of the most common languages in the science world, especially in technology, including Pharmacy. So, I think these English lessons were very important, not only for my formation as a person, but as a future Pharmacy Technician too. In the beginning I got a little "scared" and afraid that I couldn't do all the proposed tasks, since I hadn't had English in a long time. I had to remember some things, but I tried to be ready for the tasks.

I found the teacher´s proposed tasks interesting, because she took care choosing tasks related with our degree and helpful in the future. All the vocabulary related to medicine, chemistry, pharmacy, laboratory material, parts of the body among others were very important in this course.

I found it interesting that we had to rewrite all homework, because we are human beings and we are not perfect, it´s with our errors that we learn. I had some difficulty speaking, but it was always like that, it isn´t new. From the proposed tasks, the one that motivated me more was the Pharmacy dialogue.

These classes have reached my expectations, because I learned new vocabulary and remembered forgotten vocabulary, but now I feel myself more comfortable especially in the Pharmacy area, because I learned a lot in this seven weeks.

66a.

I always wanted to be in a health course. But I didn't ever target courses (degrees) like medicine. It would require a lot of work for me and I didn't (and don't) have vocation for that kind of courses, so I just didn't even think about that. With this decision I could take my scholar life easier. I have searched in the Internet for health courses and found a lot of them. After I spent some days thinking hardly about my professional future, I got stuck between two courses.

Pharmacy and Nursing were my last (but not least at all) two option courses. But it took me less than five minutes to decide. I have chosen my actual course (Pharmacy) because I had a great idea about the course and I thought "that could be my future" (I could imagine myself as a Pharmacist). Other reason was that I couldn't imagine myself doing a nurse's job. It didn't call my attention.

My biggest motivation was the fact that I needed to know chemistry and I could help people, selling products and drugs (legally). My hard work paid off and finally it was easy to choose. I concurred to the high grade with the first five options as Pharmacy and the last one with Nursing. I joined this academy as the fourth option and I am very happy of being here.

66b.

In our actual society, English is a powerful language, especially when talking about science and technologies. My degree, Pharmacy, is a lot related to these two topics (science and technologies). So, since English is very important in these two topics, it is also very important to my degree, for me as a future Pharmacy Technician.

The last time I had English classes before the ones in this school was three years ago. But that was not a problem. I got no problem understanding the teacher and solving the sheets was easy too. About the daily tasks, I think they were good to remember some grammar.

The tasks proposed by the teacher were good because they were related to our degree, with many helpful vocabulary related to pharmacy, medicine, laboratory material, chemistry, medicine and a lot of parts from the body. This vocabulary will surely be very useful in my future as a professional Pharmacy Technician. The fact that we had to rewrite all the homework was of great help to fix any new words remembered. I enjoyed presenting the websites because I think the oral part is very important, the way we express ourselves. Maybe there should be a little more oral presentation in the classes, but maybe with less searching. Just to improve our communication capacity.

I think the classes were funny and helpful. After these thirty hours I acquired new vocabulary related to the Pharmacy area which is going to be very important in my future profession.

67a.

I'm in the degree of Pharmacy, but this wasn't going to want be. The course that I really wanted was Nursing, but I couldn't come this degree not the first nor the second phase of candidacy had to choose other degrees in the third phase, and one was Pharmacy, where I'm now.

Although not being on the degree that always wanted to don't feel completely disheartened, but I'm not totally motivated. I don't feel completely motivated in this course because always dreamed coming into Nursing and then take the specialty of pediatrics, because I love children and also because as I do not like to see suffering wanted to help them become better and to feel a bit happier. But despite all this, I don't feel totally disheartened because after the probation that I did in hospital pharmacy was more explained on the degree where I'm and spent most this going to like what helped me gain a bit of motivation to be there. I was more explained about what is done in a hospital pharmacy and so did I see that I can indirectly help not only children but also all people interned in the hospital is to feel better, since they needed to prepare the medications that can cure it or at least have a life a little better. As I can also help people who will go to a community pharmacy to get the drugs they need. The knowledge that I'm to take this course can help many people makes me motivation to continue in this the course and not to quit.

67b.

English is a language that for me not arouse much interest because by not understand very well I had lost interest when I started to learn English.

I started to learn English in the 5th year of the school. To top up was a language that I thought interesting, but over the years has increased the difficulty, which is normal, but I could not keep up that increase with the result that I was losing interest in the language and therefore the decrease the notes.

The failure to understand what is said or read leaves me frustrated. After a year without having English have it again this year which left me a bit distressed and even scared. But then with the lessons I came to the conclusion that would not be something so scary and tried to commit myself to the maximum to do everything I could to learn a little more.

With the work we were doing along with those of the lessons that we had to do at home, that helped me to understand a bit of English and earn a little more enthusiasm for this language. I think for me what helped me during the time that I had English this year was the presentation of the sites because we had to search on them and make your presentation in addition to being a coach the English knew what we were say, which is not much time because I can hear what is said and not understand. But of course everything else that we had done before and after what we did was important and helped a lot.

I can say that this year of learning English was a good experience because it helped me understand a little better some rules of grammar and also because it took me to win again interest in this language.

68a.

Hi. My name is Ana Rita and I'm from Lisbon. I always want to come to the pharmacy degree because all the things related with health fascinate me. The perspectives off a good job too contributed to this choose.

When I was finished the school I bid to university. When I was made my formal written request I was six options. In my application my first option was to pharmacy in Lisbon where I live. When I knew I have been to Guarda I was in panic because I didn't knew this city and I thought that I wouldn't like. However after one or two weeks I understood why people love this city. That's because people here are so funny and like to help everyone.

Actually I'm in second year in the first semester. Last year we have done eighteen disciplines. It wasn't easy because in first year all the disciplines aren't directly related whit the pharmacy degree. There aren't pharmacies specific also they are many. But I understand there are very important to use because all those disciplines teach us indispensable things to the academic future.

What I most like is our stage. The first stage of the course lasts for one week. My only stage, last year, was in Hospital São João in Porto. I loved made the work I pretend to do all my life. I realize that job is really what I want do to when I finished the pharmacy degree.

68b.

This work with this portfolio was the most appropriate way to evaluate these classes. We could learn more with this method (the portfolio) and assimilate more words related to our profession of pharmacy technician. As a result, we retain the most important things for our future and learned to deal with some situations that may arise in our life. My favorite work was the lyrics of my favorite song.

"How a pharmacist fills a prescription in Portugal" was the hardest work. It was very long and very specific to our degree. Our first work was a diagnostic test to distinguish the level of each one. I missed ten and made the correction of them. To remember, I did a pithy summary of grammatical verb tenses. I did a search on the internet and I choose the most important to remember some rules. For the irregular verbs, I separated them made families' verbs. To a better visualize, each family had one different color. In this portfolio, I include my presentations because they help me on my English evolution. They represent the exertion of my English.

But what help me more on my English evolution were all the homework and all the corrections. With this I practiced my English and saw my mistakes and learned with them. The short time was the only negative point because we could learn much more with more time and more lessons. But I think that lessons have been productive and helped us to remember and learn some new concepts.

69a.

When I was seventeen years old, I didn't know what I would do then. I always thought in something related with health, but I don't was prepared to see much blood and I'll never thought that I could see someone die. I was searched in internet all degrees that I could choice, was when I found Pharmacy, so near of my home, and was here, I took the decision to try to come in to Pharmacy degree.

At 15th September I went to internet and I saw that I joined in the first option of my application, and the next day I went to school to prepare me for the new face of my life. When I came in to this degree, I didn't knew what I went do first, but I had help from my friends. Then we did some rituals at school to be integrated, but wasn't much funny. At night we did lots of festivities and that, yes, was been really funny.

Next week, began the classrooms and the study. We had anatomy, biochemistry, cell biology, organic chemistry, inorganic, research, information technology, etc. Then I started to see how the course was, and how it was being in higher education. And I like being there. With the time I began to understand that I did the right option and is what I want for me. Understanding the drugs mechanisms, why we use them, how they work, how could we help people to fight diseases, all this is comfortable and makes me like what I'll do in my future. That's all I can say about being in this Pharmacy degree.

69b.

At this year we have the opportunity to study English at school. That was an amazing experience because I never thought that it was so good learn English and I remembered what I was already forget. Moreover there is still much to learn and I think that we must have more classes like this one. The practice of it, turn it more simply and more easy. The existence of all that assignments maked me search more and more and the learning was made and I take no account. The is gratifying know that I can keep a conversation in English and that I know so much vocabulary about my future job. There are not much to say about this class. Maybe, thank you teacher to turn it so fun.

70a.

The reasons I whant to be thecnical of Pharmacy. I always like very much the health area, because it's very interesting and nice help people. Are many ways to help people and this is the way I like most. I don't like see blood and people with very bad diseases and that are suffering very bad so because that I prefer to help them selling the medicins to cure them and to see they could smile again. This is the most important to me see that people are happy and not sad and suffering. This is a very good reason to like this course, but it is other important reason, for example this course are very good to get job at today it's dificult to get. A lot of other students that finished the course and they not can get job. The institution also is very nice and the people are too. I can say that with this course I realize a dream and I whant very much that everyting run well and I can get a job, because it's very good I can do what I felt good and I whant in my entire life.

70b.

In the classes of English I learn so many things new and that will be very important in the future. I don't like my last experience with English but this year was very interesting for me, because I learn very new words and that could be very important for my future. I think my English this year improve considerably, the works taken by the teacher helped me very much to understand an speak better the English. All the work done this year helped me very much to develop my level of English.

In conclusion the English that I learn this year is going to help me in my future job, that is Pharmacy Technician. The English help me in the way of attending people, give advices and tell to the client the contra-indications and even teach they how to take the drugs. If a client came to talk with me and don't speak Portuguese I have to be prepared. Attend clients that speaks anothers languages is very important in my future job. The English language is a universal language because that is very important and usefull learn it.

For finish, in the English classes this year the most that I like is the works, the teacher give advices about some words related with our future job and helped us to improved the English that we already know. I think the English classes should be always like this.

71a.

Pharmacy the my course. The course of Pharmacy has always been one of my preferences, particularly for the activities which plays a degree in pharmacy, for future career opportunities, and also by the disciplines that have mainly the chemical that always liked.

I seemed destined to come to the course of Pharmacy, and also for the city of Guarda, because when competing for the first time to higher education all my options were Pharmacy, but because of my low average I achieve not enter. That same year, I also tried to enter the third phase of access here in the Guard in Pharmacy but I not succeeded. However I seemed that it was intended and last year joined in Pharmacy and right here in the city of Guarda, despite being only my fourth option in the application. Today I am happy to being in this academic year and in this city that welcomed me very well.

As I mentioned one of the main reasons that made me join in this course are the activities that a pharmacy technician plays, among them prepare, deliver and distribute medicines, chemicals and possibly dietary products, pharmaceutical formulations and the second prescription therapy. Although the main area of concern focuses on therapy, can also play a role in prevention and health promotion, research, management and education. What fascinates me is that the Pharmacy Technician is involved in the whole process of product from the manufacture, testing and quality control, stock management, distribution and dispensing according to the prescription and medical diagnosis and advice on their proper use.

In the future, I can exercise my profession in Hospital Pharmacy, Pharmacist of Workshop / Community, Military Hospital, Prison Hospital, Regional Administrations of Health, Health Centers, Pharmaceuticals, Medical Information, Education and Research. Though still only had an internship in hospital pharmacy, and have no means of comparison in this way, I would like in future exercise my profession in the area of research because it is the area that fascinates me most, and where I feel most accomplished because I always liked to work in laboratories.

Today I find myself in the second of four years of the course, I like the my course and about my professional future now I have some ideas, including working in research, but probably in two years when I finish the course I will have different ideas, but the one thing I am sure, is that I am in the right course!

71b.

Today it is very important to know English. This language was taken an universal dialect, which anywhere in the world always comes as an alternative to the original language of the place where we are, being very important in scientific area. As a future Pharmacy Technician to English will be very important in my day-to-day work, because I always have contact with people from other countries, most scientific articles are in English and also because the field of "global language" has opened many doors for our growth and professional development also reaching our personal and cultural life. Thus these 30 hours of classes in English were very important and very beneficial to me.

I had English for 7 years, though no longer I use often for 3 years, so have some fear at the start of classes, because I was never a great student in English, was an average student, and my main difficulty in speaking . Over the lessons we have developed various types of activities from simply learning how to greet the English, to learn different vocabularies related to pharmacy and we are going to be useful in future work and also make dialogues in which we use this vocabulary.

The necessity of having to rewrite and correct all the work several times, in the beginning I felt a little boring, but it was really very important, as I learned from the mistakes, and both myself as a teacher, we can see my progress. Throughout these lessons I learned immense vocabulary, on various topics related to my degree, the body parts, units of measurement, laboratory equipment, description of the different diseases and symptoms, something very useful for my future career.

The hardest part for me was the presentations of internet research about the pharmacy sites, as had always been at the level of difficulty speaking, and the nerves also does not help anything. But I had two opportunities to show my oral skills, and I think the second time I came out better, I could evolve.

Achieve the objectives to which I had proposed at the start of classes, because it developed my skills and acquire vocabulary very important on the field of pharmacy. I am now more comfortable with English Language, and I hope in future deepen my knowledge in English as it will be something vital in my professional future.

72a.

I chose the degree of Pharmacy because I always enjoyed working in the world of medicine, and I always liked to working in the world of health to help the other people who need help.

When I was younger, the fact of manipulating and know what the medicines are made of always inspired me. When I see a drug, I am curious to know what its purpose and effects in people. In general, I like the fact of having some knowledge about diseases and other pathologies to help the people who go to the Pharmacy. I hope this degree helps me to realize my ambitions.

72b.

Learn English was very helpful for me. I didn't understand the language very much and these classes were very important to improve my English and learn more about my degree in other country. This subject in my degree helped me to understand better texts in English and learn more about technical terms on Pharmacy. When I get a job, I can help people who don't speak Portuguese, speaking in English. These classes make me search more vocabulary to complete my homework's and see different visions about many themes. Now, when I listen English music I understand much better what means de music and this make me happy and grateful for these classes. I liked very the first class, when all sake hands to each other, we called "the technician sake". Other thing I liked in these classes was the text when reported the work done in American Pharmacies. I liked very much the different vision of the Pharmacies in USA. I thing that we could do more exercises to help us to learn correctly construct grammar sentences. Now, I thing I can have a very stable conversation with a person who speaks English. This subject helped me to improve my knowledge and my general knowledge and first to like learn English.

73a.

Why did you come to this Pharmacy degree? Hi! My name is Sílvia Roque and I'm from Ourém. I frequence the pharmacy degree because I always wanted to work in a fiel related to health. During some years, my dream was to enter in Pharmacy degree, but then I was accompanying the media and I thought that I don't had a chance to enter. Then I started to think of Medical Tests degree. When can I apply for higher education the first option was to put Medical Tests degree. But by luck came in third, Pharmacy degree in Guarda.

Better knowledge of medicines and their action in the body has always been a desire mine. In addition, always wanted to work with people and there is no better way of working with people not to be helping them at the most we can. In my view, be a pharmacy technician/pharmacist is a contribution to society, and now we need to make many contributions to society and to develop better living!

73b.

Throughout this semester, in the discipline of English, we were developing some works to improve our knowledge on the use of dialect in our workplace. I hadn't English for some time, so I was not very familiar with the discipline and therefore I had more difficulties. However, the dynamism of the class helped a lot in revising this language, as well as the acquisition of new knowledge. The work that developed was also a great contribution to the improvement of our communication skills.

The work required much effort, but had its rewards, because evolves considerable my skills and knowledge in relation to English. The work we did, that I found most interesting, being related to our study area, Pharmacy, was the work "How a Pharmacist Fills a Prescription." Although not participate much in class, I think I had a very positive development and I believe that these lessons in higher education are very useful for our academic training.

8b. Worksheet grouping all ten subclassification results for initial report (subject 1)

	1a.	
5	English ±→is one	1a Inf 1/5
	because ±→it is one	1a Inf 2/5
	In the presents world→Currently	1a Inf 3/5
	and so→± that ±→that is why	1a Inf 4/5
	scientist→scientists write	1a Inf 5/5
4	study→am studying	1a TAM 1/4
	difficulties to understand→understanding	1a TAM 2/4
	and pronounce→pronouncing	1a TAM 3/4
	divulgate→promoted	1a TAM 4/4
7	In this moment→Now	1a Lxl 1/7
	in→at ±→the Escola	1a Lxl 2/7
	languages more used→ more common languages	1a Lxl 3/7
	where we can introduce → which includes	1a Lxl 4/7
	to contact and talking by→communicate ± with many people	1a Lxl 5/7
	people with→of different nationalities	1a Lxl 6/7
	In the presents world→Currently	1a Lxl 7/7
0		1a LxM 0
2	have→am nineteen years old	1a Prt 1/2
	divulgate→promoted	1a Prt 2/2
14	in→± Ílhavo	1a Clc 1/14
	±→the Escola	1a Clc 2/14
	the→± English	1a Clc 3/14
	languages more used→ more common languages	1a Clc 4/14
	where we can introduce → which includes	1a Clc 5/14
	the→± Pharmacy	1a Clc 6/14
	the several→± languages	1a Clc 7/14
	to contact and talking by→communicate ± with many people	1a Clc 8/14
	can't escape to→escape ± the English sphere	1a Clc 9/14
	in→± all ±→over the world	1a Clc 10/14
	in→± all ±→over the world	1a Clc 11/14
	and so→± that ±→that is why	1a Clc 12/14
	and so→± that ±→that is why	1a Clc 13/14
	write all the→± articles	1a Clc 14/14
0		1a Rpt 0/0
1	where we can introduce → which includes	1a Prn 1/1
1	envolved→involved	1a Spl 1/1
0		1a Pnc 0/0
34	Total variation	

8c. Worksheet grouping all ten subclassification results for final report (subject 1)

	1b.	
4	which include→includes the name	1b Inf 1/4 a5
	others→other words	1b Inf 2/4 a5
	spoken→spoke	1b Inf 3/4 a5
	one of the more→most common languages	1b Inf 4/4 a5
7	have→have had	1b TAM 1/7 a4
	have→have had	1b TAM 2/7 a4
	gives→gave	1b TAM 3/7 a4
	need→needed	1b TAM 4/7 a4
	more that→than I expect→expected	1b TAM 5/7 a4
	permit→have permitted	1b TAM 6/7 a4
	can→could improve	1b TAM 7/7 a4
1	more that→than I expect→expected	1b Lxl 1/1 a7
0		1b LxM 0/0 a0
2	while→as a person	1b Prt 1/2 a2
	For other hand→On the other hand	1b Prt 1/2 a2
1	to understand better the language→ the language better	1b Clc 1/1 a14
1	I think that→±	1b Rpt 1/1 a0
1	, that→which includes	1b Prn 1/1 a1
0		1b Spl 0/0 a1
0		1b Pnc 0/0 a0
17	Total variation	

Appendix 9

9a. Subclassifications of error analysis data for 1st year students (a)

	SYN				LEX			S&S			total
ID	Infa	TAMa	Clca	Prna	Lxla	LxMa	Prta	Rpta	Pnca	Spla	errors a
24	0	8	6	2	5	1	10	0	1	1	24
25	1	4	1	0	3	0	2	0	7	4	34
26	3	2	1	1	1	0	4	0	0	0	13
27	0	3	1	0	1	0	1	0	2	0	49
28	1	1	1	2	3	0	4	1	1	0	31
29	0	1	2	0	3	0	0	0	2	1	72
30	0	2	2	2	2	0	1	1	3	0	17
31	9	7	9	5	6	0	2	3	8	0	13
32	5	6	5	4	5	1	7	0	1	3	13
33	2	2	6	5	7	0	7	1	2	0	45
34	1	3	0	4	8	1	6	3	5	0	37
35	7	17	8	4	6	3	4	2	15	6	8
36	3	1	0	2	0	1	5	0	5	0	22
37	1	1	3	1	1	3	0	1	0	2	12
38	2	0	1	1	3	0	1	2	2	0	8
39	0	2	3	1	0	0	3	0	2	2	14
40	4	3	5	1	6	2	4	1	3	12	9
41	3	7	10	6	2	3	9	2	2	1	37
42	2	3	3	3	5	0	2	0	6	0	32
43	1	7	4	3	3	4	8	1	3	3	12
44	1	1	0	0	0	0	0	1	2	2	41
45	0	1	2	2	1	0	1	0	1	0	7
TOTAL	46	82	73	49	71	19	81	19	73	37	550
MEAN	2.09	3.73	3.32	2.23	3.23	0.86	3.68	0.86	3.32	1.68	25.00

9b. Subclassifications of error analysis data for 1st year students (b)

	SYN				LEX				S&S		total
ID	Inf b	TAM b	Clc b	Prn b	Lxl b	LxM b	Prt b	Rpt b	Pnc b	Spl b	errors b
24	9	4	2	3	4	2	4	0	1	2	39
25	5	8	5	7	10	1	7	2	1	2	31
26	4	8	4	2	8	2	12	1	2	2	22
27	8	6	16	8	8	0	17	1	7	4	34
28	1	0	1	0	1	0	3	0	3	0	42
29	1	2	3	0	1	1	1	0	4	0	35
30	2	3	2	4	4	1	5	0	0	1	7
31	4	4	4	5	8	0	2	1	6	0	18
32	6	3	3	3	8	0	3	0	5	2	13
33	2	4	1	2	2	0	2	1	2	0	13
34	4	5	6	4	6	1	6	4	6	0	32
35	3	10	5	2	5	2	2	1	4	1	41
36	1	0	1	0	3	0	1	0	1	0	48
37	3	2	5	0	3	0	4	1	0	0	45
38	0	2	1	2	3	2	0	0	0	0	75
39	2	0	2	0	6	0	0	1	2	0	9
40	0	0	3	3	0	2	4	0	0	0	13
41	1	2	3	1	1	0	3	1	0	1	33
42	3	5	2	2	7	2	7	2	8	1	16
43	4	1	2	3	6	2	5	2	6	1	10
44	8	9	4	3	2	0	5	0	4	0	12
45	4	9	2	1	4	1	9	1	2	8	35
TOTAL	75	87	77	55	100	19	102	19	64	25	623
MEAN	3.41	3.95	3.50	2.50	4.55	0.86	4.64	0.86	2.91	1.14	22.92

9c. Total sentences and words for error analysis data for 1st year students

ID	age	total study	sentences (a)	sentences (b)	words (a)	words (b)
24	19	5	17	17	267	220
25	19	7	4	14	123	455
26	19	7	11	13	180	376
27	18	7	9	54	136	955
28	19	7	5	4	101	78
29	19	7	5	7	128	152
30	17	5	7	10	113	287
31	18	5	14	10	278	250
32	19	7	13	20	322	556
33	19	7	6	10	128	239
34	18	5	7	9	139	396
35	17	5	7	10	101	110
36	19	5	7	9	133	179
37	19	5	5	7	111	123
38	17	7	5	7	140	183
39	21	5	5	5	100	104
40	19	7	13	5	237	167
41	19	5	6	7	128	146
42	26	3	8	14	174	307
43	19	5	9	11	136	184
44	19	7	7	8	226	321
45	19	5	5	9	79	184
TOTAL	418	128	175	260	3480	5972
MEAN	19.00	5.82	7.95	11.82	158.18	271.45

9d. Subclassifications of error analysis data for 2nd year students (a)

	SYN				LEX			S&S			total
ID	Infa	TAMa	Clca	Prna	Lxla	LxMa	Prta	Rpta	Pnca	Spla	errorsa
1	5	4	14	1	7	0	2	0	0	1	33
2	9	7	16	3	10	0	9	1	3	11	58
3	2	5	1	0	9	1	9	0	0	4	27
4	0	1	4	6	7	1	2	0	1	0	22
5	0	3	7	4	4	1	2	2	4	1	27
6	2	2	3	3	3	2	6	1	2	1	24
7	4	2	4	0	4	1	5	0	2	1	22
8	3	1	9	3	8	2	10	2	0	4	38
9	9	1	6	4	4	4	10	1	2	1	41
10	5	4	6	4	9	1	10	0	6	2	45
11	2	2	0	1	0	3	3	1	1	8	13
12	1	0	7	0	2	0	8	0	1	0	19
13	2	2	5	0	5	0	2	6	2	1	24
14	0	2	9	2	7	0	12	1	3	5	36
15	8	3	12	5	6	2	5	0	13	6	54
16	3	5	3	3	2	2	3	3	2	0	26
17	4	1	2	4	5	1	5	3	2	0	27
18	1	1	0	2	0	0	6	2	3	1	15
19	5	4	6	5	12	3	8	6	5	3	54
20	3	3	3	1	3	2	1	1	0	3	17
21	1	7	0	2	4	3	0	2	0	2	19
22	5	2	0	1	2	3	6	2	0	9	21
23	1	2	3	0	2	0	2	2	3	2	15
49	2	1	3	3	2	1	9	1	7	5	29
50	0	1	9	1	3	1	0	1	3	0	19
51	7	3	4	3	4	0	7	2	4	2	34
52	2	1	2	6	7	1	3	1	6	0	29
53	2	5	4	5	4	1	6	1	5	0	33
54	4	1	1	1	10	0	3	0	5	0	25
55	1	2	1	2	1	0	1	0	1	2	9
56	4	1	6	1	3	1	3	1	3	1	23
57	3	2	12	5	10	2	9	1	6	0	50
58	1	1	2	0	0	0	2	0	3	1	9
59	6	0	4	3	6	1	5	0	7	2	32
60	4	0	4	5	5	2	4	0	3	1	27
61	1	4	3	7	2	1	5	0	0	1	23
62	5	5	11	10	19	1	37	4	11	4	103
63	1	0	2	0	4	1	5	2	0	2	15

65	13	3	8	2	6	2	11	3	6	5	54
66	2	3	4	1	6	2	11	0	2	0	31
67	8	6	8	4	5	1	6	0	3	1	41
68	5	4	3	2	7	1	10	1	3	2	36
69	9	3	10	5	11	2	3	1	5	2	49
70	4	7	4	4	6	2	6	1	2	5	36
71	6	7	11	2	8	5	11	3	9	0	62
72	0	3	2	1	0	0	1	0	1	0	8
73	4	4	6	2	5	1	3	3	2	1	30
TOTAL	169	131	244	129	249	61	287	62	152	103	1484
MEAN	3.60	2.79	5.19	2.74	5.30	1.30	6.11	1.32	3.23	2.19	31.57

9e. Subclassifications of error analysis data for 2nd year students (b)

	SYN				LEX			S&S			total
ID	Inf b	TBM b	Clc b	Prn b	Lxl b	LxM b	Prt b	Rpt b	Pnc b	Spl b	errors b
1	7	11	15	6	15	3	16	4	8	2	87
2	6	6	7	2	11	1	1	1	1	1	37
3	4	5	4	2	4	0	6	0	1	0	26
4	2	1	2	2	5	0	2	0	0	0	14
5	1	1	2	1	1	1	3	0	6	0	16
6	2	3	1	0	3	1	6	1	2	0	19
7	5	4	6	0	7	3	0	2	1	0	28
8	6	0	5	0	7	2	4	0	0	7	31
9	6	3	3	2	2	0	0	3	1	0	20
10	1	1	2	2	5	0	1	0	4	1	17
11	3	3	5	1	4	4	1	2	0	0	23
12	2	4	8	5	7	1	1	0	2	0	30
13	3	13	9	7	17	6	14	1	4	3	77
14	7	5	7	2	1	1	9	0	11	2	45
15	3	0	3	2	1	0	7	1	1	1	19
16	7	0	3	3	2	0	3	4	1	0	23
17	2	2	2	2	6	1	9	0	1	0	25
18	7	5	1	1	3	3	3	0	0	0	23
19	7	14	9	5	3	0	6	0	4	2	50
20	5	10	6	4	6	2	5	4	6	0	48
21	4	7	1	1	1	0	2	1	0	0	17
22	5	8	3	4	10	5	1	0	4	4	44
23	2	3	3	1	5	1	2	0	0	0	17
49	2	6	5	1	3	4	3	0	0	1	25
50	0	5	5	3	15	3	2	3	5	0	41
51	1	0	3	2	4	1	5	0	1	0	17
52	5	9	4	3	11	0	4	0	9	3	48
53	3	6	5	1	3	1	0	0	1	0	20
54	0	1	1	4	3	1	3	0	2	0	15
55	2	5	3	4	7	3	6	1	2	4	37
56	7	2	4	1	3	0	1	1	1	0	20
57	3	2	4	1	4	1	1	1	0	1	18
58	11	7	2	1	7	0	8	0	0	11	47
59	7	1	0	1	7	1	2	2	1	3	25
60	2	3	2	0	2	1	0	1	0	0	11
61	1	1	2	4	3	2	8	0	3	2	26
62	4	1	2	2	2	4	5	0	1	1	22
63	1	1	1	2	2	1	11	2	3	1	25

65	1	3	2	2	1	0	3	0	2	1	15
66	0	0	1	1	2	2	4	0	1	1	12
67	3	1	6	2	2	0	6	1	4	0	25
68	2	0	1	0	1	0	2	0	1	1	8
69	17	10	14	8	7	8	25	2	5	2	98
70	0	1	0	0	0	0	6	0	1	0	8
71	0	0	1	0	4	0	6	0	1	0	12
72	5	6	8	3	6	2	2	1	1	5	37
73	2	3	7	4	11	0	2	0	2	2	33
TOTAL	176	183	190	105	236	70	217	39	105	62	1383
MEAN	3.74	3.89	4.04	2.23	5.02	1.49	4.62	.83	2.23	1.32	29.43

9f. Total sentences and words for error analysis data for 2nd year students

ID	age	total study	sentences (a)	sentences (b)	words (a)	words (b)
1	19	7	8	7	162	247
2	19	3	26	12	250	251
3	20	7	7	12	118	302
4	20	12	9	20	227	488
5	21	7	9	13	183	283
6	20	5	5	5	87	214
7	20	7	3	7	72	173
8	19	5	6	8	168	195
9	20	5	4	6	119	133
10	19	7	7	9	157	266
11	20	7	5	5	92	177
12	20	5	7	9	100	199
13	19	5	13	8	152	141
14	19	7	10	10	189	322
15	20	5	8	7	206	186
16	19	7	8	10	118	204
17	20	7	8	14	137	215
18	20	7	9	12	164	350
19	20	5	10	8	194	332
20	19	7	9	11	118	214
21	19	7	7	9	76	132
22	20	7	9	6	150	176
23	19	7	5	7	86	216
49	20	5	7	14	115	173
50	20	5	8	8	128	119
51	22	7	11	6	176	102
52	20	7	7	13	154	298
53	20	7	7	7	224	130
54	20	7	6	10	269	392
55	23	7	7	6	92	141
56	20	7	7	7	116	101
57	19	7	10	10	340	227
58	21	7	4	5	43	101
59	20	3	10	7	163	128
60	21	3	13	6	310	155
61	20	7	6	12	98	428
62	20	2	20	14	286	307
63	29	7	12	5	158	129
65	20	3	8	10	239	222
66	20	7	15	15	230	249
67	20	5	8	10	265	309

68	20	5	20	18	245	253
69	19	5	14	8	272	129
70	21	5	9	11	187	237
71	20	5	12	12	406	394
72	20	7	5	12	105	211
73	20	3	8	7	162	158
TOTAL	946	281	428	448	8108	10509
MEAN	20.12	5.98	9.11	9.53	172.52	223.60

Appendix 10

10a. Statistical recurrence of classified error analysis data

Classification	Total errors (a)	Total errors (b)	Total errors (a+b)	Total error change	Rate of change
SYN	923 (43%*)	948 (47%)	1,871 (45%)	+25	+3%
LEX	768 (36%)	744 (37%)	1,512 (37%)	-24	-3%
S&S	446 (21%)	314 (16%)	760 (18%)	-132	-30%

* The value in parenthesis represents the percentage of total error within each column.

10b. Data on control group (1st year students) and test group (2nd year students)

Source: Adapted from SPSS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1*	22	31.9	31.9	31.9
	2**	47	68.1	68.1	100.0
	Total	69	100.0	100.0	

* 1st year students: average age = 19; average years of study = 5.82 years

** 2nd year students: average age = 20.13; average years of study = 5.98 years

Statistics

		age	total study
N	Valid	69	69
	Missing	0	0
Mean		19.77	5.93
Median		20.00	7.00
Mode		20	7
Std. Deviation		1.699	1.565
Minimum		17	2
Maximum		29	12
Sum		1364	409

10c. Overall development of number of errors, words, T-units, and MLT-U

Variable	Errors	Words	Errors/ words	T-Us	Errors/ T-Us	MLT-U*
Total (a)	2,137	11,588	18%	603	3.67	19.22
Total average number per student (a)	30.97	168		8.74		
…1st year (a)	550	3,480	16%	175	3.14	19.88
…1st year average number per student (a)	25	158		7.95		
…2nd year (a)	1,587	7,784	20%	428	3.71	18.19
…2nd year average number per student (a)	33.77	166		9.11		
Total (b)	2,006	16,481	12%	708	2.89	23.71
Total average number per student (b)	29.07	239		10.26		
…1st year (b)	623	5,972	10%	260	2.40	22.97
…1st year average number per student (b)	28.31	271		11.82		
…2nd year (b)	1,383	10,104	14%	448	3.09	22.55
…2nd year average number per student (b)	29.43	215		9.53		
Total number (a+b)	4,143	28,069	15%	1,311	3.16	21.41
Total difference (a-b)	131	4,893	6%	1.52	.78	4.49
Total average number per student (a+b)	30.02	407		9.50		
Total rate of change	-6%	+42%	33%	+17%	-21%	+23%
…1st year total (a+b)	1,173	9,452	13%	435	2.70	21.73
…1st year difference (a-b)	+73	2,292	6%	3.87	.74	3.09
…1st year total average number per student	26.66	430		9.89		
…1st year rate of change	+13%	72%	37%	49%	12%	16%
…2nd year (a+b)	2,970	17,888	17%	876	3.39	20.42
…2nd year difference (a-b)	-204	2,320	6%	.42	.62	4.36
…2nd year total average number per student	31.60	381		9.31		
…2nd year rate of change	-13%	23%	30%	5%	15%	24%

* MLT-U: Mean Length of T-Unit

10d. Statistical recurrence of classified error analysis data (1st and 2nd year students)

Classification	Total errors (a)	Total errors (b)	Total errors (a+b)	Total error change	Rate of change
SYN total	923 (13.4 avg)	948 (13.7 avg)	1,871	+25	+3%
…1st year SYN	250 (11.4 avg)	294 (13.4 avg)	544	+44	18%
…2nd year SYN	673 (14.3 avg)	654 (13.9 avg)	1,327	-19	-3%
LEX total	768 (11.1 avg)	744 (10.8 avg)	1,512	-24	-3%
…1st year LEX	171 (7.8 avg)	221 (10.0 avg)	392	+50	+29%
…2nd year LEX	597 (12.7 avg)	523 (11.1 avg)	1,120	-74	-12%
S&S total	446 (6.5 avg)	314 (4.6 avg)	760	-132	-30%
…1st year S&S	129 (5.9 avg)	108 (4.9 avg)	237	-21	-16%
…2nd year S&S	317 (6.7 avg)	206 (4.4 avg)	523	-111	-35%
Classifications total	2,137 (31.0 avg)	2,006 (29.0 avg)	4,143	-131	-6%
…1st year total	550 (25.0 avg)	623 (28 avg)	1,173	+73	+13%
…2nd year total	1,587 (33.8 avg)	1,383 (29.4 avg)	2,970	-204	-13%

Appendix 11

11a. Summary of overall statistical recurrence of error analysis data by subclassifications

Columns	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Classifications and sub-classifications	Total*	Total errors (a)	As a % of the errors (a) of classification	Total errors (b)	As a % of the errors (b) of classification	Error Difference	Rate of change in errors ***
Calculation	*(2)+(4)*		**		**	*(2)-(4)*	*(6) ÷ (2)*
Total errors	**4,143**	2,137 (52%)		2,006	48%	-131	-6%
SYN	**1,871 (45%)**	**923 (43%)**	**99%**	**948 (47%)**	**100%**	**25**	**+3%**
Inf	464 (25%)	215 (10%)	23%	249 (12%)	26.51%	+34	+16%
TAM	485 (26%)	213 (10%)	23%	272 (14%)	28.41%	+59	+28%
Clc	584 (31%)	317 (15%)	34%	267 (13%)	28.19%	-50	-16%
Prn	338 (18%)	178 (8%)	19%	160 (8%)	16.90%	-18	-10%
LEX	**1,512 (37%)**	**768 (36%)**	**100%**	**744 (37%)**	**100%**	**-24**	**-3%**
Lxl	656 (43%)	320 (15%)	42%	336 (17%)	45%	+16	+5%
LxM	169 (11%)	80 (4%)	10%	89 (4%)	12%	+9	+11%
Prt	687 (45%)	368 (17%)	48%	319 (16%)	43%	-49	-13%
S & S	**760 (18%)**	**446 (21%)**	**100%**	**314 (16%)**	**101%**	**-132**	**-30%**
Rpt	139 (18%)	81 (4%)	18%	58 (3%)	19%	-23	-28%
Pnc	394 (52%)	225 (11%)	51%	169 (8%)	54%	-56	-25%
Spl	227 (30%)	140 (7%)	31%	87 (4%)	28%	-53	-38%

* Shading in column 1 represents total and percentages based on the total errors of the general classification (SYN, LEX, and S&S).

** Shading in column 3 and 5 indicates percentages based on the total errors of the general classification (SYN, LEX, and S&S).

*** Shading in column 7 represents rates of error change that represent improvement from initial to final report, calculated on the total number of errors in the given classification.

11b. Three tables of descriptive statistics on error analysis data

Source: SPSS

Descriptive Statistics

	N	Range	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
Tot(a)l errors (a)	69	100	7	107	2137	30.97	17.982	323.352
SYN Inf (a)	69	13	0	13	215	3.12	2.831	8.016
SYN T(A)M (a)	69	17	0	17	213	3.09	2.710	7.345
SYN Clc (a)	69	16	0	16	317	4.59	3.719	13.833
SYN Prn (a)	69	10	0	10	178	2.58	2.061	4.247
LEX Lxl(a)	69	19	0	19	320	4.64	3.447	11.882
LEX LxM (a)	69	5	0	5	80	1.16	1.196	1.430
LEX Prt (a)	69	37	0	37	368	5.33	5.115	26.167
S&S Rpt (a)	69	6	0	6	81	1.17	1.339	1.793
S&S Pnc (a)	69	15	0	15	225	3.26	3.032	9.196
S&S Spl (a)	69	12	0	12	140	2.03	2.606	6.793

Descriptive Statistics

	N	Range	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
Total errors (b)	69	91	7	98	2006	29.04	18.244	332.836
SYN Inf (b)	69	17	0	17	249	3.61	3.001	9.006
SYN TAM (b)	69	14	0	14	272	3.91	3.467	12.022
SYN Clc (b)	69	16	0	16	267	3.87	3.226	10.409
SYN Prn (b)	69	8	0	8	160	2.32	1.959	3.838
LEX Lxl (b)	69	17	0	17	336	4.87	3.642	13.262
LEX LxM (b)	69	8	0	8	89	1.29	1.582	2.503
LEX Prt (b)	69	25	0	25	319	4.62	4.443	19.738
S&S Rpt (b)	69	4	0	4	58	.84	1.120	1.254
S&S Pnc (b)	69	11	0	11	169	2.45	2.529	6.398
S&S Spl (b)	69	11	0	11	87	1.26	2.027	4.107

Descriptive Statistics

	N	Range	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
words (a)	69	363	43	406	11588	167.94	73.392	5386.320
words (b)	69	877	78	955	16481	238.86	134.042	17967.361
Total errors (a)	69	100	7	107	2137	30.97	17.982	323.352
Total errors (b)	69	91	7	98	2006	29.04	18.244	332.836
age	69	12	17	29	1364	19.77	1.699	2.887
total study	69	10	2	12	409	5.93	1.565	2.451

Appendix 12

Statistical recurrence of error analysis data per total number of words

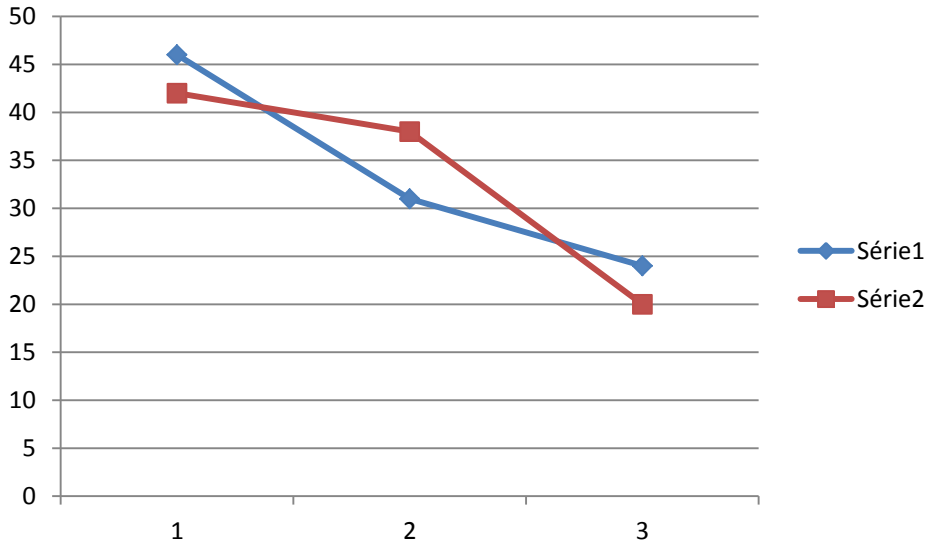
Classification	N.º errors (a)	Errors (a)/ Total words (a) 11,588	N.º errors (b)	Errors (b)/ Total words (b) 16,481	Change in errors ((b)-(a))	Rate of change errors ((b-a)/ 28,069 words)
Total errors	2,137	18.4%	2,006	12.2%	-131	-0.47%
Syntax	923	8.0%	948	5.8%	+22	+0.08%
Inf	215	1.8%	249	1.5%	+35	+0.13%
TAM	213	1.9%	272	1.7%	+55	+0.20%
Clc	317	2.7%	267	1.6%	-50	-0.18%
Prn	178	1.5%	160	1.0%	-18	-0.06%
Lexicon	772	6.7%	744	4.53%	-28	-0.10%
Lxl	320	2.78%	336	2.05%	+15	+0.05%
LxM	80	0.71%	89	0.54%	+7	+0.03%
Prt	368	3.18%	319	1.94%	-49	-0.18%
S & S	446	3.85%	314	1.91%	-132	-0.47%
Rpt	81	0.70%	58	0.35%	-23	-0.08%
Pnc	225	1.94%	169	1.03%	-56	-0.20%
Spl	140	1.21%	87	0.53%	-53	-0.19%

Appendix 13

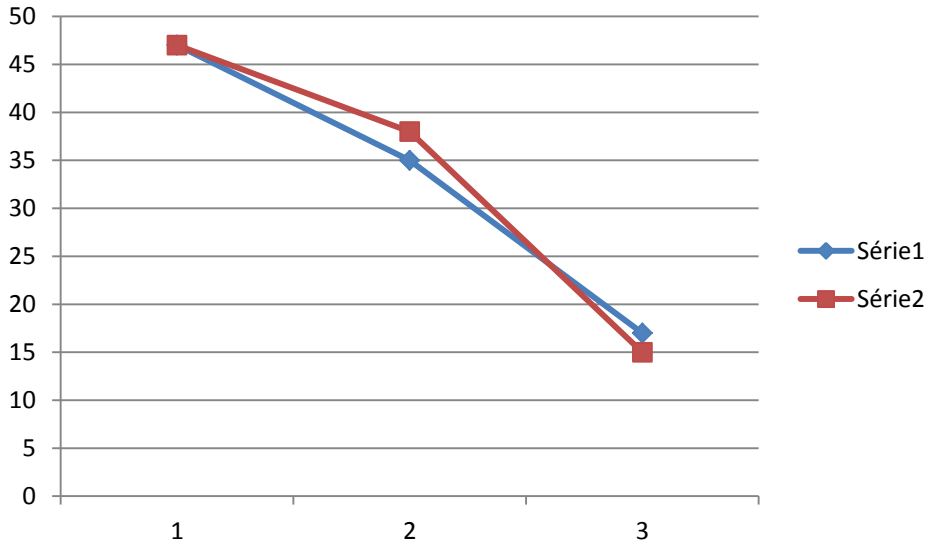
13a. Statistical recurrence of errors identified in error analysis based on mean length of T-units (1st and 2nd year students)

	SYN	LEX	S&S	Total errors
1st year (a)	250 (46%)	171 (31%)	129 (24%)	550 (101%)
Average errors (a)	11.36	7.77	5.86	25.00
Average errors per MLT-U(a) (19.89)	0.57	0.39	0.30	1.26
2nd year (a)	673 (42%)	597 (38%)	317 (20%)	1,587 (100%)
Average errors (a)	14.32	12.70	6.75	33.77
Average errors per MLT-U(a) (18.94)	0.76	0.67	0.36	1.79
1st year (b)	294 (47%)	221 (35%)	108 (17%)	623 (99%)
Average errors (b)	13.36	10.05	4.91	28.32
Average errors per MLT-U(b) (23.06)	0.58	0.44	0.21	1.39
2nd year (b)	652 (47%)	523 (38%)	206 (15%)	1,381 (100%)
Average errors (b)	13.87	11.13	4.38	29.38
Average errors per MLT-U(b) (23.67)	0.59	0.47	0.19	1.24
Rate of change 1st year (avg. errors/MLT-U)	+2%	+13%	-30%	+10%
Rate of change 2nd year (avg. errors/MLT-U	-22%	-30%	-47%	-31%

13b. Graph rendering the relation among initial classification results (SYN-LEX-S&S) for 1st and 2nd year students



13c. Graph rendering the relation among final classification results (SYN-LEX-S&S) for 1st and 2nd year students



13d. Measures of Association:

Subclassification changes (initial-final) factored on 1st/2nd years of study

Source: Adapted from SPSS

	Eta	Eta Squared
SYN Inf a-b * studies	.135	.018
SYN TAM a-b * studies	.124	.015
SYN Clc a-b * studies	.130	.017
SYN Prn a-b * studies	.140	.020
LEX Lxl a-b * studies	.193	.037
LEX LxM a-b * studies	.048	.002
LEX Prt a-b * studies	.202	.041
S&S Rpt a-b * studies	.156	.024
S&S Pnc a-b * studies	.092	.009
S&S Spl a-b * studies	.051	.003
Total errors a-b * studies	.169	.029
total sentences a-b * studies	.241	.058
total words a-b * studies	.213	.045

13e. Measures of Association:

Subclassification changes (initial-final) factored on age

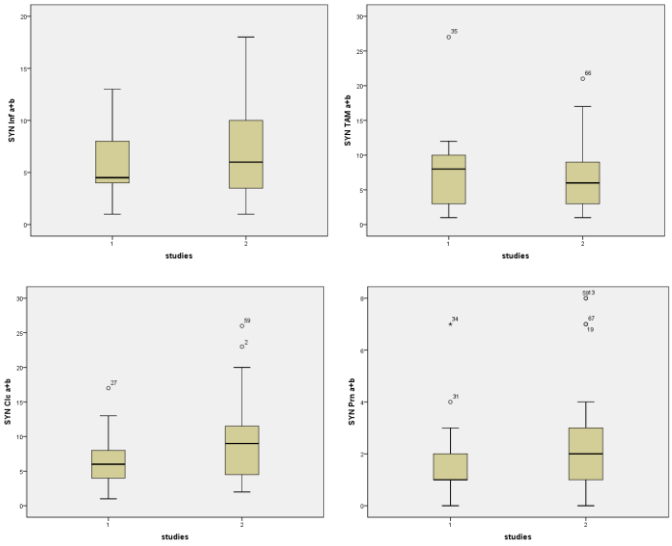
Source: SPSS

	Eta	Eta Squared
SYN Inf a-b * age	.263	.069
SYN TAM a-b * age	.190	.036
SYN Clc a-b * age	.349	.122
SYN Prn a-b * age	.279	.078
LEX Lxl a-b * age	.210	.044
LEX LxM a-b * age	.237	.056
LEX Prt a-b * age	.299	.089
S&S Rpt a-b * age	.348	.121
S&S Pnc a-b * age	.412	.170
S&S Spl a-b * age	.219	.048
Total errors a-b * age	.306	.094
total sentences a-b * age	.480	.230
total words a-b * age	.487	.237

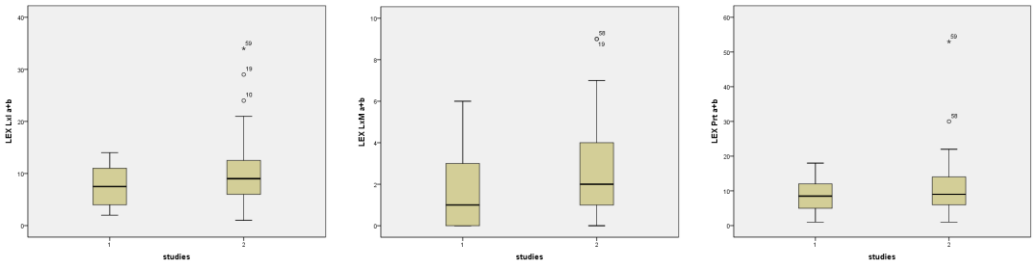
13f. Quartiles of subclassification changes (initial-final) factored on 1st and 2nd years of study

Source: Adapted from SPSS

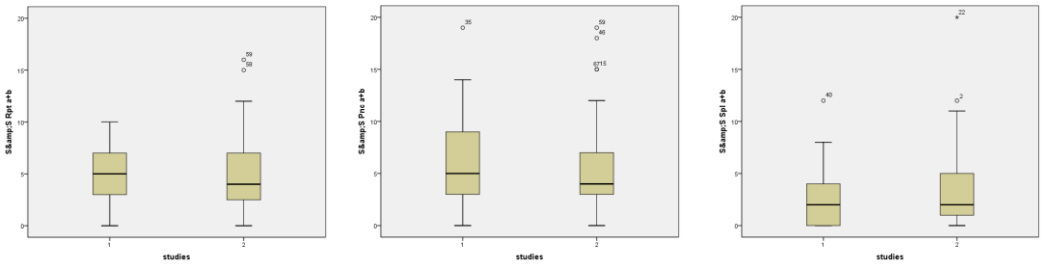
SYN error change factored on 1st and 2nd years of study



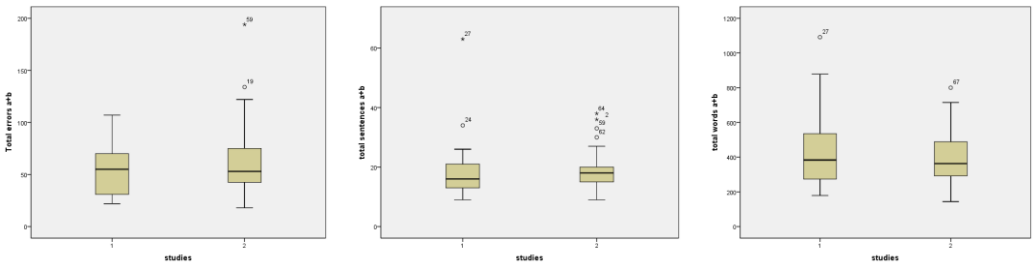
LEX error change factored on 1st and 2nd years of study



S&S error change factored on 1st and 2nd years of study



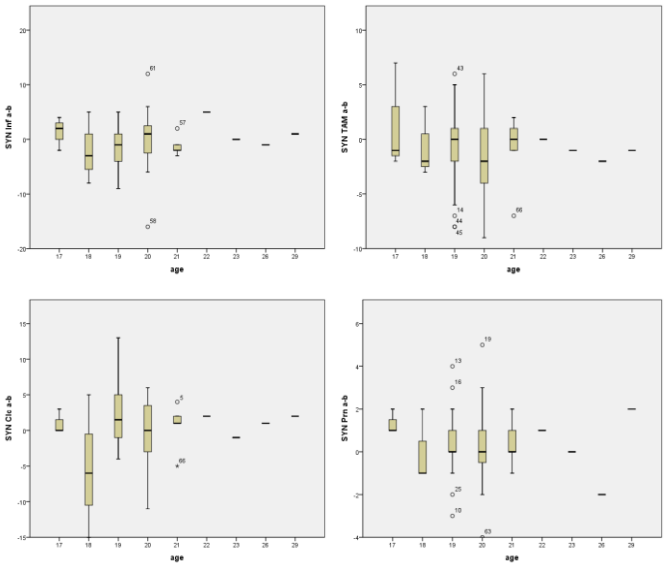
Total error change factored on 1st and 2nd years of study



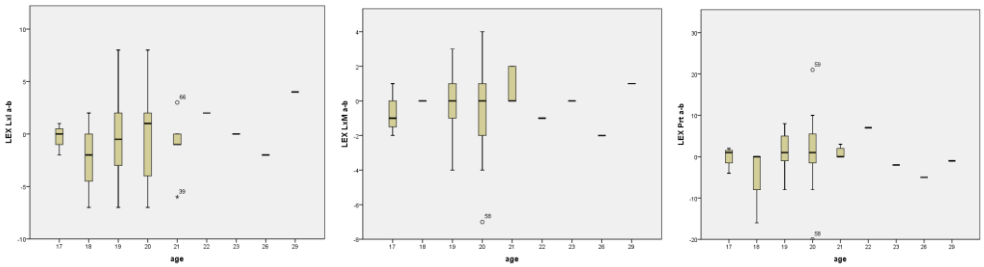
13g. Quartiles of subclassification changes (initial-final) factored on age

Source: Adapted from SPSS

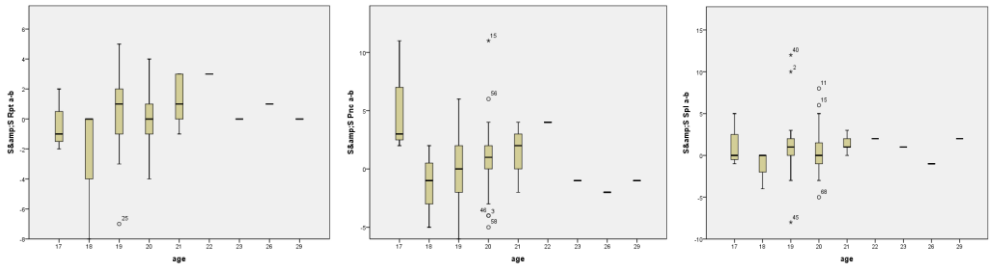
SYN error change factored on age



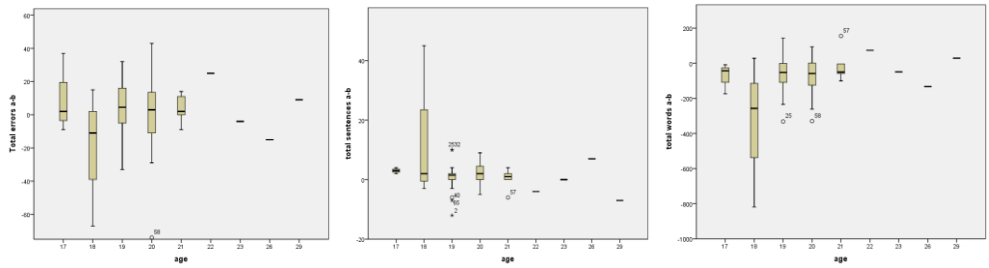
LEX error change factored on age



S&S error change factored on age

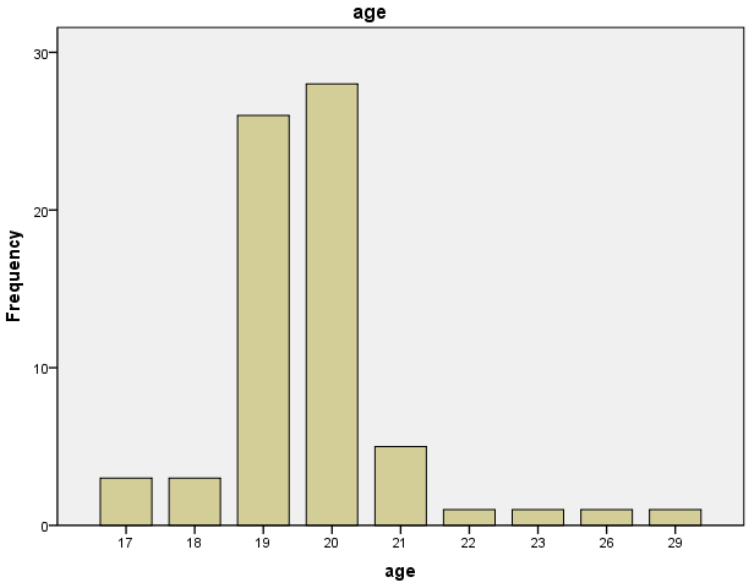


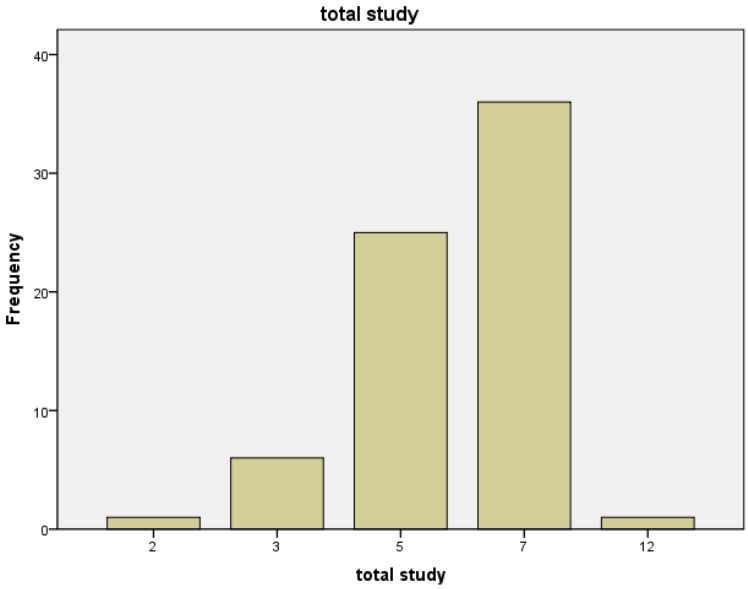
Total error change factored on age



13h. Other overall graphic statistics based on age and total years of study

Source: SPSS





13i. Subclassification statistics on total years of study (a)
Source: SPSS

total years of study		SYN Inf a	SYN TAM a	SYN Clc a	SYN Prn a	LEX Lxl a	LEX LxM a	LEX Prt a	S&S Rpt a	S&S Pnc a	S&S Spl a	Total errors a	Total sentences a	Total words a
2	Mean	5.00	11.00	10.00	4.00	19.00	1.00	5.00	11.00	37.00	4.00	107.00	19.00	307.00
	N	1	1	1	1	1	1	1	1	1	1	1	1	1
	Std. Deviation	.	.	.	.	.	.	.	.	.	.	.	.	.
	Sum	5	11	10	4	19	1	5	11	37	4	107	19	307
	Minimum	5	11	10	4	19	1	5	11	37	4	107	19	307
	Maximum	5	11	10	4	19	1	5	11	37	4	107	19	307
	Range	0	0	0	0	0	0	0	0	0	0	0	0	0
	% of Total Sum	2.3%	3.5%	5.6%	4.9%	5.9%	1.3%	2.3%	4.9%	10.1%	2.9%	5.0%	3.3%	1.9%
3	Mean	6.33	6.83	3.00	1.17	6.17	1.00	2.83	4.50	5.67	3.33	40.83	11.50	203.50
	N	6	6	6	6	6	6	6	6	6	6	6	6	6
	Std. Deviation	4.033	4.834	1.095	1.472	1.941	.894	2.639	2.074	3.559	4.131	18.519	6.380	68.459
	Sum	38	41	18	7	37	6	17	27	34	20	245	69	1221
	Minimum	2	3	2	0	5	0	0	2	2	0	24	7	128
	Maximum	13	16	5	3	10	2	7	7	11	11	69	24	307
	Range	11	13	3	3	5	2	7	5	9	11	45	17	179
	% of Total Sum	17.7%	12.9%	10.1%	8.6%	11.6%	7.5%	8.0%	12.0%	9.2%	14.3%	11.5%	12.0%	7.4%
5	Mean	3.56	5.72	2.92	1.48	4.64	1.68	3.92	4.08	5.72	1.84	35.56	8.48	207.88
	N	25	25	25	25	25	25	25	25	25	25	25	25	25
	Std. Deviation	3.216	3.446	1.656	1.661	3.213	1.435	3.718	3.785	3.506	1.972	17.299	4.001	83.238
	Sum	89	143	73	37	116	42	98	102	143	46	889	212	5197
	Minimum	0	0	0	0	0	0	0	0	0	0	8	4	104
	Maximum	9	12	6	6	12	5	17	15	11	6	72	20	396
	Range	9	12	6	6	12	5	17	15	11	6	64	16	292
	% of Total Sum	41.4%	45.1%	41.0%	45.7%	36.2%	52.5%	46.0%	45.3%	38.9%	32.9%	41.6%	36.7%	31.5%
7	Mean	2.31	3.28	1.97	.92	3.92	.83	2.56	2.33	4.22	1.94	24.28	7.44	257.44
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
	Std. Deviation	1.786	3.266	1.949	.937	2.912	.971	1.664	1.986	3.199	2.746	11.348	2.546	162.254
	Sum	83	118	71	33	141	30	92	84	152	70	874	268	9268
	Minimum	0	0	0	0	0	0	0	0	0	0	7	3	78
	Maximum	7	14	7	3	10	3	7	7	12	12	50	15	955
	Range	7	14	7	3	10	3	7	7	12	12	43	12	877
	% of Total Sum	38.6%	37.2%	39.9%	40.7%	44.1%	37.5%	43.2%	37.3%	41.3%	50.0%	40.9%	46.4%	56.2%
12	Mean	.00	4.00	6.00	.00	7.00	1.00	1.00	1.00	2.00	.00	22.00	9.00	488.00
	N	1	1	1	1	1	1	1	1	1	1	1	1	1
	Std. Deviation	.	.	.	.	.	.	.	.	.	.	.	.	.
	Sum	0	4	6	0	7	1	1	1	2	0	22	9	488
	Minimum	0	4	6	0	7	1	1	1	2	0	22	9	488
	Maximum	0	4	6	0	7	1	1	1	2	0	22	9	488
	Range	0	0	0	0	0	0	0	0	0	0	0	0	0
	% of Total Sum	.0%	1.3%	3.4%	.0%	2.2%	1.3%	.5%	.4%	.5%	.0%	1.0%	1.6%	3.0%
To	Mean	3.12	4.59	2.58	1.17	4.64	1.16	3.09	3.26	5.33	2.03	30.97	8.36	238.86

tal	N	69	69	69	69	69	69	69	69	69	69	69	69	69
	Std. Deviation	2.831	3.719	2.061	1.339	3.447	1.196	2.710	3.032	5.115	2.606	17.982	3.869	134.042
	Sum	215	317	178	81	320	80	213	225	368	140	2137	577	16481
	Minimum	0	0	0	0	0	0	0	0	0	0	7	3	78
	Maximum	13	16	10	6	19	5	17	15	37	12	107	24	955
	Range	13	16	10	6	19	5	17	15	37	12	100	21	877
	% of Total Sum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

13j. Subclassification statistics on total years of study (b)
Source: SPSS

total	study	SYN Inf b	SYN TAM b	SYN Clc b	SYN Prn b	LEX Lxl b	LEX LxM b	LEX Prt b	S&S Rpt b	S&S Pnc b	S&S Spl b	Total errors b	sentences b	words (b)
2	Mean	7.00	15.00	6.00	11.00	15.00	3.00	16.00	107.00	4.00	2.00	87.00	286.00	14.00
	N	1	1	1	1	1	1	1	1	1	1	1	1	1
	Std. Deviation	.	.	.	.	.	.	.	.	.	.	.	.	.
	Sum	7	15	6	11	15	3	16	107	4	2	87	286	14
	Minimum	7	15	6	11	15	3	16	107	4	2	87	286	14
	Maximum	7	15	6	11	15	3	16	107	4	2	87	286	14
	Range	0	0	0	0	0	0	0	0	0	0	0	0	0
	% of Total Sum	2.8%	5.6%	3.8%	4.1%	4.5%	3.4%	5.0%	5.0%	6.9%	2.3%	4.3%	2.5%	2.0%
3	Mean	3.00	3.00	1.50	3.50	5.17	.83	4.17	40.83	.67	.33	25.17	216.33	9.33
	N	6	6	6	6	6	6	6	6	6	6	6	6	6
	Std. Deviation	1.789	2.191	.837	2.168	3.488	.753	2.483	18.519	.816	.516	10.759	60.016	3.204
	Sum	18	18	9	21	31	5	25	245	4	2	151	1298	56
	Minimum	1	1	0	1	1	0	1	24	0	0	14	162	6
	Maximum	6	7	2	6	11	2	7	69	2	1	39	310	14
	Range	5	6	2	5	10	2	6	45	2	1	25	148	8
	% of Total Sum	7.2%	6.7%	5.6%	7.8%	9.2%	5.6%	7.8%	11.5%	6.9%	2.3%	7.5%	11.2%	8.0%
5	Mean	4.04	4.12	2.36	4.16	4.84	1.28	4.16	35.56	1.16	1.20	29.88	169.16	9.40
	N	25	25	25	25	25	25	25	25	25	25	25	25	25
	Std. Deviation	2.226	2.421	1.912	4.048	3.262	1.514	3.472	17.299	1.344	2.082	14.931	79.947	3.189
	Sum	101	103	59	104	121	32	104	889	29	30	747	4229	235
	Minimum	1	1	0	0	1	0	0	8	0	0	7	79	5
	Maximum	9	9	7	14	17	6	14	72	4	8	77	406	18
	Range	8	8	7	14	16	6	14	64	4	8	70	327	13

	% of Total Sum	40.6%	38.6%	36.9%	38.5%	36.0%	36.0%	32.6%	41.6%	50.0%	34.5%	37.3%	36.5%	33.7%
7	Mean	3.36	3.44	2.28	3.64	4.39	1.36	4.78	24.28	.58	1.42	27.39	154.11	10.42
	N	36	36	36	36	36	36	36	36	36	36	36	36	36
	Std. Deviation	3.603	3.367	2.065	3.136	3.532	1.743	5.009	11.348	.806	2.183	19.363	66.861	8.185
	Sum	121	124	82	131	158	49	172	874	21	51	986	5548	375
	Minimum	0	0	0	0	0	0	0	7	0	0	8	43	4
	Maximum	17	16	8	10	15	8	25	50	3	11	98	340	54
	Range	17	16	8	10	15	8	25	43	3	11	90	297	50
	% of Total Sum	48.6%	46.4%	51.3%	48.5%	47.0%	55.1%	53.9%	40.9%	36.2%	58.6%	49.2%	47.9%	53.7%
12	Mean	2.00	7.00	4.00	3.00	11.00	.00	2.00	22.00	.00	2.00	33.00	227.00	18.00
	N	1	1	1	1	1	1	1	1	1	1	1	1	1
	Std. Deviation	.	.	.	.	.	.	.	.	.	.	.	.	.
	Sum	2	7	4	3	11	0	2	22	0	2	33	227	18
	Minimum	2	7	4	3	11	0	2	22	0	2	33	227	18
	Maximum	2	7	4	3	11	0	2	22	0	2	33	227	18
	Range	0	0	0	0	0	0	0	0	0	0	0	0	0
	% of Total Sum	.8%	2.6%	2.5%	1.1%	3.3%	.0%	.6%	1.0%	.0%	2.3%	1.6%	2.0%	2.6%
Total	Mean	3.61	3.87	2.32	3.91	4.87	1.29	4.62	30.97	.84	1.26	29.04	167.94	10.12
	N	69	69	69	69	69	69	69	69	69	69	69	69	69
	Std. Deviation	3.001	3.226	1.959	3.467	3.642	1.582	4.443	17.982	1.120	2.027	18.244	73.392	6.344
	Sum	249	267	160	270	336	89	319	2137	58	87	2004	11588	698
	Minimum	0	0	0	0	0	0	0	7	0	0	7	43	4
	Maximum	17	16	8	14	17	8	25	107	4	11	98	406	54
	Range	17	16	8	14	17	8	25	100	4	11	91	363	50
	% of Total Sum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

13k. ANOVA Table factoring subclassification statistics on total years of study
Source: Adapted from SPSS

ANOVA Table			Sum of Squares	df	Mean Square	F	Sig.
SYN Inf a * total study	Between Groups	(Combined)	103.940	4	25.985	3.770	.008
	Within Groups		441.132	65	6.893		
	Total		545.072	69			
SYN TAM a * total study	Between Groups	(Combined)	35.916	4	8.979	1.240	.303
	Within Groups		463.562	65	7.243		
	Total		499.478	69			
LEX Lxl a * total study	Between Groups	(Combined)	244.599	4	61.150	6.947	.000
	Within Groups		563.343	65	8.802		
	Total		807.942	69			
LEX LxM a * total study	Between Groups	(Combined)	10.806	4	2.702	2.000	.105
	Within Groups		86.440	65	1.351		
	Total		97.246	69			
LEX Prt a * total study	Between Groups	(Combined)	1062.738	4	265.684	23.729	.000
	Within Groups		716.596	65	11.197		
	Total		1779.333	69			
SYN Clc a * total study	Between Groups	(Combined)	165.542	4	41.386	3.417	.014
	Within Groups		775.096	65	12.111		
	Total		940.638	69			
S&S Rpt a * total study	Between Groups	(Combined)	14.090	4	3.522	2.091	.092
	Within Groups		107.823	65	1.685		
	Total		121.913	69			
SYN Prn a * total study	Between Groups	(Combined)	83.999	4	21.000	6.562	.000
	Within Groups		204.812	65	3.200		
	Total		288.812	69			
S&S Spl a * total study	Between Groups	(Combined)	19.360	4	4.840	.700	.595
	Within Groups		442.582	65	6.915		
	Total		461.942	69			
S&S Pnc a * total study	Between Groups	(Combined)	121.964	4	30.491	3.877	.007
	Within Groups		503.340	65	7.865		
	Total		625.304	69			
Total errors a * total study	Between Groups	(Combined)	8583.726	4	2145.932	10.246	.000
	Within Groups		13404.216	65	209.441		
	Total		21987.942	69			
SYN Inf b * total study	Between Groups	(Combined)	23.169	4	5.792	.629	.644
	Within Groups		589.266	65	9.207		
	Total		612.435	69			
SYN TAM b * total study	Between Groups	(Combined)	56.313	4	14.078	1.184	.326
	Within Groups		761.166	65	11.893		
	Total		817.478	69			

LEX Lxl b * total study	Between Groups	(Combined)	149.077	4	37.269	3.169	.019
	Within Groups		752.749	65	11.762		
	Total		901.826	69			
LEX LxM b * total study	Between Groups	(Combined)	6.024	4	1.506	.587	.673
	Within Groups		164.179	65	2.565		
	Total		170.203	69			
LEX Prt b * total study	Between Groups	(Combined)	143.787	4	35.947	1.920	.118
	Within Groups		1198.416	65	18.725		
	Total		1342.203	69			
SYN Clc b * total study	Between Groups	(Combined)	146.297	4	36.574	4.169	.005
	Within Groups		561.529	65	8.774		
	Total		707.826	69			
S&S Rpt b * total study	Between Groups	(Combined)	15.803	4	3.951	3.641	.010
	Within Groups		69.443	65	1.085		
	Total		85.246	69			
SYN Prn b * total study	Between Groups	(Combined)	20.503	4	5.126	1.364	.256
	Within Groups		240.482	65	3.758		
	Total		260.986	69			
S&S Spl b * total study	Between Groups	(Combined)	7.221	4	1.805	.425	.790
	Within Groups		272.083	65	4.251		
	Total		279.304	69			
S&S Pnc b * total study	Between Groups	(Combined)	36.607	4	9.152	1.470	.222
	Within Groups		398.466	65	6.226		
	Total		435.072	69			
Total errors b * total study	Between Groups	(Combined)	3580.841	4	895.210	3.007	.024
	Within Groups		19052.029	65	297.688		
	Total		22632.870	69			
sentences a * total study	Between Groups	(Combined)	203.313	4	50.828	3.993	.006
	Within Groups		814.629	65	12.729		
	Total		1017.942	69			
words (a) * total study	Between Groups	(Combined)	38399.519	4	9599.880	1.874	.126
	Within Groups		327870.249	65	5122.973		
	Total		366269.768	69			
words (b) * total study	Between Groups	(Combined)	110643.522	4	27660.880	1.593	.187
	Within Groups		1111137.029	65	17361.516		
	Total		1221780.551	69			
sentences b * total study	Between Groups	(Combined)	96.989	4	24.247	.588	.673
	Within Groups		2640.083	65	41.251		
	Total		2737.072	69			

Appendix 14

14a. Error types for the Lexical-Morphological (LxM) subclassification

Error types for the LxM subclassification	noun-related	verb-related	adjective-related	adverb-related	Total
initial errors (a)	40	15	18	7	80
% of LxM errors (a)	50%	19%	23%	9%	100%
L1-influenced errors (a)	23	8	6	1	38
% of error type due to L1 (a)	56%	53%	33%	14%	48%
final errors (b)	26	25	31	7	89
% of LxM errors (b)	29%	28%	35%	8%	100%
L1-influenced errors (b)	17	12	16	3	48
% of error type due to L1 (b)	65%	48%	52%	43%	54%
rate of change	-35%	67%	72%	0%	11%
total errors (a+b)	66	40	49	14	169
% of total LxM errors	39%	24%	29%	8%	100%
L1-influenced errors (a+b)	40	20	22	4	86
% of error type due to L1 (a+b)	61%	50%	45%	29%	51%

14b. Average errors per subject: LEX classification

	LxM	Average errors	Lxl	Average errors
Initial nº of subjects who revealed errors of this type	45	1.8	62	5.2
All 69 subjects		1.2		4.6
Final nº of subjects who revealed errors of this type	42	2.1	67	5.0
All 69 subjects		1.3		4.9

14c. Results for subdivisions of the LxM noun-related error type

Subdivisions for noun-related LxM errors	noun/noun	adjective/noun	verb/noun	Total
initial errors (a)	18	16	6	40
% of noun-related errors (a)	45%	40%	15%	100%
L1-influenced errors (a)	7	11	5	23
% of error type due to L1 (a)	39%	69%	83%	56%
final errors (b)	14	5	7	26
% of noun-related errors (b)	54%	19%	27%	100%
L1-influenced errors (b)	11	3	3	17
% of error type due to L1 (b)	79%	60%	43%	65%
rate of change	-22%	-69%	17%	-35%
total noun-related errors	32	21	13	66
% of total noun-related errors	48%	32%	20%	100%
L1-influenced errors (a+b)	18	14	8	40
% of error type due to L1 (a+b)	56%	67%	24%	61%

14d. Results for subdivisions of the LxM verb-related error type

Subdivisions for verb-related LxM errors	verb/verb	noun/verb	adjective/verb	Total
initial errors (a)	4	6	5	15
% of verb-related errors (a)	27%	40%	33%	100%
L1-influenced errors (a)	0	3	5	8
% of error type due to L1 (a)	0%	38%	63%	53%
final errors (b)	9	13	3	25
% of verb-related errors (b)	36%	52%	12%	100%
L1-influenced errors (b)	3	7	2	12
% of error type due to L1 (b)	34%	54%	67%	48%
rate of change	125%	117%	-40%	67%
total verb-related errors	13	19	8	40
% of total verb-related errors	33%	48%	20%	101%
L1-influenced errors (a+b)	3	10	7	20
% of error type due to L1 (a+b)	23%	53%	88%	50%

14e. Results for subdivisions of the LxM adjective-related error type

Subdivisions for adjective-related LxM errors	adj/adj	verb/adj	noun/adj	adv/adj	Total
initial errors (a)	4	1	8	5	18
% of adjective-related errors (a)	22%	6%	44%	28%	100%
L1-influenced errors (a)	4	0	2	0	6
% of error type due to L1 (a)	100%	0%	25%	0%	33%
final errors (b)	10	3	13	5	31
% of adjective-related errors (b)	32%	10%	42%	16%	100%
L1-influenced errors (b)	6	3	4	3	16
% of error type due to L1 (b)	60%	100%	31%	60%	52%
rate of change	150%	200%	63%	0%	72%
total adjective-related errors	14	4	21	10	49
% of total adj.-related errors	29%	8%	43%	20%	100%
L1-influenced errors (a+b)	10	3	6	3	22
% of error type due to L1 (a+b)	71%	75%	29%	30%	45%

14f. Results for subdivisions of the LxM adverb-related error type

Subdivisions for adverb-related LxM errors	adv/adv	adj/adv	verb/adv	Total
initial errors (a)	1	6	0	7
% of verb-related errors (a)	14%	86%	0%	100%
L1-influenced errors (a)	0	1	0	1
% of error type due to L1 (a)	0%	16%	0%	14%
final errors (b)	0	6	1	7
% of verb-related errors (b)	0%	86%	14%	100%
L1-influenced errors (b)	0	3	0	3
% of error type due to L1 (b)	0%	50%	0%	43%
rate of change	-100%	0%	100%	0%
total verb-related errors	1	12	1	14
% of total verb-related errors	7%	86%	7%	100%
L1-influenced errors (a+b)	0	4	0	4
% of error type due to L1 (a+b)	0%	33%	0%	29%

Appendix 15

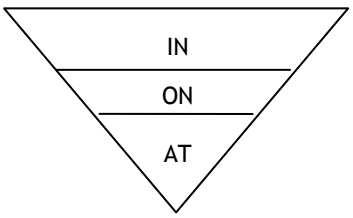
15a. Error types for the Lexical (Lxl) subclassification

Error types for the Lxl subclassification	Prepositions	Synonyms and near-synonyms	Dualities	Conjunctions	Total
initial errors (a)	102	114	71	33	320
% of errors (a)	32%	36%	22%	10%	100%
final errors (b)	78	97	114	47	336
% of errors (b)	23%	27%	34%	16%	100%
rate of change	-24%	-15%	61%	42%	5%
total errors	180	211	185	80	656
% of total Lxl errors	27%	32%	28%	12%	99%

15b. Details of the top ten errors for prepositions

Rank	Preposition	(a)	(b)	Rate of Change	Total
1st	*in*	17	27	58%	45
2nd	*on*	19	8	-57%	26
3rd	*to*	8	10	25%	18
4th	*for*	8	8	0%	16
5th	*at*	11	5	-55%	16
6th	*from*	12	1	-92%	13
7th	*of*	8	4	-50%	12
8th	*since*	2	6	200%	8
9th	*about*	6	0	-100%	6
10th	*among*	3	0	-100%	3
	Total	94	69	-27%	163

15c. Illustrated explanation of temporal/spatial prepositions *in-on-at*



15d. Results for subdivisions of the Lxl synonyms and near-synonym error type

Subdivisions of the Synonym and near-synonym error type	(a)	(b)	Rate of Change	Total
Synonyms and near-synonyms	43	68	58%	115
number of which are L1-influenced	39	57	42%	98
S and N-S* with notions of … time	8	0	-100%	8
number of which are L1-influenced	3	0	-100%	3
… belonging and classification	6	0	-100%	4
number of which are L1-influenced	3	0	-100%	3
… communication	9	9	0%	18
number of which are L1-influenced	6	4	-33%	10
… spatial-orientation	3	2	-33%	5
number of which are L1-influenced	0	0	0%	0
… school/profession	45	18	-60%	50
number of which are L1-influenced	22	5	-77%	14
Total Synonyms and Near-Synonyms	114	97	-15%	211
number of which are L1-influenced	71	66	-7%	137

* Synonyms and Near-Synonyms

15e. Results for subdivisions of the Lxl duality error type

Subdivisions of the duality error type	(a)	(b)	Rate of Change	Total
General	52	54	4%	106
Specific … quantifiers	19	26	37%	45
… *do*/*make*	6	28	367%	34
Total	77	108	40%	185

15f. *Do/make* errors: Sources and targets

L1	*do/make* sources	*do/make* targets	(a)	(b)	Total
●	*make*	*accomplish some learning*	0	1	1
●	*realize*	*do a dictation*	0	1	1
●	*make*	*do activities/assignments/exercises/my part/work/experiments*	2	12	14
●	*develop*	*do work*	0	1	1
●	*give*	*make a lot of errors*	0	1	1
●	*do*	*make mistakes/progress/choices/decisions*	2	4	6
●	*take*	*make something interactive*	0	1	1
	make	*mean a lot to me*	0	2	2
	make	*obtain a result*	0	1	1
●	*make/do*	*prepare a CV*	1	2	3
●	*make*	*take a specialization*	0	1	1
●	*make*	*write a CV*	0	1	1
	do	*use competences*	1	0	1

15g. Results for the Lxl conjunction error type

Conjunction error type	(a)	(b)	Rate of Change	Total
conjunction	33	47	42%	80

15h. Conjunction errors: Sources and targets

	Conjunction sources	Conjunction targets	(a)	(b)	Total
1	*too*	*Also*	2	5	7
2	*therefore*	*Also*	0	1	1
3	*more*	*Also*	0	1	1
4	*as*	*Like*	3	4	7
5	*as well*	*Like*	1	0	1
6	*for example*	*Like*	0	1	1
7	*of which*	*Like*	1	0	1
8	*about*	*as for*	1	5	6
9	*in relation to*	*as for*	0	1	1
10	*concerning*	*as for*	0	1	1
11	*although*	*despite*	2	2	4
12	*because*	*despite*	0	1	1
13	*beside*	*despite*	0	1	1
14	*by force*	*despite*	0	1	1
15	*however*	*although*	1	3	4
16	*besides*	*although*	1	0	1
17	*and*	*Or*	2	0	2
18	*relating to*	*regarding*	0	2	2
19	*as*	*And*	0	2	2
20	*in addition*	*And*	1	1	2
21	*or*	*And*	1	1	2
22	*also*	*as well as*	1	1	2
23	*for besides*	*besides this*	1	1	2
24	*beside*	*besides*	1	1	2
25	*and*	*because*	1	1	2
26	*as*	*because of*	1	1	2
27	*by*	*because of*	1	1	2
28	*as to*	*For*	1	1	2
29	*on the other hand*	*in addition*	1	1	2
30	*despite*	*due to*	1	0	1
31	*too*	*Either*	1	0	1
32	*either…either*	*either…or*	1	0	1
33	*despite*	*in addition to*	0	1	1
34	*both…and*	*neither…nor*	1	0	1
35	*neither…or*	*neither…nor*	1	0	1
36	*after all*	*nevertheless*	1	0	1
37	*moreover*	*nevertheless*	0	1	1
38	*then*	*next*	1	0	1
39	*and*	*so that*	1	0	1
40	*in order that*	*so that*	0	1	1
41	*to the future*	*so that*	1	0	1
42	*after*	*then*	0	1	1
43	*so*	*thus*	0	1	1
44	*if*	*whether*	0	1	1

15i. Lexical error reference guide

ERROR SOURCE OR TYPE	TARGET
NOUN	**NOUN**
child	childhood
classrooms	classes
formulations	formulas
institution	institute
interaction	interacting
medical	medical prescription
necessities	needs
nursery	nursing
practice	practicing
research	research project
rewritten	rewriting
secondary	secondary school
shopping	shop
noun suffixes	-y, -ist, -er
ADJECTIVE	**NOUN**
biochemical	biochemistry
difficulty	difficult
healthy	health
pharmaceutical	pharmacist
topical	topic
VERB	**NOUN**
choose	Choice
graduate	Graduating
learning	learning experience
pronounce	Pronunciation
VERB	**VERB**
have knowledge	know
make a reflection about	reflect on
make a specialization	specialize
to analysis	to analyze
to attendance	to assist
to attendance	to attend
to be of difficult translation	to be difficult to translate
to frequence	to be studying
to choice	to choose
to contact regularly	to have regular contact with
to pronunciation	to pronounce
want work	want to work
ADJECTIVE	**VERB**
capable to do something	able to do something
depressive	depressing
to be satisfactory	to be satisfying

ERROR SOURCE OR TYPE	TARGET
ADJECTIVE	**ADJECTIVE**
academical	academic
boring	bored
clarified	clarifying
communitarian	community
grateful	gratifying
pharmacologic science	pharmacological science
relative	related
tired	tiring
verbal	verb
VERB	**ADJECTIVE**
continue evaluation	continuous
valued	valuable
VERB	**ADVERB**
use	usually
NOUN	**ADJECTIVE**
take care	be careful
have curiosity	be curious
classes' topics	class topics
stranger	foreign
grammar sentences	grammatical sentences
laboratory's objects	laboratory objects
scholar	scholastic
time	time period
truth	true
ADVERB	**ADJECTIVE**
curiously	curious
helpfully	helpful
briefly	in brief
personally	personal
professionally	professional
regularly	regular
simply	simple
simply	simpler
ADVERB	**ADVERB**
in a correct way	correctly
in a way very much didactic	very didactically
TOP 5 PREPOSITIONAL ERRORS	
in	
on	
to	
for	
at	
spatial orientation	in-on-at
temporal orientation	in-on-at

ERROR SOURCE OR TYPE	TARGET
NOTIONS OF TIME	
	a few years ago
passed (some time)	after (some time)
	all the time
	always
at the previous moment of	before
	currently
	every time
	for a few years
	not always
	not only
in this moment	now
NOTIONS OF COMMUNICATION	
question	Ask
contact/talk	Communicate
speak/see	deal with
dialect	Dialogue
answer	Help
say	refer to/tell
speak	say
talk/announce	speak
learn/explain	teach
apprehend	understand
NOTIONS OF SCHOOL/PROFESSIONS	
candidacy	application
bid/make the nomination	apply to (university)
enter	apply/get in to (a degree/course of study
be a resident	be accepted (in a university)
solutions	career options
study	degree
come	enroll in/get in to (a degree)
join	enroll/be accepted
class/year	grade
output	opportunities
teacher (first name)	prof. (surname)
inquiry	research
academy/establishment	school
attend (a degree)	study (a degree
draw (architecture)	study (architecture)
degrees/titles	subjects
	the job market
subjects	topics
make/attain	write/prepare (a CV)

ERROR SOURCE OR TYPE	TARGET
CONJUNCTIONS	
too / therefore / more	also
however / besides	although
about / in relation to / concerning	as for
although / because / beside / by force	despite
as / as well /for example / of which	like
OTHER NEAR SYNONYMS	
	(negative) + any
	a few
	a lot
	a lot of / a number of
make	accomplish / mean / obtain / prepare / take / write
	all
	another (singular)
	any/some
changed my opinion	changed my mind
opinion	choice
make	do (activities / assignments / exercises / experiments / work)
	each
	entire
	every
	for (a long time)
earn	gain
house	home
give/do/take	make
do	make (mistakes / progress / choices / decisions)
very	many
	many/much
	most
	much
	other (plural)
	really
deepen/toughen	strengthen
	too much
	very much
all	whole/everything

Appendix 16

16a. Error types for the distribution (TAM) subclassification

Error types for TAM errors	Tense, aspect, & mood	Non-finite verb forms	Modality	Total
initial errors (a)	61	135	17	213
% of TAM errors (a)	34%	%	8%	100%
L1-influenced errors (a)	6	104	6	116
% of error type due to L1 (a)	10%	%	35%	55%
final errors (b)	117	140	15	272
% of TAM errors (b)	43%	52%	6%	101%
L1-influenced errors (b)	2	102	1	105
% of error type due to L1 (b)	1%	73%	7%	39%
rate of change	91%	-2%	-12%	28%
total errors (a+b)	178	275	32	485
% of total TAM errors	37%	57%	7%	101%
L1-influenced errors (a+b)	8	206	7	221
% of error type due to L1 (a+b)	5%	75%	22%	46%

16b. Average errors per subject: SYN classification

	TAM	Average errors	Inf	Average errors
Initial nº of subjects who revealed errors of this type	64	3.3	58	3.7
All 69 subjects		3.1		3.1
Final nº of subjects who revealed errors of this type	58	4.7	62	4.0
All 69 subjects		3.9		3.6

16c. Results for subdivisions of the TAM tense, aspect, & mood error type

Subdivisions of the tense, aspect, & mood error type	(a)	(b)	Rate of Change	Total	% of this error type
Simple present	15	8	-47%	23	13%
number of which are L1-influenced	6	2	-67%	8	
… number of which represent realis	6	1	-83%	7	
… number of which use simple past	8	2	-75%	10	
Simple past	45	109	142%	154	87%
number of which are L1-influenced	0	0	0%	0	
… number of which use simple present	37	98	62%	135	
Present and past continuous	1	0	-100%	1	1%
number of which are L1-influenced	0	0	0%	0	
Total tense, aspect, & mood errors	61	117	91%	178	101%
number of which are L1-influenced	6	2	-67%	8	5%

16d. Results for subdivisions of the TAM non-finite verb form error type

Subdivisions for the non-finite verb form error type	(a)	(b)	Rate of Change	Total	% of this error type
Present Perfect	36	23	-36%	59	22%
number of which are L1-influenced	26	13	-50%	39	
… number of which use simple present	9	9	0%	18	
… number of which use simple past	25	9	-64%	34	
… number of which include *always*	18	2	-89%	20	
Past perfect	6	10	67%	16	6%
number of which are L1-influenced	0	0	0%	0	
… number of which use simple present	2	1	-50%	3	
… number of which use simple past	3	9	200%	12	
… number of which use present perfect	1	0	-100%	1	
… number of which include *always*	2	0	-100%	2	
Passive voice	4	7	75%	11	4%
number of which are L1-influenced	0	0	0%	0	
Gerund	46	67	46%	113	41%
number of which are L1-influenced	43	58	35%	101	
… number of which used an infinitive	11	23	109%	34	
… number of which followed a preposition	9	19	111%	28	
… number of which used a naked verb stem	33	39	18%	72	
Infinitive	43	33	-23%	76	28%
number of which are L1-influenced	35	31	-11%	66	
… number of which used a gerund	9	8	-11%	17	
… number of which followed another verb	22	11	-50%	33	
… number of which used a naked verb stem	26	23	-12%	49	
Total non-finite verb form errors	135	140	4%	275	101%
number of which are L1-influenced	104	102	-2%	206	75%

16e. Results for the TAM modality error type

Modality error type	(a)	(b)	Rate of Change	Total
Modal verbs	17	15	-12%	32
number of which are L1-influenced	6	1	-83%	7
… number of which use a modal	10	5	-50%	15

Appendix 17

17a. Error types for the production (Inf) subclassification

Error types for Production (Inf) errors	Noun groups	Verb groups	Total
initial errors (a)	107	108	215
% of errors (a)	50%	50%	100%
L1-influenced errors (a)	49	8	58
% of error type due to L1 (a)	46%	7%	27%
final errors (b)	130	119	249
% of errors (b)	52%	48%	100%
L1-influenced errors (b)	59	3	62
% of error type due to L1 (b)	45%	3%	25%
rate of change	18%	10%	16%
total errors	237	227	464
% of total errors	51%	49%	100%
L1-influenced errors (a+b)	108	11	119
% of error type due to L1 (a+b)	46%	5%	26%

17b. Results for subdivisions of the Inf noun group error type

Subdivisions for noun group error type	(a)	(b)	Rate of Change	Total	% of this error type
Total subjects	70	87	24%	157	66%
number of which are L1-influenced	32	35	9%	67	
… null subjects	60	75	25%	135	
… in relative or coordinate clauses	38	52	37%	90	
… null subjects for *it*	9	19	111%	28	
… repeated subjects	10	12	-20%	22	
Total plural nouns	20	19	-5%	39	17%
number of which are L1-influenced	3	6	100%	9	
Total adjectives	17	24	41%	41	17%
number of which are L1-influenced	14	18	29%	32	
… comparative forms	0	3	300%	3	
… superlative forms	0	3	300%	3	
… plural adjective forms	17	18	6%	35	
Total noun group errors	107	130	22%	237	100%
number of which are L1-influenced	49	59	20%	108	69%

17c. Results for subdivisions of the Inf verb group error type

Subdivisions for the verb group error type	(a)	(b)	Rate of Change	Total	% of this error type
Non-periphrastic verb forms	78	87	12%	165	73%
number of which are L1-influenced	5	1	80%	6	
… simple present forms	54	62	15%	116	
… non-target simple present form	12	3	-75%	15	
… 3rd person singular	27	37	27%	64	
… non-target 3rd person singular	7	13	86%	20	
… missing verb *be*	4	7	75%	11	
… negative simple present	4	2	-50%	6	
… simple past forms	24	25	4%	49	
… non-target simple past form	16	11	-31%	27	
… negative simple past	8	14	75%	22	
Non-finite verb groups	18	23	38%	41	18%
number of which are L1-influenced	1	0	100%	1	
… perfect forms	5	11	120%	16	
… passive forms	2	4	100%	6	
… continuous forms	2	1	-50%	3	
… infinitives	9	7	-22%	16	
Modals	12	9	-25%	21	9%
number of which are L1-influenced	2	2	100%	4	
Total verb group errors	108	119	10%	227	100%
number of which are L1-influenced	8	3	-63%	11	5%

17d. Syntactical error reference guide

ERROR SOURCE OR TYPE	TARGET
SUBJECTS	
Portuguese as a verb-frame language	English as a satellite-frame language
overgeneralization of linguistic redundancy for subjects	awareness of linguistic redundancy as a communicative strategy
ADJECTIVES	
superlative usage: *one of the more common languages*	*one of the most common languages*
comparative adjectives, like *more easier*/*easy*	*easier*
NON-PERPHRASTIC VERB FORMS	
present or past perfect form	simple past form
confusion with strong irregular verbs, like *speak, know, begin, choose, go*	three different irregular forms for strong verbs (classes 4, 5, and 6)
simple present / naked verb stem	simple past
simple present / naked verb stem	simple past (for irrealis)
compounded regular past suffix *–ed* , and 3rd person singular suffix *–s* on irregular past forms	irregular and regular simple past form
naked verb stem / infinitive / gerund	3rd person singular *-s*
NEGATION	
not with naked verb stem	simple present negation with auxiliary *do*
auxiliary *do* with copula *be*	present simple negation of copula *be* with *not*
AUXILIARY VERBS	
co-occurrence of auxiliary verbs in the same verb phrase	awareness of auxiliary co-occurrence in periphrastic structures, for example: • have/has/had been (present participle) for perfect continuous forms; • have/has/had been (past participle) for perfect forms in the passive; • is/am/are/was/were being (past participle) for the continuous in the passive voice
NON-FINITE VERB FORMS AND INFINITIVES	
infinitive / naked verb stem	gerund
naked verb stem	gerund after prepositions
gerund / naked verb stem / to (past participle)	infinitive
naked verb stem	infinitive after *want, learn, need*
passive voice: *be* (naked verb stem)	passive voice: *be* (past participle)
simple present / naked verb stem	present perfect
MODALS	
future with *will*	simple present (for realis)
negative modal construction with *do*	modal followed by negative *not*
use of *will go*/*be* for future *will*	modal structure: modal (naked verb stem)
DELETION RESTRICTIONS	
copula *be* deletion after relatives *that, which, who*	Restrictions on copula *be* deletion
overgeneralization involving relative pronoun omission, for example, *I hope understood*	I hope (that) I understood
null subject in coordinate clauses following *at first, but, and, because, although, since*	subject deletion restrictions in coordinate clauses
null subject	subject following relative adverbs *that, why, what, which*, and *when*