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Investigating the lexicographical needs of Brazilian learners of English: a user study

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A thesis submitted for the degree of Doctor of Philosophy
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ABSTRACT

Dictionaries can be effective learning tools, capable of promoting learning autonomy to fill the gap left by an inefficient education for instance. The functional quality of these works is, however, tied to a good understanding of the profile of their intended users. In the field of lexicography, this understanding can be achieved by means of user-studies. Currently, most EFL dictionaries target a very generic profile - English learners - and neglect the fact that learners from different cultures and linguistic backgrounds may have different needs and preferences. This thesis presents and discusses the results of a lexicographic user-study conducted in Brazil with 61 English learners. The objective of this study was to investigate the profile of Brazilian learners of English as a target-group for EFL dictionaries. The study combined two methods of investigating dictionary use: written protocol and questionnaire. Through the written protocol, data about participants' look-up strategies and samples of their performance in both receptive and productive EFL tasks were collected. The questionnaire gathered information about participants' socio-cultural background and their consultation preferences. All data were analysed as follows: principles of Error Analysis were used to build a taxonomy capable of classifying participants' errors resulting from reference source consultation (meaning, grammar, spelling or usage). The taxonomy was built based on the premise that it can be a valuable way of identifying the weakness of EFL learners in order to develop a dictionary to address their needs. With the results of this classification, it was possible to identify participants' most frequent difficulties when performing EFL tasks. Once participants' errors were located and classified, information about their look-up strategies was used to retrace the consulted reference source in order to find clues to explain why the consultation resulted in error. Finally, participants' self-reported behaviour in the questionnaire was compared to their actual behaviour in the experiment. The results of this user-study suggest that both linguistic and socio-cultural background have an impact on learners' expectations about dictionaries, their preferences, and the difficulties they experience while trying to access relevant linguistic information. The outcomes of this study shed light on the average profile of the Brazilian learner of English and it would be useful for other investigations towards the development of a lexicographic reference source to address the specific needs of this target group.

Keywords: Brazilian learners of English; user-studies; pedagogical lexicography; English learners' dictionaries.

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List of Abbreviations

CA	- Contrastive Analysis
CAH	- Contrastive Analysis Hypothesis
CIDE	- Cambridge International Dictionary of English (1995)
CLD	- Cambridge Learner's Dictionary
COBUILD	- Collins Cobuild English Dictionary
DOE	- Dicionário Oxford Escolar
EFL	- English as foreign language
ELD	- English learners' dictionary
ESP	- English for Specific Purposes
EWB-b	- English Without Borders – beginners
EWB-i	- English Without Borders – intermediate
GMD	- General Monolingual Dictionary
LDB	- Brazilian Law of Directives and Bases of National Education
LDOCE	- Longman Dictionary of Contemporary English
LLA	- Longman Language Activator
LDs	- learners' dictionaries
MEC	- Ministry of Education of Brazil
OALD	- Oxford Advanced Learners' Dictionary
OCT	- Oxford Text Checker
PCNs	- Brazilian National Curriculum Parameters
PNLD	- Brazilian National Textbook Program
PV	- Phrasal verbs
RDV	- restricted defining vocabulary
ST	- source text
TT	- target text
UFRGS	- Universidade Federal do Rio Grande do Sul

1. INTRODUCTION AND BACKGROUND

The functional quality of any reference work is tied to a good understanding of the profile of its intended users. In the field of lexicography, this understanding can be achieved by means of user-studies. According to Nesi (2013a, p. 62), the aim of all user-studies is to learn methods to increase the success of dictionary consultation, which involves the identification of users' needs and skills deficits. This is particularly important when it comes to the development of learners' dictionaries, i.e. dictionaries aimed at non-native speakers of a language. The reason is that, to this target group, dictionaries can be more than just a reference source to assist in the use of the language; they can be effective learning tools to support language acquisition and help them to progress on a proficiency scale. Since the 1980's, when user-studies became a popular research topic, the publishing houses have been claiming that all their editorial decisions are based on the understanding of users' needs and language proficiency level (cf. Atkins & Rundell, 2008). However, according to Lew and Dziemianko (2006, p. 277), 'few modifications to the learners' dictionary design are supported by published results of experimental research on how learners really use dictionaries'. Indeed, it seems that, due to commercial reasons, the profile of the intended target group of learners' dictionaries is still outlined in a fairly generic way. In other words, dictionaries have as intended target group any individual who is the process of learning a foreign language, regardless of her/his socio-cultural and linguistic background.

This thesis presents and discusses the results of a lexicographic user-study conducted in Brazil with 61 Brazilian learners of English. This study combined two methods of investigating dictionary use, written protocol and questionnaire, and its objective was to investigate the profile of the Brazilian learners of English with regards to their consultation preferences when performing English as foreign language tasks. On top of this general goal, this study was designed with a number of specific research questions that will be set out in Chapter 2.

The present chapter consists of four sections. It begins with a general overview of the relationship between dictionaries and foreign language acquisition. The following two sections review the status of English as global language and its role in the developing world, especially in Brazil. This leads into a discussion of some main aspects of the provision of English teaching in Brazil; namely, its historical context, the way it is standardised and regulated in schools, and some of its weaknesses. The chapter ends with a brief discussion of the lack of didactic materials suitable for the educational reality of Brazil and the profile of the students of English.

1.1. Dictionaries and foreign language acquisition

Anyone who has ventured to learn a foreign language knows the importance of having, or being able to access, a dictionary. In 1978, McLaughlin suggested that dictionaries were the most widely used reference source by foreign language learners and evidence was that, when travelling abroad, students carry dictionaries not grammar books. To Mármol & Sánchez-Lafuente (2013, p. 89) dictionaries' popularity among foreign language students can be attributed to the fact that vocabulary, which is their main content, is considered to be the 'building block of a language'.

Indeed, thanks to vocabulary, dictionaries have always played a significant role in foreign language acquisition. It was not, however, until dictionaries began to reflect a concern for the needs of their intended target group that they ceased being just repositories of words and translated equivalents to become effective learning tools. This change began in the late 1930's and it was largely driven by the increased global interactions that resulted in a substantial growth in the number of learners of English as foreign language (EFL). As English was achieving a global status, a profitable segment of the education market was being developed, as evidenced by the proliferation of language schools and the emergence of new methods and tools for the teaching of EFL (Duran & Xatará 2007, p. 204). According to Howatt and Smith (2014, p. 81), after the First World War, 'the centre of gravity for the development of progressive thinking on the teaching of English as a foreign language shifted from Europe and the USA to a remarkable triumvirate of expatriate language teaching theorists working in Asia'. Michael West, Harold E. Palmer, and A.S. Hornby, for instance, were engaged in major research within the Tokyo Institute for Research in English Teaching (Cowie 1999, p. 14). Palmer spent the years of 1917-1921 developing innovative methods for the teaching and learning of English and subsequently published three ground-breaking books: *The scientific study and teaching of languages* (1917), *Principles of language study* (1921), and *The oral method of teaching languages* (1921) (Howatt & Smith 2014, p. 81). Moreover, Palmer and West were the main heads behind the vocabulary control movement. According to Cowie (2002, p. 14), this movement arose from the pedagogical need to 'reduce the effort required to learn a foreign language by identifying those (relatively few) words which carried the main burden of communication in most everyday encounters'. Studies performed in the early century, including Palmer's own, suggested that with a minimum of as few as 1,000 words learners would be able to communicate and read any text written in everyday English (*ibid*). The vocabulary control movement played a fundamental role in the genesis of the first monolingual learners' dictionary.

From the publication of what is considered to be the first English learners' dictionary (ELD) in 1942 until today, lexicographers have been responding to an ever-growing international demand for English by providing the market with a wide range of dictionaries to assist learners in the use and acquisition of EFL (cf. Swanepoel 2001). By the beginning of the 21st century, the EFL lexicographic market was already one of the most competitive and remunerative dictionary markets in the world (cf. Rundell 1999; Swanepoel 2001; Landau 2001). As a result, lexicographers and publishing houses have been constantly under pressure to innovate by developing dictionaries that focus the description of 'what kind of user uses what kind of dictionaries for what information needs in what kind of context' (Swanepoel 2001, p. 161). In practical terms, this means that, currently, all editorial decisions are largely influenced by the understanding of the needs and the proficiency level of dictionaries' intended target groups (cf. Atkins & Rundell 2008).

Having to meet the needs of the largest international group of foreign language learners is, however, something of a double-edged sword. At its best, a large international target group means a large consumer market and the money generated from its demand for EFL dictionaries has been boosting research into developing excellent lexicographic work. At its worst, a large international target group also means a heterogeneous target group and, by attempting to address the needs of this group as a whole, lexicographers have been making overgeneralizations about EFL learners' profile and consequently developing dictionaries that are not suitable for all of them. In other words, currently the main problem with EFL dictionaries is that they target a very generic profile of English learners and, by neglecting the fact that learners from different linguistic and socio-cultural backgrounds may have different needs and preferences, they compromise their efficacy as learning tools and their ability to promote a greater learner autonomy.¹

The potential of EFL dictionaries to promote learners' autonomy is especially valuable for those learners originating from educational systems in which the provision of English teaching is unsatisfactory, which is the case of Brazil. According to Friedrich (2000, p. 221), due to the problems in the educational system in Brazil, Brazilian learners of English tend to believe that they are more responsible for their learning achievements than their teachers and that having access to appropriate didactic materials and reference sources stimulates their will to learn.

¹ Aware of the possible overgeneralisations of learners' profile made by monolingual learners' dictionaries and learners' preference for bilingual dictionaries, some lexicographers started to invest in a hybrid type of dictionary known as a bilingualised or semi-bilingual dictionary (Laufer & Kimmel 1997, p. 362). For a discussion of this type of dictionary see Section 2.1.

For many years, outlining a generic target group profile did not affect the popularity of dictionaries among foreign language learners. Dictionaries were the jewel in the crown of reference sources; only they contained the building block of languages. Nowadays, however, learners are just one click away from an endless variety of reference sources. And, by failing to recognise the particularities of the different groups within the large body of learners and users of English, dictionaries may end up losing ground to new types of reference sources, like online translation software, language forums, Q&A websites, etc.²

1.2. English as a global language

According to Crystal (2003, p. 3), a language achieves a genuinely global status when it develops a special role that is recognized in every country. In view of this statement, the global importance of the English language can hardly be underestimated.

The spread of the English language to beyond the boundaries of the British Isles began with the growth of the British Empire and it was propelled by the Industrial Revolution and the expansion of colonialism. At the beginning of the 19th century, England was the world leader in industry and commerce. In the end of the same century, the population of the USA was larger than that of any Western European country, and its economy the ‘most productive and the fastest growing in the world’ (Crystal 2003, p. 10). As a result, the English language began to acquire its global status. According to Crystal, language dominance is intrinsically connected to economic, technological, and cultural power: ‘Without a strong power-base, of whatever kind, no language can make progress as an international medium of communication’ (Crystal 2003, p. 7). To that, he adds ‘the language behind the US dollar was English’ (Crystal 2003, p. 10).

Nowadays, English plays a very important role since governments, industries, corporations and international organisations need it to progress (cf. Hasman 2004). After all, it is the language of science, technology and economics worldwide (cf. Seidlhofer 2003). According to Graddol (2000), English is the language of the global economy, most scientific publications, international banking, advertising for global brands, internet communication, technological transfer and international law.

In terms of dissemination, English is the third most spoken language in the world. However, when the numbers of both native and non-native speakers are taken into account, it is possibly the world’s most widely spoken language. Moreover, English is the only

² Failing to recognize distinct user groups is not the only reason why traditional dictionaries are losing ground to online language sources. Factors like the practicality of accessing other online sources (cf. Frankenberg-Garcia 2005) and the general idea that dictionaries suggest authority (cf. Landau 2001) may have an impact on this issue. Moreover, according to Frankenberg-Garcia (2005, p. 335) the propagation of ‘term banks, corpora, language-specific search engines and other electronic resources for language research has allowed learners to become much more autonomous L2 users’.

language for which the number of non-native speakers exceeds the number of native speakers – this by a ratio of 3 to 1 (Crystal 2003, p. 19).

In order to illustrate the spread of the English language around the world, Kachru (1988, p. 5) presented an outline of three concentric circles that represent the ways this language has been acquired and used (Figure 1.1).

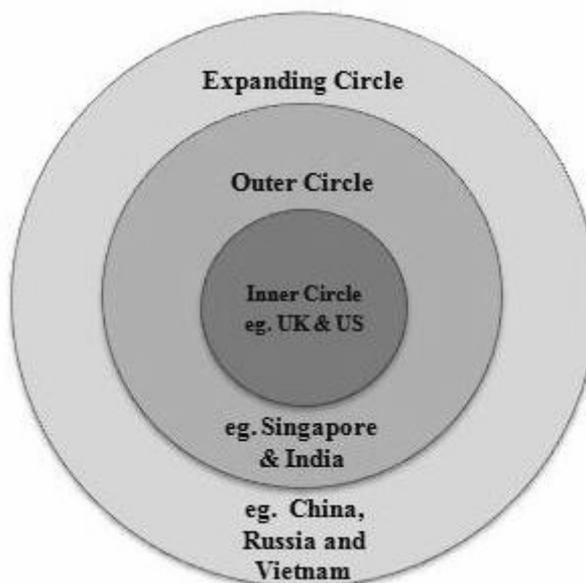


Figure 1.1: The three 'circles' of English (from Kachru 1988, p. 5)

The inner circle corresponds to those countries where English is the first language of the population, which includes the USA, the UK, Ireland, Canada, Australia and New Zealand. The outer circle corresponds to those countries where English is not the first language of the population, but where it plays an important second language role in a multilingual setting, for instance: Singapore, India, Malawi, and another 50 territories. Finally, the expanding circle corresponds to those nations that recognise the importance of the English language and where English is taught as foreign language, for instance in countries like China, Japan, Greece, Poland and, supposedly, Brazil.

1.3. Brazil in the expanding circle

Recent trends strongly indicate that proficiency in English is linked to development. Although the perception of what development differs across nations and cultures, the general consensus is that it is the reduction of poverty which incorporates the enhancement of human rights, universal freedom and self-esteem (Markee 2002; Coleman 2010). This implies the general wellbeing of the individual, economically, physically, socially and psychologically. Moreover, it has been established that development is sustained by technological and scientific advancement (cf. Focho 2011). In this context, Brazil acknowledges the

importance of the English language and its provision, even though this language does not have any administrative status in the country.

However, according to Friedrich (2001, p. 110), it is very difficult to evaluate the role of the English language as well as its provision in Brazil, as the presence of this language and consequently its influence is not uniform across the country. The reason is that Brazil has several countries within one, and it has a developed, a developing and an underdeveloped nation all under one roof. Thus, any linguistic study regarding Brazil should be done very carefully, as the reality of the South can be completely different from that of the North, for instance.

Based on this idea and in order to illustrate the reality of Brazil, Friedrich (2001, p. 110) proposed a revision of Kachru's concentric circles. Although Friedrich considers Kachru's model a practical way of analysing the spread of English around the world, she suggested that Brazil should not be considered fully part of the expanding circle because only a minority of the population has the appropriate contact with the language.

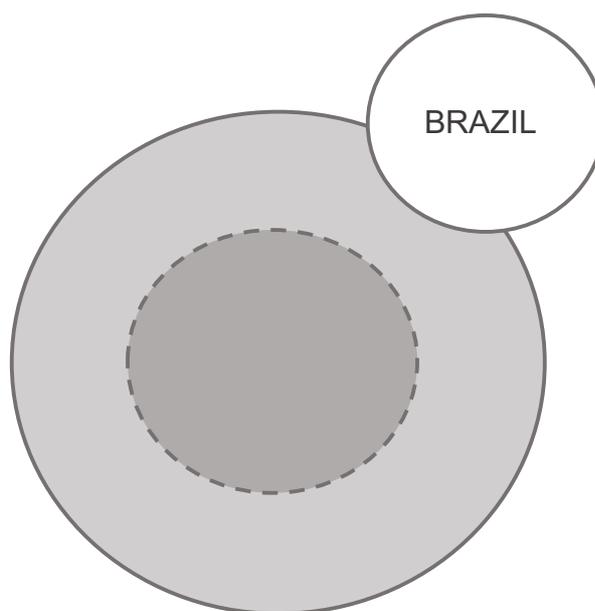


Figure 1.2: Friedrich's reinterpretation of Kachru's three circles of English (from Friedrich 2001, p. 100)

The Brazilian people's lack of contact with the English language is a result of a countless number of difficulties related to the educational system of Brazil and its sharp economic and social contrasts. Arguably, other aspects could contribute to this lack of contact, such as geographical factors or the fact that television in Brazil is dubbed. However, I believe that the main problem is the unequal access to opportunities. Geographical factors are secondary, otherwise it would be impossible to explain why Dutch, Swedish and Finnish

learners of English have very high proficiency levels.³ Moreover, Brazilians' performance with the Spanish language is just as poor even though Brazil is surrounded by Spanish speaking countries. The fact that television is dubbed only reinforces our educational problems. Television is dubbed due to the high levels of illiteracy in Brazil.⁴ In my opinion, it all revolves around socio-economic factors. For instance, the fact that the majority of the population begins working before turning 18, but dies without ever having a passport, or that more than 40% still do not have access to the internet at home.⁵ Brazilians' proficiency level in English reflects the educational opportunities available and, more broadly, the provision of education in Brazil.

1.4. The provision of English teaching in Brazil

For many years, the more affluent in Brazil have had access to English learning. However, according to a study commissioned by the British Council (2014, p. 5), the overall English proficiency levels in Brazil are still very low, with only around 5% of Brazilians stating they have some knowledge of English. The following sections shed a light on the provision of the English teaching in Brazil.

1.4.1. A brief history of the teaching of English in Brazil

The relationship between Brazil and Britain is so old that it blends with the history of Brazil itself (Nogueira 2007, p. 19). According to Freyre (1977, p. 46), the presence of British culture in the development of Brazil is an aspect that cannot be ignored by those interested in investigating and understanding Brazil's history and its civilization.

It is believed that this relationship had begun in the mid-16th century when the first British explorers started landing on the Brazilian coast searching for commodity goods; and it was progressively strengthened over the following centuries. It was not, however, until the 19th century that Brazilians felt the need to master the English language. By this time, Brazil had already started developing trade relationships with other nations, mainly with Britain (Nogueira 2007, p. 19).

Initially, the teaching of English in Brazil had the eminent practical utility of qualifying workers by providing them with the necessary skills to meet the demands of the labour market and the development needs of the country. At the beginning of the 19th century, England's strong influence led to significant changes in Brazil's culture and economy, namely: the development of the local press (*Imprensa Régia*), the telegraph, the railway lines, and the gas lighting (Nogueira 2007, p. 19). According to Dias (1999, p. 51),

³ Source: EPI – English Proficiency Index (www.ef.com/epi).

⁴ Source: IBGE – Brazilian Institute of Geography and Statistics (www.ibge.gov.br).

⁵ Source: IBGE – Brazilian Institute of Geography and Statistics (www.ibge.gov.br).

even though Brazil was a Portuguese colony, the British were in control of almost everything, from commerce to technology, and it was their financial capital that was ensuring the beginning of industrial progress in Brazil. In those years, much more powerful and influential than the British Royal Navy were the English commercial offices (Dias, 1999, p. 31).

The large British domain in the still colonial Brazil led, however, to a series of nationalistic protests and, in order to stifle them, the English companies began to advertise job vacancies for Brazilian workers who could speak English, or at least were proficient enough to understand instructions in this language (Nogueira 2007, p. 20). In this context, the English language began to be formally taught in 1809 by means of a decree issued by the Regent Prince of Portugal (D. João VI), with which he demanded the inclusion of English and French language instruction in schools (Nogueira 2007, p. 19). According to this document, among the living languages, English and French had earned a ‘distinguished place and their teaching could increase the wealth of the State and the prosperity of the education’ (Chaves 2004, *apud ibid*). The decreed provision of English teaching in schools, however, did not have a significant impact on the overall proficiency level of those who had access to education. In other words, English was being taught but not learned. According to Leffa (1988, p. 213), the reason was that the method used to teach modern languages was the same as that applied to the Classics (Greek and Latin), i.e. text translation and grammar analysis. Moreover, even though English proficiency was a highly valued skill on the labour market, French was prioritized for being the global language and a compulsory requirement for admission to higher education in Brazil (Nogueira 2007, p. 20).

The teaching of English in Brazil had another impulse in the 1930’s due to the worldwide political tensions that culminated in World War II. The provision of English language teaching began to be viewed as a strategic need in order to counterbalance prestige that Germany was gaining internationally and in Brazil (Schütz 1999). At the same time, the US financial capital was expanding its scope of action and dominating the Brazilian market both in terms of foreign trade and of direct investments in production; increasing Brazilians’ interest in learning English (Nogueira 2007, p. 22). Also in the 1930’s, the grammar-translation method, so far used in foreign language classes, began to be strongly criticised in Brazil for its inadequacy to the teaching of living languages. There was a demand for a complete overhaul of the teaching of modern foreign languages in Brazil, to begin with the immediate use of the target language in the classroom, instead of using predominantly Portuguese (Uphoff 2008, p. 10). Education critics came to the conclusion that, by speaking Portuguese in the classroom, learners would find much harder to acquire a foreign language and began to advocate the direct method of teaching. In 1931, by means of an educational

reform, the Brazilian government attempted to implement the direct method of teaching to English and other foreign language classes. However, according to Uphoff (2008, p. 10), due to a lack of appropriate didactic material, insufficient course load, and the difficulty of finding teachers proficient in English, this implementation never happened in practice.

In 1961, the Brazilian Law of Directives and Bases of National Education (LDB) established a 'partially compulsory' teaching of foreign languages in both private and state schools. The choice of the foreign language should be, however, at the school's discretion. Moreover, the LDB advised that foreign language instruction should only be offered to students by those schools that could 'deliver the subject efficiently' (Chagas 1980, apud Nogueira 2007, p.23). In the following years, during the Brazilian military dictatorship (1964-1985), the main focus of education was the development of technical skills in order to qualify workers for industry and for the international trade market. According to Bohn (2003, p. 162), in those years, the teaching of English, especially in state schools, became merely a practical training, known as 'English for Specific Purposes' (ESP) or 'instrumental English'.

In 1975, the government issued an official opinion on the establishment of a partially compulsory, rather than a fully compulsory, provision of foreign language teaching. According to the document, 'there is no doubt that the provision of foreign language teaching should be compulsory in all schools. However, it is necessary to acknowledge that currently not all schools are capable of offering an efficient teaching of these subjects.' In the context of foreign language teaching, '[efficiency] is limited to the strict necessary for the development of the four skills: listening, speaking, reading and writing (Parecer N.º 478/75, 1975 apud Rahe 2006, p. 23).

In the 1970's, Brazil witnessed the proliferation of English language schools across the country. They resulted from a strong pro-US tendency that was spreading and turning American English into the most demanded and taught foreign language in Brazil, and this would only grow subsequently (Pagliuchi da Silveira 1999, p. 431).

In 2005, linguistic policies aiming at integrating Brazil with the other Latin American countries, especially those members of the Mercosur, made compulsory the provision of Spanish teaching in schools (Lisboa 2009, p. 210). According to Lisboa (2009, p. 204), this Law, however, did not affect the demand for English teaching and English maintained its position as the foreign language most widely taught in Brazil. Recently, at the end of 2016, on the occasion of a national education reform, a provisional measure established as mandatory the provision of English teaching in schools. The Ministry of Education of Brazil (MEC) informs on its website that schools may offer classes in other foreign languages if

they so wish, preferably Spanish. However, the teaching of English, ‘the most widespread and taught language worldwide’, will become compulsory for all Brazilian schools.

When it comes to the provision of English in higher education, by means of a government programme called English Without Borders (EWB), Brazil has been experiencing a series of improvements towards an equality of education opportunities. EWB is a Federal government policy applied to a significant number of federal universities that offers free English classes to students and staff (Goulart da Silva 2017 p. 12). Its objective is to promote the internationalization of Brazilian universities by focusing on English for Academic Purposes classes. EWB first emerged as a branch of the Science without Borders (SWB) program, which is a scientific mobility program created in 2011. Initially most students participating in SWB selected Portugal as their country of destination due to the fact that both countries share Portuguese as their first language. The then minister of education Aloisio Mercadante, ‘noticing that the linguistic gap hindered students to select universities in other foreign countries, decided to create the EWB to improve the linguistic proficiency of the academic community in Brazilian universities’ (Goulart da Silva, *ibid*). According to Goulart da Silva (*ibid*), the positive results from this program are evidenced by the substantial number of Brazilian students and researchers participating in academic activities in the UK and the number of research partnerships and articles co-authored between researchers in both countries. The number of co-authored papers between UK and Brazilian researchers has increased by 196% in the last seven years (Goulart da Silva, *ibid*).

1.4.2. The provision of English teaching in Brazilian schools

The teaching of English in Brazil is regulated by several instances within a highly decentralized model (See Figure 1.3). The federal and state spheres of the government are, however, the two main decision-making bodies that articulate the standards of basic education in Brazil. At the federal level, the Constitution ensures universal access to education, but does not regulate its provision; that is the role of the Law of Directives and Bases of National Education (LDB). Based on the Constitution, the LDB regulates and structures education in Brazil. It also defines the roles of the Union, states and municipalities in the provision of education, having as premise the decentralization of the tasks on the management of the education system. This decentralization preserves the autonomy of the Secretaries of Education of the states and municipalities to develop their own education policies, guided, however, by the National Curriculum Parameters (PCNs). The PCNs are federal guidelines, addressed to state schools, that determine what subjects are compulsory for each grade and the topics that should be covered in the academic year. Private schools also follow the PCNs, but on a non-mandatory basis.

CONSTITUTION	<p>CONSTITUTION:</p> <ul style="list-style-type: none"> - ENSURES THE UNIVERSAL ACCESS TO EDUCATION.
LDB	<p>LAW OF DIRECTIVES AND BASES OF NATIONAL EDUCATION:</p> <ul style="list-style-type: none"> - REGULATES AND STRUCTURES THE EDUCATION IN BRAZIL; - DEFINES THE ROLES OF THE UNION, STATES AND MUNICIPALITIES IN THE PROVISION OF EDUCATION.
PCNs	<p>NATIONAL CURRICULUM PARAMETERS:</p> <ul style="list-style-type: none"> - GUIDES THE DEVELOPMENT OF SCHOOLS' PROGRAM; - DETERMINES THE SKILLS AND COMPETENCIES TO BE DEVELOPED IN EACH SUBJECT.
SEDUCS	<p>SECRETARIES OF EDUCATION (STATES AND MUNICIPALITIES)</p> <ul style="list-style-type: none"> - DEVELOP THE SCHOOLS' PROGRAM GUIDED BY THE PCNs.

Figure 1.3: The structure of English teaching in Brazil: regulative instances (translated from British Council 2015, p. 8)

As mentioned in the previous section, until the end of 2016, there was no law or directive at the federal level that determined the compulsory teaching of English in Brazilian schools. The LDB only determined that schools should teach at least one foreign language; and that the language choice should be made by the school community and/or the Secretaries of Education of the states and municipalities. Therefore, many schools did not include English instruction in their program, which helps to explain why Brazilians have a low proficiency level in English (British Council 2015, p. 7).

The fact that many schools do not include English in their program is, however, just one of the factors that contribute to Brazilians' low proficiency level in English. English teaching in Brazil is poorly standardised. In this scenario, it is difficult to evaluate and measure its provision at a national level (British Council 2015, p. 8). This only reinforces the low importance given to the teaching of English in Brazilian schools and precludes common strategies to improve its learning.

In Brazil, teachers and experts acknowledge that English teaching (both public and private) is 'unable to provide students with a usable level of English' (British Council 2014, p. 12). Among the difficulties they list: the lack of appropriate didactic materials, over-filled classrooms, insufficient course load, students' lack of motivation in learning the language, and the difficulty of finding adequately qualified teachers. According to the British Council (2014, p. 12), in these conditions the teaching of English 'is reduced to the basic rules of

grammar, reading short texts and learning to pass multiple choice exams for university admittance'. According to Celada and Rodrigues (2005, p. 4), the teaching of English in Brazilian schools is reduced to an almost caricatured grammatical extract (dissected and meaningless), an insufficient representation that is presented to the students as if it was 'the language'. This process is often traumatic for the students and affects their will to learn any foreign language; for most of them the school is the only contact that they will have with a foreign language (Celada & Rodrigues 2005, p. 4). Even government officials acknowledge that the provision of English teaching in basic education has many faults and that, even though the PCN are coherent and well-elaborated, they cannot be applied fully in practice (British Council 2014, p. 12).

1.4.2.1. Students' level of motivation in learning English

According to Focho (2011, p. 136), the teaching of English in many developing countries has always been problematic because students 'may fail to see its relevance to their immediate and future needs except for examination purposes'. Focho's perception of the teaching of English in developing countries can be, however, only partially applied to the reality in Brazil. Because Brazil has effectively several countries within one, the perception of the importance of learning English largely reflects its sharp socio-economical contrasts.

In Brazil, the value of English learning is likely to be the same as that attributed to higher education as a whole, which varies significantly among social classes. According to a study from the British Council (2014), for the both the elite and middle class, education is highly valued. For the elite, it is an important marker of social standing to the maintenance of the social class. For the middle class, it is an important tool for social progression – upward social mobility of families (British Council 2014, p. 9).

By means of a series of interviews with Brazilian students, Longaray (2005) confirmed a positive social attitude towards the learning of English. For most of the students investigated, the knowledge of the English language was linked to better living conditions. However, despite their claims, the importance of learning English seems to fade in the confrontation between the discourse sustained by them and their attitudes in the classroom. That is, in the interview, most participants demonstrated an extremely positive attitude towards learning English. Almost all interviewees ratified the importance of English classes in school and the teaching of English was often illustrated by the glimpse of a better future. When asked about the role of the English language, participants spoke about ideas influenced by the contemporary notions of English as a global language, according to which learning English has become 'mandatory' worldwide. However, the audio and video recordings of the activities carried out in the classroom reviewed the low investment of participants in the

process of language learning. Evasion and resistance were expressed by both the absence and the non-participation of the students in the activities carried out in the classroom. This may explain the findings of the study from the British Council (2014) with regard to the overall low English proficiency level of Brazilians. Even though English proficiency is a highly valued skill for the upper and middle classes in Brazil, the percentage of Brazilians from these classes who declared to have some knowledge of English is only 9.9% and 3.4% respectively.

To the majority of students in Brazil the learning of English is still very distant from their reality, especially for those in circumstances of social vulnerability. These students generally fail to see how learning English may be relevant to their lives. This view is also shared by many government officials in Brazil:

Many students go to school because they do not have anything to eat at home. From their perspective and their families, the fact that they finish school is already a victory. What are they going to learn English for? To pull a cart with cardboard? To sell candies at the traffic lights? The prospects for the future of these kids are almost zero. (Government official interview presented by British Council 2015).

According to the British Council (2015, p. 18) this statement is evidence of a common view in Brazil: English as a school subject is less relevant to the qualification of students originating from low income backgrounds. This ultimately reinforces the exclusion of these students from other opportunities for their lives (British Council 2015, p. 18).

The truth is that, in Brazil, English is a strong social marker and, because the provision of its teaching in basic education has many acknowledged weaknesses, private language schools have become the default option for learning English. Language schools are, however, an option available only to a small part of the population since their monthly cost represents between 20% and 52% of the average monthly salary in Brazil (British Council 2014, p. 25). This fits the description of ‘cultural elitism of the opportunities’ and perpetuates the income inequality by decreasing social mobility; creating a negative feedback loop over time that limits the opportunity of those in low income groups and lowers their chances of narrowing the income gap (cf. Freire 1999). In this regard, Longaray (2009, p. 52) presented a testimonial from a professor from British Columbia, Rick, who decided to quit his career as an English teacher in developing countries in the 1990’s. A very experienced and respected English teacher, Rick told of the time when, in crisis, he decided to leave the classroom in the early 1990’s. According to him, teaching English to the elites in developing countries, such as Brazil, could only result in continued exploitation of the masses. He believed that through the teaching of English he was strengthening the wrong

segment of society. The professor felt he was working for the empowerment of those who had already established positions of power, rather than giving a voice to the exploited.

1.4.2.2. The lack of appropriate didactic materials

In many countries, didactic materials, especially those used by the institutions of education, play a major role in the production, circulation and appropriation of knowledge. This is the case in Brazil, where the importance of the didactic material is even greater as a result of its precarious educational situation. In Brazil, English students often have no other option than to rely on the available didactic materials to resolve their difficulties as well as to develop their own learning strategy. Among the most important types of didactic materials are dictionaries, especially those developed for the teaching and learning of a foreign language, known as learners' dictionaries. However, a survey commissioned by the British Council (2015) revealed that the majority of the English teachers in Brazil believe that the teaching of English is very distant from the reality of their students and suggest that one of the main reasons is that the didactic materials available are too advanced for the proficiency level of the students and indeed their own.

The Ministry of Education of Brazil acknowledges the importance of dictionaries in the process of language learning, as evidenced by the inclusion of this type of work in the National Textbook Program (PNLD).⁶ In 2012, four Brazilian Portuguese dictionaries designed to assist first language acquisition were qualified as didactic materials and incorporated to the PNLD. In that same year, MEC published an article recognising the role played by dictionaries in the teaching and learning of languages, and disclosing the criteria applied to select those included in the PNLD. According to this publication (MEC 2012, p. 17), a dictionary can be a very valuable tool for acquiring vocabulary and for the teaching and learning of reading and writing skills. A good understanding of students' needs and skills is, however, imperative to the efficacy of a dictionary (*ibid*). The Portuguese dictionaries incorporated in the PNLD were selected by means of pedagogic and lexicographical research that identified the needs of Brazilian students at four stages of basic education (1st year of the elementary; 2nd to 5th year of the elementary; 6th to 9th year of the elementary; and secondary education). The PNLD has encompassed foreign languages since 2011, but EFL dictionaries have never been included in the program. The reason for this is not clear, however. A possible explanation would include the lack of studies addressed to the

⁶ The PNLD [Programa Nacional do Livro Didático] is an educational program created by the government to ensure free access to didactic material for all state schools' teachers and students. Each year, the program purchases curricula for a set of primary or secondary school subjects, including textbooks, dictionaries and digital supplementary resources for teachers.

identification of the general needs and skills of Brazilian learners of English, or the lack of EFL dictionaries capable of meeting their needs and skills.

Given the context provided in which the provision of English language is insufficient to help learners to successfully progress in English language acquisition, dictionaries can serve as effective learning tools, capable of promoting learning autonomy to fill this gap. The functional quality of dictionaries is, however, tied to a good understanding of the profile of their intended users. In the field of lexicography, this understanding can be achieved by means of user-studies. The problem is that, currently, most EFL dictionaries target a very generic profile - English learners - and neglect the fact that learners from different cultures and linguistic backgrounds may have different needs and preferences. This thesis aims to give an insight into the profile of the Brazilian learners of English with regards to their consultation preferences when performing English as foreign language tasks. Moreover, the outcomes of the present study shed light on topics as yet underexplored in Brazilian lexicographic studies, and are also useful for those interested in the development of EFL reference sources, capable of effectively addressing the needs, skills and deficits of the ever-growing number of Brazilian learners of English.

2. LITERATURE REVIEW

This chapter examines previous studies related to the topic of learners' lexicography, research into dictionary use and theories associated with the analysis of samples of learners' language: error analysis and contrastive analysis. Based on a traditional typology for classifying lexicographic works, the next section (2.1) describes, along general lines, the main characteristics of the three types of dictionary that are most often the object of research into dictionary use (bilingual dictionaries, general monolingual dictionaries and monolingual learners' dictionaries). The following section, then, provides a brief overview of the history and the main features that characterise learners' dictionaries; the only type developed for pedagogic purposes (2.2). The subsequent section (2.3) discusses research into dictionary use and the most traditional methods of investigation and variables investigated. The chapter then presents the theories associated with the analysis of data collected on learners' language (2.4), and, finally, it outlines the research questions of the present study (2.5).

2.1. Typology of dictionaries

There is no standard, agreed-upon taxonomy for dictionaries (Landau 2001, p. 7). However, in the history of lexicography, it is possible to find a few attempts to build organised schemes to classify the existing types of dictionaries. One of the most acknowledged typologies was made in 1976 by Yakov Malkiel. According to Malkiel (1976), the characteristics of dictionaries can be divided into three categories: range, perspective, and presentation. Range refers to the size (the extent of language lexicon covered) and scope (number of languages covered) of the dictionary. Perspective refers to the approach of the lexicographic work. This category distinguishes, for instance, the extent of time covered by the dictionary; i.e. diachronic (covering an extended time), or synchronic (limited to one period of time). It also refers to the organization of the information presented (alphabetically, by sound, by concept), and the level of tone distinguished (perceptive, didactic, facetious). Finally, the category of presentation refers to the content and presentation of the information in each entry of the dictionary. Distinction in this category can be based, for instance, on how full the definitions are, the type of verbal documentation employed (quotations or invented examples), the presence of graphic illustration, the presence of special features (pronunciation, use information, grammar information).

According to Landau (2001, p. 8), Malkiel's classification is valuable for two reasons. First, it suggests relationships between types of dictionaries, e.g. 'diachronic dictionaries tend to have few or no pictorial illustrations; bilingual dictionaries are seldom diachronic and usually alphabetic in arrangement' (*ibid*). Second, virtually every type of

dictionary can be analysed with reference to the three categories proposed by Malkiel (1967). For the same reasons point out by Landau (2001), based on Malkiel's typology, I describe in the following paragraphs the main features of the three types of dictionary that are most often used by foreign language learners and investigated by research into dictionary use (bilingual dictionaries, general monolingual dictionaries and monolingual learners' dictionaries) (cf. Hulstijn & Atkins 1998; Welker 2010; Nesi 2013b). Special emphasis is placed on the description of monolingual learners' dictionaries, given that they are the only type traditionally developed for pedagogic purposes.

Bilingual dictionaries

Range: limited language lexicon / two languages

Perspective: synchronic / alphabetically ordered / perceptive

Presentation: translated equivalents / few or no examples / few or no graphic illustrations / few or no special features

Traditionally, a bilingual dictionary consists of a list of words, alphabetically ordered, in one language (L1), for which, ideally, exact equivalents are provided in another language (L2) (cf. Landau 2001, p. 8). The general purpose of bilingual dictionaries is to assist a user who understands one language but not the other. Moreover, they presume that one of the languages is the user's native language (*ibid*). The extent of language lexicon covered by bilingual dictionaries can vary significantly from one publication to another, usually depending on the format adopted (pocket, desk-size, electronic). However, because bilingual dictionaries cover more than one language, the extent of their language lexicon tends to be more limited when compared to general monolingual dictionaries, for instance. There are no periphrastic definitions in bilingual dictionaries; each entry is composed of a headword and one or more translated equivalents. In terms of special features, their content can vary significantly from one publication to another, depending on the target group that the dictionary is addressed to. Bilingual dictionaries can be unidirectional (L1 and L2), or bidirectional (L1/L2 and L2/L1) and can support language reception (e.g. reading) and/or production (e.g. writing). Those that support language reception are sometimes called passive dictionaries as opposed to active dictionaries that support language production (cf. Landau 2001, p. 9). Unidirectional bilingual dictionaries target a single linguistic community (e.g. source language: Portuguese, target language: English), and, therefore, usually have a passive (e.g. English to Portuguese) and an active (e.g. Portuguese to English) part. In a well-thought-out dictionary, the special features provided in the passive part are not the same as those provided in the active part. For instance, graphic illustrations are more useful and, therefore, likely to be found in the passive part of the dictionary, given that they help users to decode a word; whereas pronunciation, examples, use and grammar information, which

are important to encoding, are more likely to be found in the active part of the dictionary. Bidirectional bilingual dictionaries target two linguistic communities (e.g. source language: Portuguese or English, target language: Portuguese or English). They are the most common type of bilingual dictionary. Because bidirectional dictionaries aim at two linguistic communities, they do not have passive and active parts; the two parts are likely to be mirrored images of each other. For the same reason, it is also much more difficult to identify the needs of their intended target group. As a result, bidirectional dictionaries tend to be very limited in terms of special features. They usually just indicate the grammar category of the headwords (verb, noun, adjective, adverb) and list a number of translated equivalents, without any examples, illustrations or use information. Traditionally, bilingual dictionaries are not pedagogic tools. However, since research into dictionary use started to acknowledge that foreign language learners prefer this type of dictionary (cf. Lew 2004), a significant number of dictionaries combining features of bilingual and learners' dictionaries have appeared on the market.

General monolingual dictionaries

Range: extensive language lexicon / one language

Perspective: synchronic / alphabetically ordered / perceptive

Presentation: periphrastic definitions / quotations or corpus-based examples / graphic illustrations / special features

A general monolingual dictionary (GMD) is a type of reference book that 'describes the meaning of words, often illustrates how they are used in context, and usually indicates how they are pronounced' (Landau 2001, p. 6). In its traditional form, the words defined in GMDs are alphabetically ordered and an extensive language lexicon is covered (low-frequency words, names, places). GMDs target native-speakers of a given language and their general purpose to assist language use. However, because GMDs are often associated with 'authority, scholarship, and precision', foreign language learners are, sometimes, encouraged to use them, motivated by the belief that these dictionaries are more reliable when compared to those addressed to non-native speakers (bilingual and learners' dictionaries) (*ibid*). In terms of special features, most GMDs often include information about spelling, etymology (word derivation), use and grammar information, examples, synonyms, and sometimes, graphic illustrations. Like most bilingual dictionaries, GMDs are not developed for pedagogic purposes. This can be evidenced, for instance, by the phrasing and vocabulary used in the definitions, and by the role of the examples provided; which is often to attest the existence of a word, rather than grammatically illustrate its use.

Bilingualised dictionaries / Semi-bilingual

Range: limited language lexicon / two languages

Perspective: synchronic / alphabetically ordered / perceptive

Presentation: periphrastic definitions in the target language / translated equivalents / corpus-based examples / few or no graphic illustrations / special features

The bilingualised dictionary is a type of hybrid dictionary that contains monolingual information about a word (definition, grammar information and other features) and its translation into the learner's first language (Laufer & Kimmel 1997, p. 361). According to Laufer and Kimmel (1997, p. 363), bilingualised dictionaries arose from the paradox between learners' awareness, on one hand, that monolingual dictionaries were more effective and, on the other hand, their preference for bilingual dictionaries. In other words, the paradox between usefulness and usability (*ibid*). For Laufer and Kimmel (*ibid*), people may feel insecure if they cannot relate the meaning of a given foreign word to a meaning in their first language, however good the explanation and the illustrations might be in the target language. In addition to this, studies like the one performed by Nesi and Meara (1994) suggest that monolingual explanations are only partially understood by some foreign language learners. Therefore, the solution found by lexicographers was to create dictionaries that combine definition and equivalent (Lew 2004, p. 14). In its traditional form, a semi-bilingual dictionary is most suitable for comprehension purposes (Laufer 1995, p. 3), given that the headwords and periphrastic definitions are in the target language and that there is at least one translated equivalent for every meaning of the headwords. Like bilingual dictionaries, the extent of language lexicon covered by this type of dictionary can vary significantly from one publication to another. However, the extent of language lexicon of bilingualised dictionaries tends to be more limited when compared to general monolingual dictionaries, for instance. In terms of special features, their content can also vary from one publication to another, depending on the target group that the dictionary is addressed to. The first semi-bilingual dictionary was published in 1978. It was an English-English-Hebrew dictionary (Laufer 1995, p. 3). In this dictionary the headwords, definitions and grammar information were written in English, and each translated equivalent was matched with the appropriate English definition. In this dictionary, there were no illustrations, examples or use information. Not all bilingualised dictionaries focus, however, on comprehension. An example is an English-Portuguese dictionary published in 1996 called Collins-Cobuild Bridge Bilingual Portuguese English dictionary. For Humblé (2009, p. 121), this dictionary, which was an initiative of John Sinclair himself, was unique in its genre. Even though the Bridge Bilingual is classified as a semi-bilingual dictionary, its concept is entirely different: 'It exploits the similarities between Portuguese and English, at least in word order, to explain English words by means of partially Portuguese sentences' (*ibid*). According to Lew (2004,

p. 14) what Sinclair did was to translate the definitions of Cobuild Students' Dictionary into Portuguese, as in the example:

begrudge, se você **begrudge someone** something, você sente que essa pessoa não merece isso e sente inveja dela por tê-lo.⁷

[**begrudge**, if you **begrudge someone** something, you feel that this person does not deserve it and you envy him/her for having it. [*My translation*]

Despite having a specific target group and an idea of their needs, the Bridge Bilingual dictionary was not a commercial success and it is currently out of print (cf. Humblé 2009, p. 121).

Learners' dictionaries

Range: limited language lexicon / one language

Perspective: synchronic / alphabetically ordered / didactic

Presentation: periphrastic definitions / corpus-based examples / graphic illustrations / special features

Traditionally, learners' dictionaries (LDs) are a type of monolingual pedagogical dictionary designed primarily to address the needs of the non-native speaker learners of a given language. The target users of most of these kinds of works are learners who have an advanced level of proficiency in the target language; such dictionaries include Oxford Advanced Learners' Dictionary (OALD) and Collins Cobuild Advanced Learners' Dictionary (COBUILD). However, we can also find dictionaries designed for learners of basic and intermediate levels, for example, the Cambridge Learner's Dictionary (CLD). These learning tools are developed based on the assumption that learners must adopt monolingual works for the study of the foreign language and that these monolingual works should not be the same as those used by the native speakers. The difference between monolingual dictionaries for learners and those for native speakers is the type and the amount of information presented - LDs normally include a more sophisticated set of grammar and usage information as well as a large number of examples and idiomatic expressions. Some of the major LDs have been continually improved for the last seven decades and nowadays are works of excellence.

2.2. The beginning of a new concept of dictionaries

During the last century, the world has witnessed a substantial growth in the demand for all sorts of didactic material to assist in the use and acquisition of EFL, but especially for dictionaries. As a result, EFL lexicography has been transformed from 'a minor offshoot of mainstream lexicography into a huge field in its own right, every bit as large, remunerative, and competitive as native-speakers' lexicography' (Landau 2001, p. 17). Indeed, the

⁷ This example was extracted from Lew (2002, p. 14).

lexicography specialised in foreign language acquisition has become so important that it can be considered an independent research field.

The emergence of learners' dictionaries (LD) dates from the beginning of the 20th century, more specifically in the two decades between World Wars I and II. During this time, new trends in EFL instruction were flourishing and the teaching of English began to focus on the development of encoding skills (writing and speaking) (cf. Humblé 2001; Rundell 2008).

To respond to these new trends, EFL teachers began reflecting on how didactic materials could facilitate foreign language acquisition. In this context, three English teachers started the research which later became the foundation for the first LD. H. E. Palmer, A. S. Hornby and Michael West were the names behind this endeavour. Their objective was not just to improve the EFL teaching methods in the classroom, but also to make valuable contributions to develop tools to support learners during the process of acquiring a foreign language (cf. Jackson 2002). Michael West was the main collaborator on research into vocabulary control, which aimed at identifying the essential vocabulary that could enable EFL learners to achieve higher levels of proficiency in English in a shorter period of time (cf. Jackson 2002). In 1938, Palmer began to investigate the grammatical patterns of words, especially verbs, and was followed by his co-worker Hornby in 1954. Palmer and Hornby also investigated collocations and idiomatic expressions which subsequently comprised the *Idiomatic Syntactic Dictionary of English* (Hornby *et al.* 1942). This work came to be considered the first learner's dictionary of general use, thereby inaugurating learner lexicography, which, according to Engelberd & Lemnitzer (2004), became the flagship of English lexicography.

In 1948, with the end of World War II, Oxford University Press expressed an interest in the newly developed dictionary and decided to republish it, with a change of title to *The Learner's Dictionary of Current English*. In 1952, the title was altered again to *The Advanced Learner's Dictionary of Current English*. On its third edition, in 1974, the 'the' in the title was suppressed and work came to be known by the acronym OALD (Jackson 2002, p. 129). The reason why this dictionary was so innovative was that it was much simpler than traditional general monolingual dictionaries. It contained fewer entries, shorter definitions, but many more examples. OALD represented the beginning of a new concept of dictionaries. According to Humblé (2001, p. 34), learners' dictionaries were like 'universal bilingual dictionaries', since they were capable of translating 'hard English into easy English, independently of the user's first language'.

Until 1978, OALD was the only exponent of its genre in the lexicographic market. According to Jackson (2002, p. 130), the first two editions of OALD sold around 7 million copies and they were alone in the lexicographic market until 1978, when Longman published *Longman Dictionary of Contemporary English (LDOCE)*, edited by Paul Proctor. According to Rundell (2008, p. 222), the LDOCE introduced a number of theoretical innovations and technological advances to better address the learners' needs.

The most important of these innovations was the use of a restricted defining vocabulary (RDV), which consisted of a list of about 2000 words used by lexicographers for writing definitions for each entry in the dictionary. Proctor also aimed at improving the encoding of the grammatical information contained in the dictionary, in particular that related to the syntax of verbs. While to effectively take advantage of the verbal patterns information found in OALD the user should constantly consult the preface of the dictionary, the LDOCE (1978) innovated by introducing a uniform codification system for verbs, adjectives and nouns. A code chart was introduced into the dictionary's back matter in order to make reference easier. The goal of this innovation was to assist users by providing them with a more intuitive and accessible system.

During the 1980's important changes took place in the field of foreign language teaching. The return of the communicative approach made it clear that the emphasis was once again on production. This resulted in changes in pedagogical practices and in the materials used to support the processes of learning a language: among such materials were LDs. In this scenario, a new LD arose in the lexicographic market bringing a considerable number of innovations for the field of pedagogical lexicography. This work, entitled *Collins Cobuild English Dictionary (COBUILD)*, was the result of a research project led by John Sinclair. The objective of the lexicographers involved in this project was to develop a LD completely based on an electronic corpus. The corpus used for the development of COBUILD's first edition (in 1987) had more than 7.3 million words extracted from texts plus a backup corpus with more than 13 million words. Among the advantages of using a large-scale corpus was the possibility of obtaining reliable information about word frequency in a given language, alongside information on how words combine in the actual usage of the language. For Jackson (2002), the use of an electronic corpus for the development of a LD was not only innovative, but also revolutionary. Nowadays, almost all language dictionaries, both for learners and native speakers, make use of insights from corpus linguistics for their elaboration.

The use of an electronic corpus was not the only innovation brought by COBUILD. Sinclair required all definitions contained in the dictionary to be full sentences (the full-

sentence definition method). The purpose of defining entries using this method was to assist a teacher in explaining the meaning of a given word to students in the classroom (cf. Moon 2007). The full-sentence definition method is still being used by COBUILD nowadays - currently in its 9th edition. The figure below (Figure 2.1) illustrates the full-sentence definition method in contrast with the traditional defining method.

<p>fry 1 When you fry food, you cook it in a pan that contains hot fat or oil. <i>Fry the breadcrumbs until golden brown.</i> COBUILD (2003, s.v. <i>fry</i>)</p>	<p>fry 1 to cook sth in hot fat or oil; to be cooked in hot fat or oil: [VN] <i>fried fish</i> [V] <i>the smell of bacon frying.</i> OALD (2003, s.v. <i>fry</i>)</p>
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Figure 2.1: A comparison of two definition methods in learner dictionaries: full-sentence definition and traditional

The revolutionary method of COBUILD was widely accepted by EFL learners and is still claimed by critics as a superior method from a pedagogical point of view (*ibid*). However, definitions written using the full-sentence method are longer in length which has as an immediate consequence a significant reduction in the number of entries that can be contained in a print dictionary of constant size.

Other innovations introduced by COBUILD were: 1) the use of minimally adapted examples extracted from the corpus, with the intention to reflect the real usage of the language; 2) grammatical information not inserted in the definition, but in an extra column on the right side of the entrance (the column also contained information about synonyms and antonyms of the defined word); 3) a single pronunciation given for each entry and meanings arranged using a frequency criterion.

Furthermore, the entry contained all inflected forms, either regular or irregular. Each meaning was given a new paragraph and virtually all meanings had at least one example. The figure below (Figure 2.2) contains an entry extracted from COBUILD to illustrate many of these innovations.

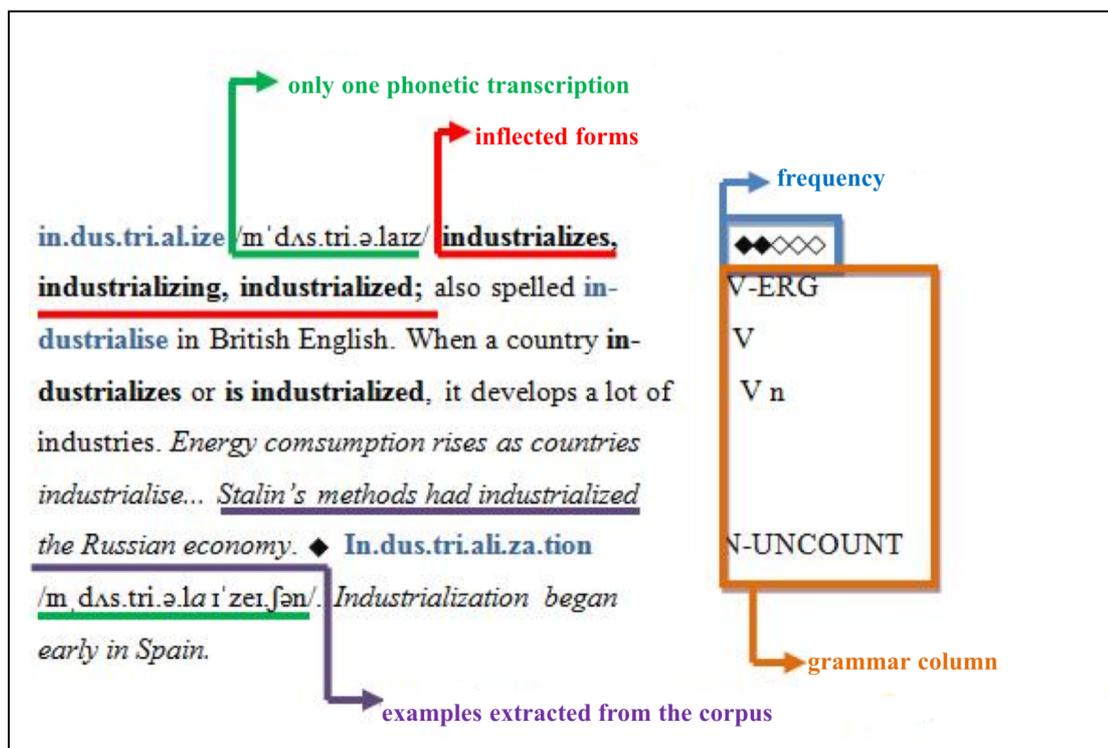


Figure 2.2: COBUILD innovations exemplified in the entry *industrialize*

In 1995 another 'big' LD arrived on the lexicographic market, the *Cambridge International Dictionary of English* (1995) (CIDE), edited by Paul Proctor. Among the characteristics of this new work were: 1) each main meaning of a given word was a new entry in order to facilitate learners' access to the information; 2) each grammatical pattern had a illustrative example and the examples were also used to illustrate collocations; 3) the dictionary paid special attention to the phraseological potential of words, so the editors decided to include a phrase index to facilitate access to phraseological units. The dictionary ensured that each phrase was entered under all of its constituents, each of which had a reference to the page, column and line number where it was to be found; 4) *international* in the title is justified in part by the dictionary's approach to several varieties of English (Australian, American and British) and partly because it contained tables of false-friends in 16 languages; 5) the dictionary was compiled on the basis of a corpus of 100 million words, the *Cambridge Language Survey Corpus*, targeted at EFL learners. The fifth and the last 'big' dictionary, the *Macmillan English Dictionary for Advanced Learners*, first appeared in 2002.

The competition has been an incentive for the improvement and innovation of the LDs and as successive editions have appeared it is possible to see a clear development regarding these works (cf. Jackson 2002). According to Rundell (2008, p. 221), in fact there was a significant enhancement of this type of dictionary, with two factors in particular attesting to the LDs' optimization. The description of the language currently provided by these dictionaries is much closer to real use and the presentation of this description addresses

more effectively the needs and level of proficiency of the dictionaries' intended target user (Rundell 2008, p. 221). For Nesi (2013b, p. 38), the major changes in LDs, from the 1980's onwards, have been fuelled by reseachers' increasing interest in the field of user studies.

Even considering the fact that this kind of dictionary has been evolving since its creation, some of its features have acquired a standard status and still continue to be used not only by major LDs but also by new enterprises in the field of lexicography. Figure 2.3 provides a summary of these standard features.

Standard Feature	Description	Reflection in LDs
Restricted defining vocabulary	The RDV is a list of 2,000 to 3,500 words selected according to a frequency criterion and used in the writing of the definitions in the LDs. The use of an RDV aims to facilitate learning.	The RDV helps lexicographers to save space by not including in the dictionary low frequency and highly technical terms. Microstructure: all definitions have to be written using this limited list of words. This ensures an easier understanding of the definitions by learners and also ensures that highly complex structures will not be used.
Syntax and grammar information	In order to address its intended users' encoding needs, LDs must include a detailed set of grammar and syntax information	Microstructure: the way grammar and syntax information is represented and organised in the microstructure may change from one LD to another but they all include this kind of information.
Examples	In the tradition of monolingual dictionaries for native speakers, quotes and other illustrative examples have a set of clear and well-defined functions. However, for a foreign language learner the examples play an important instructional role, so they must be extensively and not sporadically used in the dictionary.	Microstructure: in the LDs, there is at least one example for each entry. The examples usually are: 1) article + adjective + complement (e.g. a serious illness); 2) abstract infinitive phrases (e.g. to introduce the new law); 3) sentences that attempt to clarify, in some way, something that is not explicit in the definition (e.g. I have not an idle moment = am always busy).
Phraseology	Scholars acknowledge the importance of mastering the phraseology of a foreign language for performing effectively receptive and productive tasks. For this reason, LDs normally pay a lot of attention to phraseology.	Microstructure: phraseology plays an important role in the microstructure of LDs. In support of this, it is possible to notice in observing the evolution of LDs over the past 70 years an ever-growing concern with including as many phraseological units as possible.

Figure 2.3: Summary of the standard features of learners' dictionaries

Not all lexicographic traditions around the world have such an organised and well-defined concept of a dictionary; similarly, not all traditions use the terminology 'learners' dictionary' to classify this type of lexicographic work. Thus, knowing which are the standard features of an LD help us to identify its equivalents in other cultures.

2.3. Research into dictionary use

Any suggestion to improve the functional quality as well as the user-friendliness of a dictionary has to be based on user research. Research into dictionary use comprises four areas: typology of dictionaries, typology of users, analysis of the needs, and analysis of the skills (Hartmann 1987, p. 154). Regardless of the area, however, the objective of all user research is to increase the success of dictionary consultation. This involves the identification of users' needs and skills deficits, and the making of appropriate matches between types of dictionary, types of dictionary user, and types of dictionary use (Nesi 2013a, p. 64).

The concern for the needs of dictionaries' intended target groups is not new, either in theoretical or practical lexicography. According to Béjoint (2010, p. 223), it was in the 1960's that lexicographers began to believe that dictionaries should be developed based on a study of the populations of their users. The idea that 'dictionaries should be designed with a special set of users in mind' was also acknowledged by publishers in that same decade (Householder 1967, p. 279). There is evidence to suggest, however, that research into dictionary use became a popular research topic only quite recently. In 2010, Welker published the outcomes of what is considered one of the most extensive surveys of empirical studies into dictionary use. Of the 320 empirical studies listed and summarised by him, only six were conducted before 1980. According to Nesi (2013a, p. 62), in the 1980s there was an 'upsurge of interest' in research into dictionary use and, in each decade since then, an increasing number of studies have taken place, in an 'ever-wider range of dictionary-using contexts'.⁸ This trend was also observed by Bergenhotz and Johnsen (2005, p. 119), who stated that from 1985 onwards so many monographs, editions and papers in journals have been published that it has become difficult or even impossible to get a complete overview of what has been produced. Bergenhotz and Johnsen's observation is particularly important because, besides evidencing the substantial growth of the field, it calls attention to the difficulty of getting a full perspective on the scientific production on this topic, which ultimately has an impact on the possibility of comparing the findings from the various studies into dictionary use that have been produced. This difficulty was also observed by Ripfel and Wiegand (1988), Hulstijn and Atkins (1998), Bogaards (1993), Welker (2006a; 2006b; 2010), Wiegand (2008), Engelberg and Lemnitzer (2009), Nesi (2013a; 2013b), Töpel (2014), and many others, who, however, do not attribute it exclusively to the large number of studies that have been published, but also to a number of factors that contribute to the complexity of the research topic itself; for instance: the countless possible combinations of

⁸ Up until 2008, Welker estimated the number of studies worldwide to be between 250 and 300 (cf. Welker 2008, p. 8).

investigated variables and investigation methods, and issues regarding the selection and application of the appropriate methodology.

To Töpel (2014, p. 20), the difficulty lies in the multiplicity of variables that can be investigated in the framework of this type of study. ‘Research into dictionary use refers to completely different types of dictionary, which vary for instance in medium (printed/electronic), number of languages (monolingual/bilingual/multilingual), degree of specialization (general/specialist), type of information (pronunciation/meaning/examples/paradigms), or target group (non-native speakers/native speakers)’ (*ibid*). He adds that it is not only dictionaries as objects of study that are complex, but also the ‘methodological options for studying the dictionary as object’ (*ibid*). The multiplicity of methods to investigate dictionary use was also verified by Welker (2006b) through the analysis of a large number of research reports. He called attention to the difficulty of generalising the results of most research into dictionary use and attributed it not just to the variety of investigation methods available, but also to faults in the selection and application of these methods. According to Welker (2006b, p. 225), sometimes researchers fail to isolate the external factors which influence the dictionary use. As a result, unless a sophisticated methodology is used, results can only be assumed to hold for identical situations. To Nesi (2013b, p. 39), the obstacles in the attempts of generalising and comparing the findings from the multiple studies into dictionary use result from their characteristic design. ‘The history of research into dictionary use tends to be characterised by small-scale studies undertaken in a variety of different contexts, rather than larger-scale, longer-term funded projects’ (*ibid*). This often makes their findings difficult to compare (*ibid*).

Methodology-related problems were the core of the criticism addressed by many scholars to research involving dictionaries, especially empirical studies. According to Ripfel and Wiegand (1988, p. 496), most research into dictionary use does not ‘fulfil the minimum requirements of an investigation report for an empirical study’. Studies hardly ever contain statistical evaluation and, in some cases, do not even indicate the number of participants. Consequently, the relevance of the results and of the whole investigation is compromised (*ibid*). The inconsistencies in the methods applied to investigate dictionary use were also criticised by Wiegand (2008, p. 2), who stated that several of the more recent empirical studies ‘can hardly be taken seriously, since they are neither theoretically sound nor methodologically well thought-out’. To Bergenholtz (2011, p. 32), in most studies, even the criteria for the selection of the investigated subjects is questionable: ‘The totally unscientific and actually almost meaningless surveys, in which the respondents were not selected in accordance with the principles of social science’ (2011, p. 32).

Despite of all the difficulties reported, in the history of research into dictionary use, there is a significant number of comparative studies, surveys and compilations of empirical research that attempt to provide an overview of the publications in this field and facilitate access to their results. These studies are normally composed of an index and a short summary of the key features of research published (subjects, methods, main findings). Publications are often chronologically listed, but the way that they are grouped and classified can vary from one study to another. The classification of the research listed can focus, for instance, on the aspects of dictionary covered (dictionary as the object), on users' attitudes toward dictionaries, and/or on the methodology applied to the investigation.

Hulstijn and Atkins (1998, p. 10) identified fifty published papers reporting on empirical investigations in which the dictionary was involved in one way or another. They classified these studies under seven headings, according to the aspects of dictionary covered in each: the attitudes, needs, habits and preferences of dictionary users; text or word comprehension; text or word production; vocabulary learning; dictionary-related performance in testing; teaching dictionary skills; critical comparisons and reviews of dictionaries. When chronologically listing what she considered the 35 most important empirical research into dictionary use, Nesi (2013b) identified five recurring themes, which were used in the classification of the research: language preferences and attitudes regarding dictionary use; the influence of dictionaries on learners' text comprehension; the influence of dictionaries on learners' text production; the role of dictionaries as an aid in language learning, and learners' dictionary consultation behaviour. Nesi, however, only listed empirical research applied to EFL learners. She did not include questionnaire based surveys or research into learners of other foreign languages or of native language. Welker (2010) summarised 320 empirical research studies into dictionary use. Unlike the other studies described here, this summary does not focus on research themes but on experimental methods. Welker identified six main methods of investigating dictionary use: questionnaire surveys; interviews; observation; protocols; tests and experiments; log files.⁹

In the following section, I detail and illustrate with examples the six methods of investigating dictionary use identified by Welker. I also describe the pros and cons of each method, which ultimately helped me in choosing the methodology applied in the present study.

⁹ These methods had been previously identified by Zöfgen (1994), who, however, divides them into two categories: questioning and observation. In this classification, questionnaire surveys and interviews would be part of 'questioning' and observation, protocols, tests/experiments and log files part of 'observation'.

2.3.1. Methods for investigating dictionary use

Questionnaire surveys are likely to be the most traditional and common method of research into dictionary use; they inaugurated the field of user-studies (cf. Welker 2010, Nesi 2013b). In this method, investigated subjects are asked to respond a series of questions, generally multiple-choice or rating scale, about their dictionary-using habits, preferences and attitudes. The reason for the popularity of this method is that inquiring about dictionary-using habits by means of a questionnaire is a convenient way of surveying large numbers of people. Questionnaires are also convenient for collecting demographic data (cf. Lew 2002). The first well-known questionnaire-based study was performed by Barnhart in 1962. In this study, 108 questionnaires were distributed to professors in order to collect data on ‘college dictionaries’. Barnhart used an indirect methodology in which teachers were asked to answer, based on their observation, questions about the reference needs and habits of their students.¹⁰ In 1974, Quirk used a 30-item questionnaire to survey 220 undergraduate students in London in order to supply ‘more objective evidence’ to ‘folkloristic beliefs’ (Quirk 1974, p. 148). Beginning with Quirk, in the later studies the tendency was to approach dictionary users directly. Nevertheless, by means of a comparison between Barnhart’s (1962) results and later studies, it is possible to see some amount of agreement, suggesting Barnhart’s methodology was not entirely without merit.¹¹ Other well-known questionnaire-based studies were performed by Tomaszczyk (1979), Béjoint (1981), and Hatherall (1984).¹²

Despite of the usefulness of questionnaires to survey a large number of subjects, early studies that used this method were heavily criticised in terms of the reliability of their findings. According to Lew (2002, p. 39), most questionnaire-based studies failed to include essential ‘underlying user variables’, especially users’ proficiency level, which could have helped to improve the accuracy of the findings. This was also observed by Zöfgen (1994, cited in van Sterkenburg 2003, p. 28) in his critique of Béjoint (1981) and Hartmann (1982). To Zöfgen (1994, cited *ibid*), both studies had neutralised what he considered the most relevant variable in user-research, i.e. proficiency in the foreign language. In Béjoint’s case, there was no distinction between students from the second, third and fourth year; and in

¹⁰ His results revealed the most sought types of information, in descending order, were: meaning; spelling; pronunciation; synonyms; use; and etymology.

¹¹ Quirk’s results largely overlapped with those of Barnhart. Quirk discovered that meaning and spelling were the most important information for the dictionary users, who did not appreciate etymology and pronunciation.

¹² Tomaszczyk (1979) investigated several non-native speakers in the U.S. and in Poland to analyse the use of different dictionaries. His results indicated that the use of the dictionary is constrained by the context of the tasks and by the level of proficiency of its users. Béjoint (1981) discussed, from the language teachers’ perspective, the way in which learners consult the dictionaries as well as what skills are required for effective use. Specifying the required skills for using a dictionary was also the main focus of Hatherall’s (1984) study. However, based on this research, this author was also able to make suggestions regarding the contents and format of dictionary entries.

Hartmann's study, averages were taken from heterogeneous groups such as teachers, university students and high school students.

Another author who criticised studies based exclusively on questionnaires was Bogaards (1998). He did not totally reject the method, and did in fact employ it himself, though he defended the idea that questionnaires must complement empirical research. Lew (2002) highlights two major issues regarding questionnaire-based studies: 1) the uncertain relationship between reports based on questionnaires and facts and beliefs that the reports are expected to reflect; and 2) the way questions and instructions are communicated to the participants by the researcher. To Lew (2004, p. 52), language must be accessible to the participants, so that it can be easily understood.

According to Trochim (2000, p. 11) the problem with this kind of research concerns the nature of the correspondence between the questionnaire responses and the researchers' expectation of what they indicate. To simplify this criticism, I will paraphrase Hatherall (1984, p. 184) who stated that it is not possible to know if what the subjects answer in the questionnaire is what they actually do, or if it is what they think they do, what they think they ought to do, or indeed a mixture of all three. In other words, it is not possible to know if what subjects answer in the questionnaire is what they do, or if it is what they think the researcher wants to hear. In Lew (2002), there is a broader examination of Hatherall's observation. Lew argued that methodological problems similar to the ones pointed out by Hatherall are inherent in the methodology that he proposed in his paper. Crystal (1986) does not believe that the surveyed subjects are in a position to remember the details of their dictionary use and look-up strategies, since this process is not always conscious and deliberated. Similarly, Nesi (2000, p. 8) warns that some questionnaire items rely too much on the 'students' power of critical analysis, recall and retrospection'. Crystal (1986, p. 76) also criticises the format and nature of most questionnaires employed in user-research; to him, they discourage authentic answers.

Interviews and observations emerged in research into dictionary use in response to the criticism addressed to questionnaire-based studies. According to Nesi (2013a, p. 65), these methods are more successful than questionnaire surveys as a means of probing dictionary-using behaviour. Similar to the questionnaires, in interviews participants are asked about their consultation preferences, habits and strategies. The advantage, however, is that, when interviewing, researchers can ask participants for clarification if 'unexpected aspects of dictionary use come to light' (*ibid*). An example of a study using the interview-based method was one performed by Neubach and Cohen (1988). In this study, the researchers used a post-task interview with six dictionary users from a university in Jerusalem. They were interested in the variation across levels of proficiency, so they used

two participants at an advanced level of English language proficiency, two at intermediate level and two at basic level. The observation method is a way of monitoring dictionary users' behaviour during the consultation process; that is, watching them in action. When compared to questionnaire surveys and interviews, observations have the advantage of revealing look-up behaviour without the need for users to describe it at all (Nesi 2013a, p. 65). This method was first used by Hatherall, who latter suggested that direct observation was the only 'reliable method of collecting data on dictionary user behaviour' (1984, p. 184). The observation can be performed by the researcher him/herself (e.g. East 2008), by a participant acting as monitor (Atkins & Varantola 1998), or with the aid of technology, e.g. film-recording participants' look-up behaviour (Ard 1982); or using eye-tracking technology (Tono 2001). According to Stark (1999, p. 59), the drawbacks of the observational method include: the fact that dictionary users are less likely to act normally if being monitored; there is a limit to the information that can be retrieved through the visual medium because only evidence of the users' external reference moves is revealed; this method is extremely time consuming, hindering large-scale sampling. The latter was also observed by Nesi (2013a, p. 64), who stated that both interviews and observations are used less frequently in dictionary studies, and generally with a small number of participants because of the cost in terms of time and expertise. Moreover, they do not always reveal 'natural look-up behaviour because the interviewer or observer may unintentionally influence the outcome, especially if participants believe that researchers approve of certain strategies, and disapprove of others' (*ibid*).

Protocols are generally combined with other investigation methods. They consist of oral or written records in which dictionary users simultaneously or retrospectively describe their look-up behaviour. According to Nesi (2013a, p. 65), protocols are very effective in terms of helping researchers to understand participants' decision-making, either during 'spontaneous dictionary use, or whilst completing a task set by the researcher. Oral protocols, also referred to as think-aloud protocols, are a type of technique in which participants speak aloud their thoughts during the consultation process, e.g. their motivation to consult a dictionary, why a specific dictionary was chosen, the difficulties experienced during the process, and how successful was the search for information. Participants thoughts are recorded (audio or video) by the researcher, who subsequently analyses the data according to the aims of the investigation. 'User behaviour is thus open to examination without the distortion of faulty recall or re-interpretation, but usually relates to only a small number of participants because of the special skills needed to think aloud, and the amount of time required to gather and analyse spoken data' (*ibid*). Oral protocols were used by Whyatt (2000), and Nesi and Boonmoh (2009), who record the process in real time. Knight

(1994), on the other hand, applied an immediate recall protocol after a reading task. Like think-aloud protocols, written protocols also aim at clarifying the nature of cognitive processes associated with dictionary consultation, using, however, the written medium (cf. Dziemianko & Lew 2006). They can be either freely-written or structured using a format prepared by the researcher. In this method, participants are, generally, asked to record the reason for the dictionary consultation, the lexical item searched for, the reference source consulted, and whether or not the process was successful. According to Nesi (2013a, p. 66), the advantage of written over oral protocols is that they are suitable for use with multiple participants. Müllich (1990), for instance, collected 108 written protocols from language learners, and Harvey and Yuill (1997) collected 211. Written protocols can be simultaneous (produced while the task is being performed) or retrospective (produced after the task). Both formats can be problematic, however. The disadvantage of retrospective protocols is that participants are likely to forget the details of the consultation. On the other hand, process of completing a protocol while using a dictionary can be quite disruptive. A solution to this problem was presented by Atkins and Varantola (1997), who, in order to reduce disruption, made their investigated subjects work in pairs; one participant using a dictionary, and the other acting as monitor and recording the process. With all forms of protocol, it is likely that some 'behaviours will go unrecorded or misrecorded, however, because consultation processes cannot always easily be described' (*ibid*).

Log files observe users' interactions with electronic dictionaries, or any type of online reference source, in an unobtrusive way. In this method, software is installed on the computers used in the experiment. This software records all requests submitted to the dictionary (cf. De Schryver & Joffe 2004). The use of cookies (i.e. small text files stored on the user's hard drive) allows the server to identify a returning visitor. According to De Schryver *et al.* (2006, p. 69), this can be used to track user behaviour, including vocabulary retention. Log files can be used to record experimental data (e.g. Lew & Doroszewska 2009), but are also a good way of capturing information about the searches users make online, when they are engaged in their normal activities, over an extended period of time (Nesi 2013a, p. 65). Log files, however, require a careful and therefore time-consuming analysis (Verlinde & Peeters 2012, p. 151). Moreover, alone they cannot provide much insight into the context or purpose of dictionary consultation, unless the dictionary is linked to an online experiment or test.

Experiments and tests are used to support other investigation methods. According to Dziemianko and Lew (2006, p. 4), they are developed for two main purposes: to induce dictionary consultation, or to collect data on participants' performance with dictionaries. The most relevant aspect of experiments and tests is that a given task is performed in strictly

controlled and manipulated conditions, which makes it possible for researchers to investigate the role of the variables that they are interested in by comparing the results obtained by control and experimental groups (Tono 2001, p. 70). Such ‘laboratory’ conditions allow for first-hand data on actual dictionary consultation, rather than just an opinion of it (Hartmann 1989, p. 109). Experiments and tests were first used by Bensoussan, Sim and Weiss (1983). They were interested in the effects of dictionary use on performance in reading comprehension tests. In their study, participants were asked to read texts and answer reading comprehension questions with or without the help of monolingual and bilingual dictionaries. Ever since, most empirical research into dictionary use are supported by experiments and tests; either to induce dictionary consultation, or to control variables that can interfere in the experiment, such as participants’ linguistic prior knowledge (see 2.3.4). The biggest problem related to the use of experiments and tests is that they can create an artificial consultation environment. To tackle this problem, Nesi and Hail (2002) allowed participants to work with their own reading material. Their solution was very effective in term of recording dictionary-using behaviour in a less intrusive way. However, in studies like this, researchers can take several months to collect data.

Dictionary users, uses, and contexts of use can all vary enormously, making it unsafe to generalise from the findings of individual studies. In some other fields of research large-scale controlled trials can test how effectively a given treatment works, but the effectiveness of a dictionary cannot usually be investigated by this means because it is difficult to enlist the aid of a representative sample of all potential users (Welker 2010, p. 13). Studies therefore tend to focus on the behaviour of smaller and more specific groups, representing dictionary users of one particular type, in one particular context.

As previously mentioned, the variety of investigation topics and methods often makes it difficult to compare findings from different studies. To facilitate this comparison, researchers have been adopted two main strategies: try to replicate previous studies (e.g. utilising similar questionnaire formats) (cf. Welker 2010, p. 13); or adopt a mixed methods approach. The later helps to ‘compensate for the inevitable limitations of each individual method, and increases the reliability of the findings’ (Nesi 2013a, p. 67). Besides combining more than one methodology, nowadays researchers that decide to replicate a previous study, generally correct some methodological weaknesses of the original, e.g. attempting to neutralise variables that can affect the findings. In the following sections, I approach some of these variables and illustrate the solutions adopted by researchers.

2.3.2. Distinction between reception and production

According to Rundell (1999, p. 35), like most apparently binary choices in linguistics the distinction between reception and production is not always clear cut. For him, when an English learner is asked to write a composition in English on a given topic, for instance, ‘Can ordinary people still do anything to protect the environment?’, he/she will be genuinely engaged in a productive task (*ibid*).¹³ The clear cut distinction between reception and production can be also applied to translation tasks. To Rundell, regardless of whether the learner is a translator or not, when translating from the L1 to L2 he/she will be doing a productive task and when translating from L2 to L1 a receptive task (*ibid*). Rundell adds, however, that in tasks like the examples below, which are commonly found in the classroom and in EFL exams, the distinction between reception and production can be fuzzy-edged (*ibid*).

1. The State is announcing an increase _____.
 - (a) of the prices
 - (b) on the prices
 - (c) in the prices
 - (d) at the prices
2. If you _____ faster, we could have turned in the project before the deadline.
 - (a) work
 - (b) had worked
 - (c) have worked
 - (d) working

In both examples, in order to provide the correct answer, learners would need to fully understand what was being asked in the first place. In other words, they would have to decode prior to encoding. According to Rundell (1999, p. 36), the same is true for any sort of real-time communication where the ‘boundaries between the receptive and productive modes are scarcely detectable’. Despite some possible limitations in the distinction between reception and production, Rundell (*ibid*) broadly classifies listening, reading and L2 to L1 translation as receptive tasks and speaking, writing and L1 to L2 translation as productive tasks. The distinction between reception and production is particularly important to lexicographers, because it enables them to identify possible types of information that learners need to access in order to successfully perform any EFL task, and from that, to

¹³ In this case particularly one could argue that there are encoding components in the task. That is because when the topic of the composition is provided in the target language, learners need to decode the information (the composition request) prior to encoding their text.

develop a well-planned lexicographic work in terms of macro- and microstructure. Jackson (2002) classifies dictionaries into two main groups – passive dictionaries and active dictionaries – according to their primary function (encoding or decoding). Passive dictionaries are those developed mainly to address decoding needs, such as reading a text in the foreign language. Most monolingual dictionaries fit into this category, given that their primary objective is to inform reader of the meaning of unknown words or phrases. Even though most learners' dictionaries aim at addressing both decoding and encoding needs they are mostly passive dictionaries. Active dictionaries, on the other hand, are developed to support their users when performing encoding tasks, such a writing in a foreign language. Examples of learners' dictionaries that fit into this category are the semi-bilingual Collins-Cobuild Bridge Bilingual Portuguese English dictionary (discussed in Section 2.1) and the English monolingual Longman Language Activator (1995).

2.3.3. The use of a foreign language

According to Lew (2004, p. 41), since most dictionary researchers are also foreign language teachers, using the target language for the instructions and questions is nothing but a habitual reflex of the classroom practice. Illustrative material in the foreign language may be present in the questionnaire by design, and the researcher who is developing it may feel that the instructions should be in the target language. However, in questionnaire instructions and questions what is essential is to establish an effective communication with the participants; and there is no doubt that this objective is easier to accomplish by the use of their native language. In my opinion, the risk of communication failure is much greater in the foreign language, especially if the researcher is dealing with novice learners. For example, Wingate (2002, p. 48) describes a case where subjects clearly failed to understand questionnaire items in Battenburg's (1991) questionnaire-based study, in which the questions were written in the foreign language (i.e. English). A complete misunderstanding of a question or instruction is the most significant and most obvious problem when using a foreign language in a questionnaire, but there is also a less obvious one that concerns the precision with which the intended meaning is transmitted to the participants. According to Wingate (2002, p. 49) there is a justifiable reason to suspect that, even for advanced learners of a foreign language, the meaning range associated with a word in the foreign language is less stable across a sample of foreign learners than the meaning range associated with an equivalent word in their native language. When the sample includes a broad range of proficiency levels, as in the present study, the resulting lexical vagueness of interpretation can become a serious issue. If this is really the case, the use of a foreign language in a questionnaire can add an unnecessary

taxing challenge to the participants, reducing the usefulness of the questionnaire as a research instrument.

However, in some situations researchers might have no choice but to use the foreign language in the design of the questionnaire. An example of this kind of situation is when the investigated sample is made up of native speakers of a variety of languages, as in Battenburg's (1989) study, where there were participants of seven different language backgrounds. Even if the author had decided to translate the questionnaire into the participants' native languages there would be no guarantee of equivalence between the different translated forms of it.

2.3.4. The use of technical terms

Theoretical lexicography has developed a substantial number of technical concepts and terms that describe the various aspects of dictionary components, types of dictionary and dictionary consultation (c.f. Hartmann and James 1998). When lexicography scholars express ideas about dictionaries, they evidently use technical terms. However, while terminological accuracy is important in specialist discourse, dictionary users are not normally dictionary experts, so questionnaires must be accessible in terms of communication. Examining some of the existing questionnaire-based studies, it becomes evident that some researchers are not completely aware of this issue. For example, Nesi (2000, p. 10) criticised Battenburg's (1991) use of technical terms in his study by stating: 'It seems unrealistic to expect subjects with elementary English to comment on their use of 'syntactic patterns' and 'derived forms' in dictionaries'. Some researchers might see the use of technical terms as a way to improve precision of questionnaire items, when in fact precision must be evaluated from the point of view of the participants interpreting the questionnaire items. Therefore, everyday language should be used, although it is not always simple to bring technical notions into accessible, everyday language.

2.3.5. Participants' prior knowledge

In studying the effect of dictionary and other reference source consultation on various aspects of receptive and productive tasks, such as word and structure comprehension and word and structure acquisition, researchers have to deal with the problem of participants' prior knowledge. Language prior knowledge can be defined as the knowledge about lexical items and grammar structures which subjects bring with them into the experimental setting.

Some authors simply ignore the problem of participants' prior knowledge (e.g. Black 1986; Luppescu & Day 1993), while others try to work on solutions to ensure that participants' prior knowledge does not interfere in their experiments; the variety of solutions

were related to the particular goals of their studies. The table below summarises their solutions.

Study	Objective	Method	Solution
Hulstijn, Hollander & Greidanus (1996)	Identify learners' lookup behaviours through controlled experiment.	Explicit test of lexical prior knowledge.	Participants were confronted with the target words and asked whether they were familiar with them.
Knight (1994)	Identify whether there was a difference in students' vocabulary test scores when words appeared in context versus words appearing out of context.	Explicit test of lexical prior knowledge.	A written test was applied before the experiment to identify learners' familiarity with the researched words.
Tono (1984)	Evaluate dictionary users' reference skills.	Employment of pseudo-words.	In order to make sure that learners would not have any prior knowledge of the words used in the experiment, the author created pseudo-words that at first glance could be perceived as English words (e.g. lectvus, muvitly).

Figure 2.4: Solutions for dealing with participants' language prior knowledge

2.4. Methods to analyse the data collected

The data collected from participants' performance in controlled tests and experiments can be a valuable source of information, especially in terms of ascertaining the success of the consultation process. An insight into learners' language can, for instance, help lexicographers to understand the general weakness and strengths of a specific target group and develop a reference source customised in accordance with their needs. However, the analysis of the data has to be theoretically grounded. In the following sections, I describe some theories that can be applied to the analysis of participants' performance in the present study. The link between theories of foreign language acquisition and my study is further discussed in Chapter 4.

2.4.1. Errors from a behaviourist perspective

From a behaviourist perspective, foreign language learning is a mechanical process of habit formation, built through learners' responses to frequently reinforced stimuli (cf. Arruda Junior 2015). Errors, in turn, are interpreted as a consequence of learners' bad formation of linguistic habits; something that needs to be eliminated by means of an exhaustive repetition of the correct form. According to this theory, first language negatively interferes in learners'

production of foreign language content. In order to avoid this negative interference and the resulting errors, behaviourists used to hold to the idea that a systematic comparison between the two languages involved in the learning process (L1 and L2) could facilitate language acquisition. This is precisely the most important principle behind Contrastive Analysis.

2.4.1.1. Contrastive Analysis

According to Al-Sibai (2004, p. 2), Contrastive Analysis (CA) was born out of a very simple assumption. Aware of the fact that the same errors used to appear frequently and systematically in the works of a significant number of students, language teachers gradually began to believe that they could predict what errors the majority of learners would make. They also believed that by ‘mapping’ these errors they would be better prepared to predict learners’ difficulties and, consequently, would become more efficient in directing teaching efforts.

According to Larsen-Freeman and Long (1991), CA gained importance in the 1960s, at a time when structural linguistics and behavioural psychology were quite dominant in studies of language learning. CA scholars defended the idea that foreign language didactic materials could be more effective when they took into account the two languages involved in the learning process. Lado (1957) and Fries (1945) are the most significant names behind this theory. In an attempt to evaluate didactic materials, Fries (1945, p. 9) stated that the most effective are those based on a scientific description of the target language, carefully compared with a parallel description of the learners’ first language.

The basic concept behind CA builds on the idea that it is possible to form a structural ‘picture’ of any language and then compare it with the structural ‘picture’ of another language through the process of mapping one system onto another: in this way, similarities and differences can be identified (Powell 2008, p. 4). Identifying differences would lead to a better understanding of the main issues that a foreign language learner would face in the process of acquiring a second or foreign language.

Some scholars believed that when the similarities and differences between L1 and L2 were considered, the teaching methods would become more successful and effective. Such beliefs have generated the basic ideas of the Contrastive Analysis Hypothesis (CAH), on which CA is based. Lado’s *Linguistics Across Cultures* is the reference work which paved the way for the CAH (1957). According to this hypothesis, L1 transfers affect the acquisition of a second language. Lado (1957, p. 2) states that those elements that are similar to the learner’s native language will be simple for him/her, and those areas that are different will be difficult. In other words, any influence of the first language may interfere with the acquisition of a second language.

This was also the origin of the concept of ‘transfer’, which later distinguished between positive and negative transfer (Powell 2008). Positive transfer occurs when there is a convergence point between L1 and L2. In this situation, the learner will not face significant issues in producing and receiving L2 content. Negative transfer occurs when there is a point of dissonance between L1 and L2. In this case, learners will have much more difficulty in producing and receiving L2 content. These two concepts of transfer are fundamental to CA and reflect an essentially behaviourist model of learning a language; often described as habit formation (cf. Powell 2008).

Towards the end of the 1970s, CA began to be discredited in its various aspects, and no longer had the same pedagogical relevance as before. According to Abbas (1995), the weakest aspect of CA and the reason for most of the criticism is the emphasis on just one type of error, i.e. ‘interference’ [negative transfer]. For many theorists, such emphasis has affected CA’s capacity to predict a number of other important errors that foreign language learners are prone to make. Klein (1986) illustrates this by describing his study with learners of German from different nationalities. He observed that Turkish learners of German tend to place the verb in final position, following the grammatical structure of their native language. On the other hand, Spanish and Italian learners do the same, although verbs are not in final position in their own languages. It is quite clear that interference is not an important factor, or at least not the only factor, here. This opinion is shared by other linguists who also believe that an aspect to discredit CA is the occurrence of errors in learners’ production that do not result from first language interference. For example, it is common to spot in the production of Brazilian learners English sentences like **When you go to the party, please bring a bottle of wine*”. This is a typical error that cannot be explained by the interference hypothesis. In Portuguese, there is a similar distinction between the verbs *go* [ir] and *come* [vir] / *take* [levar] and *bring* [trazer]. Thus, the sentence above when translated into Portuguese would be equally wrong [**Quando você for à festa, por favor, traga uma garrafa de vinho*]. As a reaction to this type of criticism, Error Analysis (EA) was suggested as an alternative.

2.4.1.2. Error Analysis

It is from Chomsky that the error starts to be seen as the non-internalisation of a set of language rules. Chomsky bases his theory on the distinction between competence and performance, and argues that learners’ faulty constructions in a foreign language cannot always be interpreted as errors. To Corder (1967), some errors are not even relevant for study; they are called ‘unsystematic errors’. This refers to a type of error that is not systematic and can result from memory lapses, fatigue or distraction. These random performance errors are also called ‘mistakes’ and can be spotted in native speakers’

performance too. According to Corder (1984, p. 24), ‘it would be quite unreasonable to expect the learner of a second language not to exhibit such slips of the tongue (or pen), since he is subject to similar external and internal conditions when performing in his first and second language’.

To Corder (1984, p. 22), an adult learner of a foreign language tends to make the same mistakes as a child in the process of acquiring the same first language. Just like a child, foreign language learners make assumptions and raise hypotheses about the language structure, which usually results from a generalization of the already acquired rules – a normal learning strategy. Mixed verb tenses, misuse of prepositions, as well as omissions and generalizations, are considered intralingual errors that do not only illustrate a lack of essential knowledge of the foreign language rules, but also, according to Figueiredo (1997, p. 102), may cause some discomfort to the interlocutor/reader since they require some effort to understand. Errors such as these are called systematic because they result from faulty hypotheses related to the language system. However, such errors are inevitable and important for a foreign language learner since they show progression in the learning process. According to Richards (1984, p. 172), ‘intralingual and developmental errors reflect the learner’s competence at a particular stage, and illustrate some of the general characteristics of language acquisition. Their origins are found within the structure of English itself, and through reference to strategy by which a second language is acquired and taught’. Thus, these errors should not be considered as the result of an inadequate or ineffective teaching, but as part of the learning process. Figueiredo (1997) states that Corder’s association between CA and Chomskyan theories turned the errors into ‘learning indicators’ and ‘teaching guiders’.

2.4.1.3. Interference and transfer

In contrast to the tenet of behaviourism, one language does not only interfere negatively on the acquisition of another. In other words, learners are not unable to differ L1 from L2; instead learners raise hypotheses regarding the rules of a new language (Corder 1967, p. 27). Corder (*ibid*) states that there is basically one hypothesis to be tested by the learner: ‘Are the systems of the new language the same or different from those of the language I know? And if different, what is their nature?’ A learner acquiring a new language does not yet have sufficient knowledge of certain language rules applicable to the production of a text, for example. However, the learner does know how a sentence is built in his or her first language, so he or she will transfer the same structure to the foreign language. The process of using first language knowledge in production and reception of foreign language content is called ‘transfer’.

To Miletic (2005) transfer is present in learners' production due to a lack of knowledge of the foreign language structure rules and its idiomaticity. If a learner introduces a given structure from his/her first language into the foreign language in order to overcome a difficulty and achieves a successful result, we will be facing a positive transfer [or just transfer]. However, if he/she achieves an unsatisfactory result, we will have a negative transfer [or interference].

2.4.1.4. Studies of learners' written production

Research on written production in foreign language had been influenced by theories like EA and CA, which focused on investigating the influence of the first language in second or foreign language production (Burt 1975; Cohen & Robbins 1976; Dulay & Burt 1972; Richards 1974; Figueiredo 1997). Consequently, a number of studies based on these theories had emerged, some comparing learners' performance in oral versus written production (Schleppegrell 1996), and others presenting comparative studies between different languages. Studies comparing languages tended to analyse, among other things, aspects of coherence and cohesion (Zhang 2000), use of tenses (Hinkel 2004), syntactic structure (Kamen 1983), the amount of acquired vocabulary and its use (Hillocks 1986), as well as how texts are built in two different languages (Simpson 2000; Takano 1993). These studies observed how learners produce texts in L1 and L2/FL or compared the written production of native and non-native speakers.

With the advent of CA and EA, several studies were conducted in order to identify the causes and types of errors produced by L2/FL learners (Dulay & Burt 1974; Dulay, Burt & Krashen 1982; Figueiredo 1997; Lott 1983; Richards 1974, 1983). From this perspective, errors were classified as 'interlingual', 'intralingual', 'ambiguous' and 'induced'. Interlingual errors were also called errors of transfer or interference. They reflect the interference of the L1 in learners' production in the L2/FL (Dulay, Burt & Krashen 1982). For example, in the sentence **Has a book on the table*, it is possible to see the influence of Brazilian Portuguese in the use of the verb *to have*; where this verb is also used to mean existence. Intralingual errors are those resulting from the hypothesis made by learners based on their knowledge of the rules of the L2/FL; these errors are not influenced by learners' first language (Richards 1974, 1983). This category includes 'developmental errors' (Dulay, Burt; & Krashen 1982) and 'unique errors' (Dulay & Burt 1974).

Developmental errors are similar to those produced by a child acquiring his/her first language. An example of this type of error would be **I falled*, which reflects a generalization of the rule that forms the past simple of most verbs in English; this error is also very commonly observed in the production of children learning English as a first language. On

the other hand, ‘unique errors’ are made only by L2/FL learners and do not reflect the influence of their first language. As an example of this type of error, we would have **I can to dance*, where the addition of the infinitive particle *to* neither reflects the influence of the Portuguese language (for example), nor is a form produced by English native speaker children, who normally omit the particles (Taylor 1974), as in **I want play*.

Ambiguous errors, in turn, are those that can be interpreted as both interlingual and developmental (Dulay, Burt & Krashen 1982). As an example, we would have **I no have a car*. This sentence construction can be interpreted as a literal translation from Portuguese [*Eu não tenho um car*], or as a hypothesis that a child would raise; reflecting a normal developmental process of language acquisition. Induced errors result from the way the L2/FL language is taught or practiced (Selinker 1972). The source of this type of error can be teachers’ faulty explanations, or the excessive inappropriate use of a form by the learner (fossilization); another possible source is the inadequacy of some didactic materials. An example of this type of error would be **He is wearing an uniform*. In this case, if the teacher had taught students that the determiner *an* is used before words beginning with a vowel, rather than teaching that this determiner should be used before words beginning with vowel sound, learners are likely to fossilize this error. Studies have investigated the effect that errors might have in communication (for example, Rifkin & Roberts 1995).

From this perspective, errors were classified as ‘local’ and ‘global’ (Dulay, Burt & Krashen 1982; Tomiyana 1980). Local errors are those limited to certain items of a sentence, and generally do not significantly affect the communication. As an example, we would have errors in verbal and nominal inflections, articles, auxiliaries etc. A local error could be **He like football*, where the absence of the morpheme *-s* (third person singular) does not affect the process of communication. In turn, global errors are those that affect the organization of a sentence, making communication extremely difficult. These errors include improper organization of the main constituents of a sentence, missing connectors, wrong position (sometimes), absence of terms required in a particular syntactic construction, failure in the usage of certain lexical items etc. As an example of global errors, consider **My best friend is a fellow of labour*; where the literal translation from Portuguese [*colega de trabalho*] into English [*fellow of labour*] turns the sentence into something incomprehensible.

Regarding the effect of the error in the communication, research has verified its acceptability in listening and reading tasks (Chastain 1980; Figueiredo 1995; Piazza 1980), since the assessment of learners’ errors may vary considerably depending on the marker of a piece of work (Davies 1983).

Regarding the tolerance of errors by native and non-native speakers, there are some controversial studies. Ludwig (1982) quotes two researchers, Ervin (1977) and Galloway (1980), who came up with different conclusions. Both found that native speakers who are not teachers are much more tolerant of the errors produced by L2/FL learners. However, their results pointed in different directions when the errors were evaluated by native and non-native teachers. Ervin (1977) stated that non-native teachers are more forgiving of learners' errors than native teachers; mainly because they have gone through a similar language learning process. On the other hand, Galloway (1980) concluded that native teachers seem to be more concerned with the message, while the non-native teachers seem to put more emphasis on grammatical accuracy. Another study showing different results was conducted by Figueiredo (1995). He performed a study to assess the level of tolerance of errors in sentences extracted from texts written by English students in a Brazilian university. In this, he used the notion of 'error gravity' suggested by Richards, Platt & Platt (1992) and Dulay, Burt & Krashen (1982). According to these authors, within a communicative perspective, errors can be classified as: errors with little affect in the communication; errors that cause irritation; and errors that affect the communication. The sentences containing errors were presented to three English native speakers who had different levels of contact with the Portuguese language, as well as different professions and educational levels.

Figueiredo's results revealed that, according to the three participants, only 16% of the errors affected the communication. However, there was a disagreement about the errors that cause irritation; possibly due to factors like participants' exposure to Portuguese, their level of education and their profession. For example, the participant who was an English teacher marked a great number of errors as 'irritant', possibly because generally textbooks and international language exams give priority to a standard English variety, especially regarding grammatical accuracy. On the other hand, the participant who was a social worker was much more tolerant of learners' errors and stated that most of them did not interfere with the communication at all. His opinion may have been related to the fact that he had to deal with people from different social classes in his work and, consequently, with different linguistic varieties.

Regarding errors being explicit or not, Corder (1973) classified them as 'overt' and 'covert'. Overt errors are those that are easy to identify, for example, **She cans dance*; while covert errors are those that can be identified only within the context (Lennon 1991). For example, *I'm fine, thank you* is a completely correct sentence, however if this is used to answer a question like *How old are you?* it would be inappropriate.

According to Dulay, Burt and Krashen (1982), it is uncommon to find research that uses one kind of typology to classify the errors. What researchers usually do is use various typologies for a more detailed analysis. There are also several studies comparing production in different genres, performed by native and non-native speakers – for example, business correspondence, personal letters, abstracts, etc. (Bouton 1995; Johns 2011; Tardy 2006; Yasuda 2011). These studies aimed at making researchers and teachers aware of cultural differences in textual constructions, which implies the non-universalization of textual genres. Researchers also investigated whether texts that were produced over a large period of time were better than the ones produced over a short period of time (Kenworthy 2006; Kroll 1990).

For example, in a survey conducted to compare the quality of texts written in the classroom (with limited time) and texts written at home (with a period of 10 to 14 days of preparation), Kroll (1990) concluded that individual differences in students' performance of writing in the classroom or at home were not statistically significant. There were also studies that verified if the topic chosen had an influence on written production of learners (Freedman & Sperling 1985; Kennedy 1994).

Finally, there are also studies comparing the texts produced in free writing and controlled writing activities (Bracy 1971). With the advent of technology, researchers also began to investigate the texts written with computer and internet, and, therefore, began to investigate issues such as the written language of emails (Li 2000) and digital writing (Dephew & Miller 2005).

2.5. Research questions

The different methodological approaches discussed in this chapter enabled me to choose appropriate investigation methods and variables for the present study. To recapitulate, the present study was designed as empirical research, with a view to investigating the profile of the Brazilian learners of English with regards to their consultation preferences when performing English as foreign language tasks. In addition, I hope that the outcomes from this research can be useful for other investigators and lexicographers willing to develop a lexicographic reference source to address the needs and the skill deficits of this target group.

Nesi (2013a, p. 62) argues that the aim of all user-studies is to increase the success of dictionary consultation. Atkins and Rundell (2008) claim that nowadays lexicographic decisions are largely influenced by the understanding of the needs and the proficiency level of dictionaries' intended target groups. To Swanepoel (2001, p. 161), as a result lexicographers are constantly under pressure to develop dictionaries that focus on the description of 'what kind of user uses what kind of dictionaries for what information needs

in what kind of context'. However, Frankenberg-Garcia (2005, p. 335) observes that 'over the past couple of decades or so, much has changed with respect to the types of reference materials available to language learners' and that dictionaries may no longer be favoured by EFL learners. Taking all this into consideration, on top of my general goal, the study was designed with a number of specific research questions in mind.

In investigating the user-needs of Polish learners of English, Lew (2002) suggested a number of areas of study within dictionary use; such as frequency of dictionary use, information on dictionary type, the dictionary and its value as a tool, users' reference needs, effectiveness of dictionary. Taking as a model some areas that he described and adding some others, my research questions are grouped and listed below. The research questions presented in this section were raised based on issues described in the present chapter and in the Introduction. Lew's model was only used to group and organise them in this section.

The first area concerned the frequency of dictionary use. In the case of the present study this area included different dictionaries and their relationship to learners' proficiency level. The research question was: 1) Do Brazilians use dictionaries? The second area concerned the dictionaries' types and formats: 2) Do Brazilians prefer bilingual, monolingual or learners' dictionaries? The third area concerned the kind of information searched in the dictionaries and other reference sources. This aspect of users' reference needs was investigated with the aid of the following research question: 3) What kind of information do Brazilian learners search for in dictionaries or other reference sources? The third area concerned the effectiveness of dictionaries in EFL receptive and productive tasks, with the following specific research question: 4) Are they satisfied with the information found in dictionaries and other reference sources? Finally, the fourth area concerned the effectiveness of design and format of the preference source, this aspect was addressed with the question: 5) What other sources of information do participants consult when frustrated with dictionaries?

Answering these questions can tell us more broadly which reference sources are being favoured by this target group, what difficulties they are experiencing while trying to access relevant information in them and, hopefully, it also can give us a clue about what can be improved to better address their needs. The objective of this section was to present some of the history and the state-of-the-art of research into dictionary use. This chapter also approached theories behind the analysis of learners' language. In the next chapter, I describe the methodology used in order to investigate the profile of Brazilian learners of English as a target-group for EFL dictionaries.

3. METHODOLOGY

Based on the research questions previously set out (Chapter 2, Section 2.5.3), the present chapter describes the methodology applied for investigating the profile of Brazilian learners of English as a target-group for EFL dictionaries. Conducted in Brazil, the user-study presented in this chapter examined the reference source consultation behaviour and preferences of 61 Brazilian learners of English at a wide range of proficiency levels and social backgrounds.¹⁴ The following sections detail the subjects, design and procedures of this study.

3.1. Subjects

Participants selected for this study represent the potential users of a learners' lexicographic work or any other EFL reference source. The investigated sample was composed of Brazilian EFL learners (51), English teachers (6) and English/Portuguese professional translators (4). The EFL learners selected represent the main kinds of institution where students can learn English in Brazil; the participants also represent different social backgrounds. Altogether there were 61 participants, in 8 different groups (see figure 3.1).

¹⁴ In the present study proficiency is understood as a set of abilities to communicate in a language. Some organisations, like the Interagency Language Roundtable, developed structured scales to grade peoples' proficiency in a language. However, in this study the concept of proficiency is more flexible. Like in Frankenberg-Garcia's study (2005), my investigated sample was composed of some learners who were better at English, some who were better at translation and some who were better at language research.

Group	Institution	Participants (n ^o)	Percentage of total number of participants (%)
State school	Ce. Carlos Fagundes de Mello	6	10
Private school	La Salle Santo Antônio	12	20
English course	Yazigi	5	8
EWB-b*	UFRGS**	14	23
EWB-i***	UFRGS	6	10
University students ¹⁵	UFRGS	8	13
English teachers	EWB program (UFRGS)	6	10
English translators	none	4	6

*English Without Borders – beginners

**Universidade Federal do Rio Grande do Sul

***English Without Borders – intermediate

Figure 3.1: Description of the investigated groups

Any researcher who wants to investigate the profile of Brazilian learners of English should be aware of the difficulty of obtaining representative data regarding the national situation as a whole, for two main reasons. First, the everyday scenario of language learning and teaching in the country is different if we consider the variety of kinds of schools (public, private, regular, international, language institutes). In order to minimise the effects of this issue in the research results, I selected participants to represent the main kinds of institution where a student can learn English in the country; the participants also represent different social backgrounds. Second, the scenario of language learning also varies between different geographic regions in the country (e.g. South and North). This issue could not be addressed in my study. Given that systematic sampling was not feasible with the resources available, I had to work with an opportunistic sample. However, my sample does offer a broad selection along the social (age, background), educational (school level, school type) dimensions. Thus,

¹⁵ Unlike the EWB groups, the university group was heterogeneous in terms of proficiency level. This group was composed of students who were attending a course called instrumental English (English for specific purposes). At the university where this study was conducted, this is an elective course that focuses exclusively on the development of reading skills so that students can learn how to decode academic texts of their fields of study and undertake a compulsory proficiency exam for admission in Brazilian postgraduate programs. Further information about their level of proficiency in English can be found in section 7.2.

it is possible to extend the general results of this investigation to draw an overview of the situation prevailing in the country. The next two sections describe, in general lines, the profile of the investigated sample. The information that follows was provided by the participants in the first section of the Post-Task Questionnaire (social and educational background). For a detailed explanation of the content of the Post-Task Questionnaire see section 3.2.2.5.

3.1.1. Social profile

The first three items of the first section of the Post-Task Questionnaire were demographic questions (nationality, gender and age). They were not indicative of EFL proficiency or instruction, instead they functioned to indicate the sample balance.

Regarding nationality, of the 61 participants investigated, 59 (97%) were Brazilian and 2 (3%) were non-Brazilian (from Peru and Argentina). Given that my study aimed at investigating the profile of Brazilian learners of English, being Brazilian was a prerequisite to take part in the experiment. The two non-Brazilian participants invited to the experiment were not Brazilian by birth, however, both were living in Brazil for more than ten years and were fluent in Portuguese. Regarding gender, 31 (51%) of the participants were female and 30 (49%) were male.

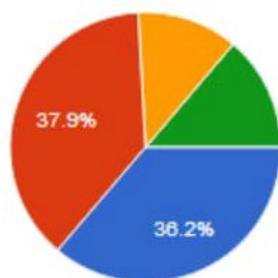
The last demographic item in the questionnaire had regard to participants' age. This item was included in the questionnaire because it could provide clues of whether, and how, age was a factor that influenced participants' reference consulting preferences and look-up strategies. The figure below (Figure 3.2) shows the age distribution between the investigated groups.

Age	State school	Private school	English course	University	EWB-b	EWB-i	Teachers	Translators	Total
under 18	6	11	0	2	0	0	0	0	19 (32%)
19 to 29	0	1	0	6	11	4	6	4	32 (52%)
30 to 39	0	0	0	0	3	1	0	0	4 (6%)
40 to 49	0	0	0	0	0	1	0	0	1 (2%)
50 to 59	0	0	1	0	0	0	0	0	1 (2%)
Over 60	0	0	4	0	0	0	0	0	4 (6%)

Figure 3.2: Age distribution of the investigated sample

3.1.2. Educational profile

The items that followed the demographic questions were addressed to the investigation of the educational profile of the investigated sample (duration of EFL instruction, type of educational institution attended and proficiency level evidence). With regard to duration of EFL instruction, participants were asked how long they have been studying English for. The figure below (Figure 3.3) shows the results.



Between 0 and 3 years.	21	36.2%
Between 3 and 6 years.	22	37.9%
Between 6 and 9 years.	7	12.1%
More than 9 years.	8	13.8%

Figure 3.3: Duration of EFL instruction of the investigated sample

Of the 61 participants investigated: 21 (36%) claimed to have been studying English for 3 years or less, 22 (38%) between 3 and 6 years, 7 (12%) between 6 and 9 years, and 8 (14%) for 9 years or more. Three participants did not answer this question and, therefore, were not included in the graph. With regard to the type of educational institution attended, participants were asked where they had learned English (they could mark one option or more). The figure below (Figure 3.4) shows participants' responses to this questionnaire item.

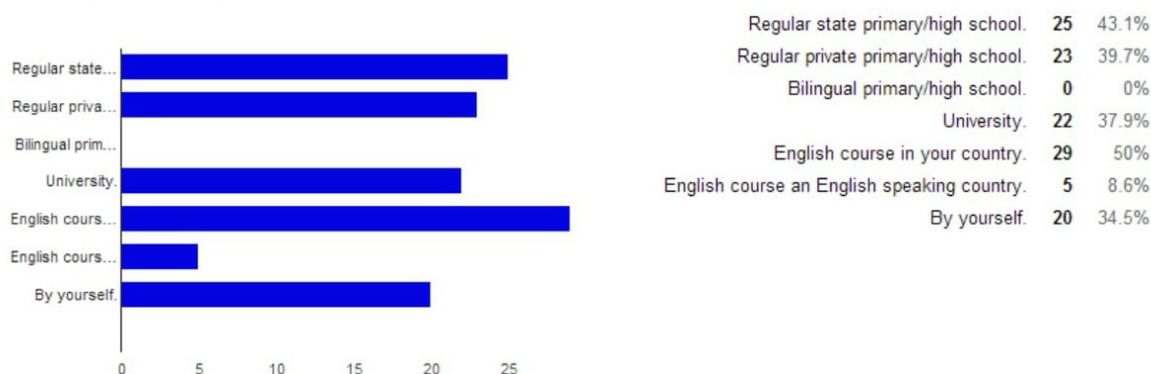


Figure 3.4: Type of educational institution attended by the investigated sample

Of the 61 participants investigated: 25 (43%) claimed to have learned English at regular state school(s), 23 (40%) at regular private school(s), 22 (38%) at university, 29 (50%) at an English course in Brazil, 5 (9%) at an English course in an English-speaking country, and, finally, 20 (34%) participants claimed to have learned English by themselves.¹⁶ A particularly interesting aspect regarding the responses to this questionnaire item is the significant number of participants who claimed to have learned English by themselves, even though they have also received formal English instruction from one of the listed educational institutions. The participants who declared themselves self-taught were those who only had English classes at regular (state or private) schools. This evidences two aspects previously approached (see Section 1.4.2) related to the acknowledge problems in the educational

¹⁶ Because in this questionnaire item participants could mark one or more options, the numbers do not add up to 100 percent.

system in Brazil, which are: Brazilians do not believe that they have learned any English from school, and Brazilian learners of English tend to believe that they are more responsible for their learning achievements than their teachers. With regard to evidence of proficiency level, participants were asked whether or not they had an English proficiency certificate. Only 5 (8%) participants answered ‘yes’ to this question.

3.2. Design

In the history of lexicographic user-studies, questionnaires and protocols have been widely used to reach a fuller understanding of dictionary users’ preferences and the way they consult dictionaries for their own purposes, under non-experimental conditions. According to Nesi (2013, p. 64), however, ‘completely natural look-up behaviour is difficult to record because it is a private activity that occurs spontaneously rather than to order’. Moreover, currently all existing methods of investigating dictionary use have inevitable limitations (see details in Chapter 2, Section 2.3.3). In this regard, Nesi (2013, p. 68) noticed researchers’ increasing tendency to adopt mixed method approaches in order to improve the reliability of their findings.

In view of the advantages and limitations of each individual method, the present study combined two methods of investigating dictionary use: a written protocol and a questionnaire survey. When combined, these two methods enable researchers to triangulate their findings from the questionnaire with those from the protocol in order to obtain more precise information; for instance, minimizing the gap between reported and actual behaviour. Factors such as the size of the investigated group and resources available (money and time), were also key to the choice of methodology used here.

3.2.1. Written protocol

Written protocols are low in cost and suitable for use with multiple participants, since their application does not require the use of technology (e.g. audio/video equipment, web-tracking or eye-tracking software). Typically, they consist of recording sheets filled in by the investigated participants, in which strategies of dictionary use are reported: the information searched for, the reference source consulted, the reason for the consultation and if the participant succeeded in finding the information that they were looking for. These recording sheets can be either prepared by the researcher (e.g. multiple-choice options) or freely-written by the participants. Moreover, the recording sheets can be simultaneously or retrospectively written by the participant who is consulting the dictionaries or by another participant acting as a monitor in the experiment.

The written protocol chosen for the present user-study consisted of recording sheets freely completed by participants acting as monitors. In the experiment, participants were

asked to work in pairs to perform EFL receptive and productive tasks with the aid of dictionaries and/or other reference sources of their choice that they had with them or could find on the internet. In each pair, while one of the participants was performing the tasks and consulting the reference sources, his/her peer was recording every step of this activity. After finishing the activities, they swapped roles. In this way, all participants in the experiment were both monitored and monitors.

This method was devised and first tested by Atkins and Varantola in 1991 at a EURALEX workshop. They subsequently published the description of the methodology and the findings of their experiment in a paper entitled *Monitoring Dictionary Use* (Atkins & Varantola 1997). Having one participant using a dictionary and another recording the process has many advantages when compared to other types of written protocols. For instance, according to Nesi (2013, p. 69) retrospective protocols are problematic because participants quickly forget the details of the consultation; further, the process of completing a protocol and simultaneously using a dictionary can quite disruptive.

However, in order to address the specific objectives of the present study, some adjustments had to be made to the original method. The figure below (Figure 3.5) summarises the differences between the methodology used by Atkins and Varantola and the methodology used in the present research.

User-study	Recording sheets	Participants' roles	Reference sources	Tasks
Atkins and Varantola (1997)	Prepared by the researchers	Participants were <i>either</i> monitors or monitored.	Participants had over one hundred printed dictionaries to freely choose from.	Participants could choose to perform receptive or productive translation tasks. They were not required to produce a written translation.
Present study	Freely-written	Participants were in turn monitors and monitored.	Participants had five printed dictionaries to consult. They could also consult any reference source on the web.	Each participant had to perform a receptive and a productive task. They were required to produce an output of the tasks.

Figure 3.5: Atkins & Varantola (1997) and my study: a comparison between methodologies

Like any method of investigating users' behaviour and performance with reference sources, the written protocol chosen has its potential limitations. It is not possible, for instance, to ascertain to what extent the monitor can access the motivation of his or her peer. Moreover, some behaviours are inhibited simply because the participant is being observed. For example, a participant may feel embarrassed to search for the meaning of a word that is considered to be basic English vocabulary, or feel constrained to carry on searching for an unknown word when in another situation he/she would simply give up. Nonetheless, this

method is shown to be beneficial in terms of making the participant focus on a single job, either performing the EFL task or monitoring his or her peer (cf. Atkins & Varantola 1997).

3.2.1.1. Recording sheets

Participants were instructed to fill in the recording sheets with information about the motivation of their consultation, the word searched for, the reference source used, whether or not the consultation was successful, and any other information that they considered relevant. However, unlike in Atkins and Varantola's study, they were not provided with prepared recording sheets with multiple-choice options. Prepared recording sheets with multiple-choice options have the undeniable advantage of facilitating the subsequent examination of the participant's answers. Answers can be easily tabulated and graphed making the process of analysis much faster and more systematic. On the other hand, the use of multiple-choice options in the recording sheets can make important aspects of the consultation process go unnoticed. For example, in the recording sheets of Atkins and Varantola's study (1997, p. 43), there was an item inquiring about the participants' behaviour when the information searched for was not found or they were not satisfied with it:

What are they doing next? (circle a letter)

- a. moving on to another dictionary
- b. choosing a translation and ending this search
- c. moving to another entry in the same dictionary

The option answers to this item do not address, for instance: the situations where the participants do not use any of the translations found and try to guess the meaning of the target word based on their knowledge about the meaning of the other words in the sentence; or the situations where the participants try to adapt the whole translated sentence in order to not use the word that was not found.

The main problem with prepared recording sheets is that not all the difficulties that participants may encounter during the consultation process, as well as their strategies to overcome these difficulties, can be predicted by the researchers. Moreover, by providing participants with multiple-choice options, researchers may unintentionally influence their consultation behaviour and consequently the outcomes of the experiment, especially if participants believe that researchers approve of certain strategies, and disapprove of others. With all of these issues in mind, in the present study I allowed the participants to freely describe the consultation process.

3.2.1.2. Participants' roles

Participants in the present study played two roles in the experiment. Each participant had to perform a receptive and a productive EFL task while being monitored by their assigned peers. Each participant then monitored that peer performing a receptive and a productive task. The reason for adopting this dual-role procedure was that the experiment was designed with four different types of tasks (two receptive and two productive) and the estimated time to accomplish the tasks was 1 hour and 20 minutes – which is four times longer than an average person can sustain attention, or continuously spend performing the same task (cf. Cornish & Dukette 2009). Asking participants to swap roles was a strategy to make the experiment more dynamic and keep them more engaged with the tasks.

3.2.1.3. Reference sources

In user studies, one of the biggest challenges that researchers face is how to record look-up behaviour in its most natural form; i.e. as if participants were not taking part in an experiment (cf. Nesi 2013a). Aware of this difficulty, researchers have been constantly innovating in their methods of investigating dictionary use and the design and content of tasks to support their investigation. It seems, however, that very little attention has been paid to how limiting participants' access to a single type of reference source (e.g. dictionaries) can compromise the legitimacy of their consultation behaviour.

It is a matter of fact that all user-studies aim at discovering ways to increase the success of dictionary consultation (cf. Nesi 2013a). However, that does not necessarily mean investigating participants' look-up behaviour and performance exclusively with dictionaries. On the contrary, it is important to acknowledge that nowadays, by virtue of the internet, foreign language learners have a wide range of reference sources other than dictionaries at their disposal; and that dictionaries may not be their preferred option. It is essential, therefore, that researchers consider the real preferences of their investigated subjects; and one way to do this is to allow them to freely choose the consultation material in the experiment setting. If participants do not choose to work with dictionaries, researchers need to try to understand this behaviour by examining the other types of reference sources and the advantages that they offer in terms of content and information accessibility. Allowing participants to freely choose what they considered to be the most appropriate reference sources to perform a productive translation task was the strategy adopted by Frankenberg-Garcia (2005) in a study that investigated the consultation behaviour of sixteen translation students in Portugal. Among other findings, Frankenberg-Garcia (*ibid*) concluded that more resource does not necessarily mean better research, and suggested that it is vital to teach learners how to integrate their skills in using different types of reference sources together.

In the present study, participants were provided with four types of printed dictionaries (bilingual, monolingual for intermediate learners, monolingual for advanced learners and general monolingual).¹⁷ Besides the dictionaries, participants could use the available computers or laptops to access any type of reference source available for free on the web. They were also allowed to work with the apps on their own mobile phones and/or any other type of reference source that they may had with them in the experiment setting (textbooks, grammar books, etc.).

3.2.1.4. Tasks

According to Varantola (2002, p. 8), dictionary consultation is more likely to happen when learners are engaged in activities in which they need to ‘solve a context-dependent problem’. On this matter, Nesi (2013, p. 68) stated that context-dependent activities can be receptive (decoding tasks) or productive (encoding tasks), and in the written or spoken medium. In the written medium, the receptive tasks that prompt dictionary consultation are reading and translating from L2 to L1; and the productive tasks are free-writing or translating from L1-L2.

Based on Nesi’s classification (2013), I developed four tasks to support my investigation: two receptive (translation from L2-L1, and comprehension) and two productive (translation from L1-L2, and free-writing). Both reception and production tasks in this experiment are focused exclusively on written language; oral language and pronunciation were not considered.¹⁸ Every pair of participants received a booklet with the four types of tasks; and each participant had to perform one receptive and one productive task, including one translation task. Therefore, the participants who chose to perform the translation from English into Portuguese task (receptive) had also to perform the free-writing task (productive); and the participants who chose to perform the translation from Portuguese into English (productive) had also to perform the comprehension task (receptive). Performing just one translation task was mandatory for all participants because these tasks were more time consuming, so it would be too overwhelming for a single participant to perform two translation tasks. The participants had to decide by mutual agreement which two tasks were going to be performed by whom.

¹⁷ Bilingual: *Dicionário Oxford Escolar para Estudantes Brasileiros de Inglês*, 2nd ed. (2007);
 Monolingual for intermediate learners: *Collins Cobuild Intermediate Learner’s Dictionary of American English*, 5th ed. (2008);
 Monolingual for advanced learners: *Oxford Advanced Learner’s Dictionary*, 6th ed. (2000), and *Collins Cobuild Advanced English Dictionary*, 8th ed. (2011);
 General monolingual dictionary: *Collins English Dictionary*, 10th ed. (2010).

¹⁸ The main reason why oral tasks were not included in the experiment is that the intention was to select tasks that could prompt reference source consultation. Rundell (1999, p. 36) states that consulting a dictionary is not always a realistic option, especially in the spoken medium.

In Atkins and Varantola's study (1998), participants were not required to produce a written translation, they simply had to look up any words or expressions that they felt necessary to allow them to translate the passage. The researchers justified this procedure by stating that their focus was 'on the strategies of dictionary use and not on the dictionary users' skills in translation' (Atkins & Varantola 1998, p. 3). Unlike Atkins and Varantola, however, I asked participants from my study to actually produce an output from their tasks; even though the focus of my study was also not on participants' skills in EFL tasks.¹⁹ This procedure was adopted because I believe that samples of participants' performance with EFL tasks can provide a complementary perspective on their look-up strategies. Without the samples, it is impossible to discern whether the reference source consultation was successful, even if participants have claimed in the protocol that the information they were looking for was found and that they were satisfied with it. Moreover, asking participants to actually produce an output, especially those of the translation tasks, is a way of prompting reference source consultation. That is because when simply reading a task, participants may believe that they are familiar with all the words in it, but when they actually have to translate the text they may feel the need to consult a reference source to learn, for instance, the way the words interact or predict each other (i.e. their collocation patterns). Finally, asking participants to handle the outcomes of their tasks is a good way to identify the general EFL level of proficiency of the intended target-group, which ultimately helps the identification of participants' needs and skills deficits in order to outline their profile more precisely.

3.2.2. Description of the task materials

Every pair of participants received a booklet containing four types of tasks: translation from English into Portuguese, free-writing, translation from Portuguese into English, and comprehension. For all except the comprehension task, participants could choose from three levels of difficulty ('basic/intermediate', 'intermediate/advanced', or 'advanced') according to their perception of their own proficiency level. The following sections provide the details of the content of each of the four tasks.

3.2.2.1. Translation from Portuguese into English

The three texts selected for this task were extracted from an Oxford reading and writing series addressed to EFL learners called Q: Skills to Success (Caplan & Douglas 2011). This

¹⁹ If the main focus of my study was participants' performance in EFL, other methods of obtaining samples of learners' language could be used, such as learner corpora – a 'source of data for investigating what learners know and can do with an L2' (Ellis & Barkhuisen 2005, p. 359). The University of São Paulo (USP), for instance, compiled a corpus of English texts written by Brazilian learners of English (The Multilingual Learner Corpus). However, the outcomes of participants' performance in the EFL tasks here were just complementary to the core data of my analysis, which was their look-up strategies. In other words, my main interest was their performance with the reference sources instead of the foreign language.

is a six-level series, in which the texts are classified according to their level of difficulty, from beginners to advanced learners of English. These textbooks were an ideal reference source to assess the levels of difficulty of the texts for the experiment. The only problem, however, was that, like most EFL textbooks, these books assessed the difficulty of their texts based on a general profile of EFL learner. For example, the level of difficulty assigned to vocabulary, which is perhaps the most important aspect to determine the level of difficulty of a text, is based exclusively on the frequency criterion. It is assumed that the less frequent an English word is, the harder it will be for learners to decode. They do not consider, however, that learners' first language may have an impact on their familiarity with some English words. In the present study, this familiarity, referred as linguistic prior knowledge, was key to the selection of the texts.

In studying the effect of reference source consultation in various aspects of receptive and productive tasks, such as word and structure, researchers have to deal with the problem of learners' prior knowledge (See Chapter 2). The prior knowledge of language refers to the knowledge about words and grammar structures that subjects bring with them into the experimental setting. To deal with this factor, Lew (2002, p. 52), for instance, suggested the design of an experiment with words of appropriately low frequency in English. The main problem regarding Lew's suggestion is that the author did not consider that learners' prior knowledge might not just a matter of foreign language knowledge, but also first language positive transference. In other words, learners' prior knowledge is not only related to their knowledge of the target language, but also to the influence of their first language knowledge. In order to illustrate this insight, I have extracted the content of a vocabulary exercise from the Oxford didactic book of English, previously mentioned, aimed at advanced learners. In this exercise, there are a number of sentences with low frequency words (considered difficult) written in bold; learners have to select the option that describes the meaning of these words. To demonstrate how positive transference cannot be discarded as prior knowledge, the figure below (figure 3.6) shows the 'difficult' words of the vocabulary exercise and their equivalents in Portuguese.

ENGLISH	PORTUGUESE
genetic	genética
extinct	extinto
consolidate	consolidar
inevitable	inevitável
urgency	urgência
erosion	erosão
crucial	crucial
vulnerability	vulnerabilidade

Plan B	Plano B
devastating	devastador
Conserve	conservar
Confronting	confrontar

Figure 3.6: Brazilians' linguistic prior knowledge with regards to English low frequency words

The exercise outlined above, which was considered 'advanced' in terms of vocabulary, from the perspective of a Brazilian learner of English could not be more elementary. The problem is that very often low frequency words in English are words derived from Latin roots. Thus, they are almost always transparent to a Brazilian learner. It is important to highlight however, that even in the case of cognates, learners may not have prior linguistic knowledge if they are not familiar with the Portuguese words in the first place.

As the present study included English texts in the receptive part of the experiment that was to be performed with the aid of dictionaries or other reference sources, prior knowledge of the target items could interfere in two ways. First, if participants were familiar with the words in the task, they would be less likely to consult any reference sources. Thus, the solution was to provide texts of different levels of difficulty for participants to choose according to their perception of their own level of proficiency. Second, if the texts provided contained too many Latin derived words, again participants would be less likely to consult any sources. However, monitoring look-up strategies and reference needs was essential to the design of the study, quite irrespective of whether participants knew the words in English or just believed they did based on their knowledge of Portuguese. The solution adopted was to select texts with as few Latin-derived words as possible and also with Latin-derived words that are false-friends in relation to Portuguese, such as the example below, extracted from one of the receptive tasks:

- a. [...] in a lagoon in the Adriatic Sea and **experts** say it has sunk [...]
 experts (Eng.) – **espertos* (Pt): an existing word that means 'clever' in Portuguese.
 Thus, a false-friend.
 experts (Eng.) – *especialistas* (Pt): an appropriate equivalent in Portuguese.

To sum up, low frequency words should not be considered as a key factor for content selection, even though I believe that vocabulary remains one of the most important aspects in determining the difficulty level of a text. Given that vocabulary itself is not sufficient for assessing how hard a text is from the perspective of a Brazilian EFL learner, I created a multi-factor classification. For the content selection and for determining the complexity level of the selected material, all the aspects described below were taken into account (Figure 3.7).

Vocabulary	The words in the text reflect the difficulty of the topic. In general, the harder the vocabulary, the harder the text. An analysis of the difficulty of words has limited value, however; a previous study revealed that low frequency words that are not derived from Latin are very difficult to understand from the perspective of a Brazilian learner (Reolon Jardim 2013).
Syntax	According to Alexander (1993, p. 9), what makes language difficult is not just words, but the way words are combined to make sentences. Longer sentences with embedded clauses are, in general, more difficult to read than shorter sentences. Learners must learn how to use or decode cue words, such as <i>therefore</i> or <i>when</i> , to access the meaning of the sentence. In basic level texts, sentences tend to be short and in direct order. In intermediate and advanced level texts, there is a significant increase in subordinate clauses and sentences in an indirect order. Other features of syntax that cause difficulty are: participle constructions, relative clauses, apposition, adverbial clauses, complementation after verbs, adjectives and nouns (<i>ibid</i>).
Grammar points	Familiar grammar points pose unusual problems because, all their lives, students have been given an over-simplified view of them (Alexander 1993, p. 9). Common rules, such as the use of the present tense progressive to describe actions and events in progress at the moment of speaking must be extended to account for sentences like <i>people are becoming less tolerant of smoking these days</i> (<i>ibid</i>). In basic level texts, verbs tend to be presented in their simple tenses (past, present and future). In intermediate and advanced level texts, verbs are presented in more complex conjugations.
Content	There is a relationship between students' background knowledge and their ability to read and comprehend texts (Adams & Bruck 1995). Background knowledge includes vocabulary but goes well beyond words to the relationship between ideas and organizational structures. Advanced texts assume an extensive knowledge of the world: the kind of knowledge that individuals need to bring with them before they can decode the information in a text. The more specialized a text, the more difficult it is, and this applies to native speakers as much as it does to language students (Alexander 1993, p. 8).
Allusion	What writers allude to is connected with the assumptions they make about their readers (Alexander 1993, p. 9). So, for example, if a writer alludes to Cassandra, she/he is assuming that the reader is familiar with the Greek myth of Cassandra and that this therefore does not need to be explained. According to Alexander (1993, <i>ibid</i>), allusions may also be culture-bound, referring to aspects of life in the English-speaking world (e.g. the 'old-boy network') which might be obscure to the learner.
Length	There is no consensus on how many words a foreign language learner can translate per hour; this will depend on factors such as the difficulty of the vocabulary in the text, the complexity of the sentence structure and learners' familiarity with the content of the text. However, an advanced student should be able to translate a higher amount of words than a basic level student in the same period of time. Thus, in the tasks, the number of words increased along with the level of difficulty of the texts.

Figure 3.7: Criteria for the selection of the content of the tasks

In terms of vocabulary, once the criterion that the texts should not have too many Latin-derived words was applied, texts were selected with the aid of the Oxford Text Checker (OTC) tool. The OTC checks any text against a list of 3000 words (the 'Oxford 3000') and then highlights in red the words which are not part of the list. Using this information, it is possible to assess the difficulty of the text in terms of vocabulary. The OTC also indicates what percentage of words in the submitted text are part of the Oxford 3000 by providing its users with a scale to help to establish the difficulty of the text. In a typical intermediate level text close to 100% of the words will be Oxford 3000 keywords; in a typical upper

intermediate text 90-95% of the words will be Oxford 3000 keywords; and in a typical advanced text 75-90% of the words will be Oxford 3000 key words.

With the aid of this tool and all the other criteria described in Figure 3.7, the text selected, classified as basic/intermediate, was the following:

Hamid lives at home with his parents and brother. He is a civil engineering student in his first year at university. He has created a space in his bedroom where he does most of his studying. He has a small desk that faces a bare wall. On the desk, he has a computer and a large workspace where he can spread out his books and papers. Hamid sometimes lies on his bed when he studies, especially when he wants to watch something on TV. He shares the bedroom with his little brother. Hamid gets annoyed because sometimes his brother comes into their room and makes noise.

Ninety-eight per cent of the words in this text are Oxford 3000 keywords. Its sentences are short and in direct order, verbs are in the present and perfect tenses, and there are no tricky grammar points – except, perhaps, the use of the verb *face* in the sentence *faces a bare wall* (which can also be interpreted as a semantic issue). The content is simple, given that it narrates ordinary every-day situations. There are no allusions and its understanding does not require world knowledge. Finally, the text is short (106 words).

The text selected for the intermediate/advanced option was:

Haggis is a traditional Scottish dish eaten on Burns' night, an annual celebration to remember a famous Scottish poet. As with any dish there are many different recipes; haggis for example, may be made with beef, but traditionally it is made with lamb. The customary ingredients include sheep's stomach and the heart and lungs of a lamb. It is mixed with onions, oatmeal and different herbs and spices. Apart from the spices, all these ingredients are found in Scotland, but nowadays many imported ingredients are used as well. Haggis is difficult to make so it is usually prepared by a butcher or a chef. At a traditional Burns' night, a piper has to lead the haggis into the room and the guests should then applaud the haggis. The host welcomes the guests, but a different person addresses the haggis. This person reads a Scottish poem before glasses are raised and everyone toasts the haggis. This dish is eaten with turnips and potatoes.

Eighty-three per cent of the words in this text were Oxford 3000 keywords. Compared to the basic/intermediate level text, in this text there is a significant increase in sentences that are not in the direct order, such as: *as with any dish there are many different recipes; haggis for example, may be made with beef, but traditionally it is made with lamb*. Moreover, its verbs

are in more complex tenses and there are irregular verbs, like *eat* and *lead*. In terms of content, this text is not as simple as the basic/intermediate level text. Even though the text does not make allusions, participants' world knowledge can facilitate the translation process, for instance: knowing that haggis is a type of food, or that bagpipes are Scotland's most traditional musical instrument. The length of this text is 162 words.

The text selected for the advanced option was:

The Italian city of Venice is known as one of the most beautiful, romantic places in the world. Venice is famous for its rich cultural heritage, beautiful architecture, and Renaissance art – and famous for floods. Since written records about Venice's water levels began in 1872, floods have been a part of its history. The city is situated in a lagoon in the Adriatic Sea and experts say it has sunk as much as 23 centimeters in the last century. As a result of the shifting landscape, the city currently endures flooding about 60 times a year according to some estimates. Since 1966, when record high flood waters caused the destruction of numerous historical landmarks and artistic masterpieces, Venetians have been debating what to do. The Tide Barrier Project (also known as the MOSE project) was begun in 2003 by Silvio Berlusconi, who is Italy's former Prime Minister. It consists of 78 underwater steel gates, each around 28 meters high, 20 meters wide, and weighing 300 tons. The gates are attached to the sea floor. When a dangerously high tide is predicted, compressed air is pumped underneath the gates, causing them to rise and stop the sea water from overflowing into the city. Many people believe the project is the only way to save Venice. Others argue that it will have negative effects on wildlife, and simply won't stop the flooding.

Eighty-four per cent of the words in this text are Oxford 3000 keywords. Like the intermediate/advanced text, in this text there is a significant number of sentences that are not in the direct order. Lots of verbs are complex, irregular and appear in multiple tenses, for instance: *is known*, *has sunk* and *won't stop*. There are tricky points, such as the polysemy of the word *record* in *written records* and *record high flood*; and the false friend *experts*. In terms of content, this text is not as simple as the basic/intermediate level text. In terms of content, when compared to the two other texts, the advanced text is more specialised: for example, *compressed air is pumped underneath the gates*. The length of this text is 230 words.

3.2.2.2. Free-writing

In the free-writing task, according to the perception of their own proficiency level, participants were asked to write a paragraph about one of the following topics:

- a. Basic/Intermediate: Life isn't just about working and studying (thank god!). Describe what you enjoy doing in your spare time.
- b. Intermediate/Advanced: Our daily journey to work/school is often a great opportunity to watch our city. Describe what you commonly see when traveling from home to work/school.
- c. Advanced: Regardless of your political orientation, what, in your opinion, could or should be changed in Brazil? Why?

The multi-factor classification designed for helping to select the content of the translation tasks (Figure 3.7) cannot be fully applied to the free-writing. The reason is that in this type of task there is not a pre-text in which one can assess the difficulty of its vocabulary, syntax, grammar, etc. However, it is possible to extend the scope of the multi-factor classification to address the selection of the topics of the free-writing. For example, participants who chose the basic/intermediate topic had to narrate ordinary every-day situation, which does not require an extensive vocabulary. Because the topic was basically about describing their hobbies, participants did not have to use future or past tenses; they could use exclusively present tenses to write the entire paragraph, for instance: *In my spare time, I enjoy watching TV*. Participants who chose the intermediate/advanced topic also had to narrate ordinary every-day situations and did not, necessarily, have to use tenses other than present (*I see, I watch, I notice*). However, because the question was addressed with the use of a frequency adverb (*commonly*), participants were likely to have to [know how to] use frequency adverbs to answer the question: *When I'm traveling to school, I often watch [...]*. Moreover, it is likely that the answer to this question requires a deeper understanding of grammatical structures and what they convey, such as the use of the present progressive to describe actions and events in progress at the moment of writing: *I have been noticing that the traffic in my city is becoming more complex*. Finally, participants who chose the advanced topic were expected to use the foreign language to demonstrate awareness of the world around them, which ultimately requires the use of words and collocations that participants are less likely to encounter on a daily basis: *The path Brazilian leaders choose will be felt beyond the country's borders*.

3.2.2.3. Translation from Portuguese into English

In the translation task from Portuguese into English, participants could also choose from three different levels of difficulty. The criteria described in Figure 3.3, were, once again, used to select the content of these tasks. The text selected for the basic/intermediate option was:

Muito prazer! Meu nome é Adachi e sou japonês. Minha família não é toda japonesa. Eu tenho dois filhos lindos. Minha primeira filha é japonesa. O nome dela

é Ayako. Ela é muito tímida, tem sete anos. Meu segundo filho é brasileiro. O nome dele é Fernando. Ele é do signo Escorpião e nasceu em novembro. Fernando tem um ano e é extrovertido. Minha esposa é muito alegre. Somos uma família muito feliz. Agora estamos no Brasil e temos uma casa muito grande. Estou feliz em trabalhar aqui e minha esposa também está contente em aprender um novo idioma.

This text is aimed at beginner learners of Portuguese as a foreign language. Like any text addressed to foreign language beginners, it has a very basic vocabulary that can be easily understood and translated into another language. All of its sentences are very short, written in the direct order, and without embedded clauses. In this text, sentences with more than one clause are connected the additive conjunction (*e* – Portuguese / *and* – English). The text is written in the first-person singular and verbs are simple tenses (present and past). In terms of content, this text concerns itself with only foreign language basics, such as a person introducing him/herself (name, nationality, where he/she lives) and saying a little bit about his/her life. There are no tricky grammar points or allusions and its understanding does not require world knowledge. Finally, the text is short (103 words).

The text selected for the intermediate/advanced option was:

O Mundo nas Costas

Ministério do Turismo quer aumentar hospedagem nos albergues do país incentivando mochileiros

Nada de carregador de malas, hotel bacana, fartos cafês da manhã ou almoços em restaurantes de renome. A ideia é conhecer lugares e culturas diferentes de forma mais descontraída e econômica. Essa é a regra número um de quem decide colocar tudo dentro de uma mochila e sair por aí. De olho nesse tipo de viajante, que em sua maioria tem entre 20 e 30 anos, o Ministério do Turismo vai apoiar uma campanha de incentivo aos mochileiros criada pela Federação Brasileira de Albergues da Juventude. A federação, por sua vez, pretende ampliar a rede de hospedagem no país para ver o número de usuários anuais pular de 100 mil para 500 mil no curto prazo. “Queremos ter estabelecimentos para esse público em todos os Estados e criar essa cultura de viagem na cabeça dos brasileiros”, afirma José Roberto de Oliveira, da Secretaria Nacional de Políticas do Turismo.

This text was extracted from a Brazilian weekly news and entertainment magazine. Despite its journalistic style, the text is addressed to a general target audience. The text is presented in the kind of Portuguese that educated people encounter on a more-or-less daily basis. In terms of grammar and syntax, when compared to the basic/intermediate level text, this text has some features that can cause difficulty. There are increased numbers of: sentences that

are not in the direct order; relative clauses (e.g. *Essa é a regra número um de quem decide [...] / This is the rule number one to those who [...]*); subordinate clauses (e.g. *que em sua maioria tem entre 20 e 30 anos / who are between 20 and 30 years old*); and adverbial clauses (*A federação, por sua vez, pretende ampliar [...] / In turn, the Federation intends to expand [...]*). One of its tricky points is the word *pretende* which is a false friend in relation to English (*pretende* (Pt) means *intend* in English). Even though there are no allusions in this text, its translation requires some world knowledge given that some of its words are imbued with cultural meaning, for example the word *descontraída* in a sentence that qualifies backpackers' way of travelling as a 'more relaxing/laid-back and economic' alternative to staying in fancy hotels. Even though *relaxing* and *laid-back* are the most accepted translations for the word *descontraída*, an English-speaker reader may find it odd that the experience of staying in a hostel is described as more 'relaxing' than staying in a five-star hotel. This is because in this case the word *descontraída* would better translated into English as 'informal' rather than 'relaxing'. This is not, however, an issue related to polysemy; i.e. the word *descontraída* in Portuguese does not mean both 'relaxed' and 'informal'. This issue is instead related to cultural differences that are reflected in the use of the language. Generally speaking, from the perspective of a Brazilian, being in a fancy/posh environment, such as a five-star hotel, means having to behave according some rules of etiquette, which is the opposite of been relaxed and laid-back. In terms of length, the text is slightly longer than the previous one (164 words).

The text selected for the advanced option was:

Eldorado dos executivos

Prioritário para grandes empresas, o mercado brasileiro já paga salários mais altos que países desenvolvidos e vira um destino cobiçado para profissionais estrangeiros. O início de 2011 marcou uma virada nas carreiras do italiano Nico Riggio, do suíço Dominik Maurer e do brasileiro Luiz Sales. A trajetória desses executivos reflete a relevância que o mercado brasileiro ganhou para empresas e investidores internacionais. Riggio trocou Nova York pelo Brasil para iniciar um negócio de bebidas. Maurer recusou a oportunidade de voltar para a matriz da alemã T-Systems para comandar a filial brasileira. E Sales foi tirado da concorrência para capitanear a americana Targus, empresa de acessórios para informática que vai expandir a operação brasileira para cumprir objetivos globais.

Entre as multinacionais, o Brasil é visto como um mercado essencial. Entretanto, montar a equipe de comando de um negócio no País passou a custar mais do que em qualquer economia desenvolvida. Segundo estudo da consultoria Hay Group, a

remuneração média anual de um diretor financeiro no Brasil, incluindo salário e bônus, é de US\$ 510 mil. É mais do que nos Estados Unidos (US\$ 425 mil), na Alemanha (US\$ 430 mil) e no Reino Unido (US\$ 390 mil).

This news-writing style text was extracted from the economy section of a Brazilian newspaper. In terms of syntax and grammar, it is not more difficult to translate than the intermediate/advanced text. However, because this text targets a specific audience (business people), its translation requires knowledge and command of a more specialised vocabulary; for example: job market [*mercado*], parent company [*matriz*], branch [*filial*], manage [*comandar*], average annual remuneration [*remuneração média anual*], wages [*salários*], chief financial officer [*diretor financeiro*]. This text also requires some world knowledge. The text reports foreign business people's increased interest in working in Brazil by virtue of the high wages payed by the Brazilian multinational corporations. Its headline [The El Dorado of the business executives] alludes to the mythical city of gold in South America which inspired several unsuccessful expeditions in the late 1500's. This text has is 199 words.²⁰

3.2.2.4. Comprehension

In the comprehension task, participants were asked to define in Portuguese (paraphrasing and/or providing a translated equivalent) the words in bold of the text below, extracted from Q: Skills to Success (Caplan & Douglas 2011):

The earliest firecrackers

A form of **firecracker** was used in China thousands of years ago even before **gunpowder** was invented. Historians believe that the tradition began around 200 BCE when someone **threw** a piece of green bamboo on the fire, when the dry wood **ran out**. Bamboo grows very quickly creating pockets of air and **sap** in the **stem**, which expand and burst when heated. On the fire, it heated up, turned black, and finally exploded, causing a loud 'boom' and **frightening** everyone nearby. When people learned what had caused the noise, they began to find many uses for green bamboo. Farmers began to use it to scare wild animals away from their fields, and later people began burning bamboo at parties, celebrations, and special occasions like weddings.

This was the only task in which participants could not choose from three different levels of difficulty. Regardless of their proficiency level in English, all participants who performed the comprehension task had to work with the same upper-intermediate level text, from which

²⁰ For a possible translation into English of the three Portuguese texts provided in the task see Appendix 3.

I selected the most challenging words, in terms of decoding and finding, from the perspective of a Brazilian learner of English. This was a strategy to prompt reference source consultation and to discover what participants would do if they could not find the information searched for. Figure 3.8 describes the challenges related to each word selected in the text.

firecracker	There is no equivalent for the word <i>firecracker</i> in Brazilian Portuguese. In translation studies, this type of word is referred as ‘realia’ (Lt.: real things). Realia are words for culture-specific materials that often cannot be translated into another language. Brazilian Portuguese does not have a word for <i>firecrackers</i> because there are no firecrackers in Brazil. Given that providing a translated equivalent was not possible, participants were expected to use paraphrases to define <i>firecracker</i> ; e.g. <i>firecracker is a type of firework [...]</i> , <i>firecracker is small festive explosive [...]</i> .
gunpowder	<i>Gunpowder</i> is not a frequent word in English, or at least it is not included in the Oxford 3000 advanced vocabulary list. Its low frequency, however, was not the reason why this word was selected. <i>Gunpowder</i> is classified as a compound lexeme formed by two noun stems (<i>gun</i> and <i>powder</i>). Such compound lexemes, which are very common in English, are unusual in Portuguese. Moreover, the noun stem <i>powder</i> (less frequent) can be easily misread as <i>power</i> (more frequent) – a word that beginners are more familiar with and that, in Portuguese, is frequently associated with the word <i>gun</i> [<i>poder das armas</i> (Pt) = fire power].
threw	Even though the verb <i>to throw</i> is a frequent verb in English, its irregular tense conjugation make its look-up process difficult, especially if participants use printed dictionaries for this purpose.
ran out	Phrasal verbs (PV) are often referred as one of major difficulties in the process of EFL learning. The difficulty of PVs is more frequently related to encoding. However, decoding idiomatic (or opaque) PVs, like <i>ran out</i> , can be equally challenging even with the aid of dictionaries and other reference sources. The verb and preposition need to be searched for together, as a unit, given that the meaning of this PV is not the sum of the meaning of <i>ran</i> and <i>out</i> . Moreover, the fact that the verb <i>ran</i> is irregular may be another obstacle in the consultation process.
sap and stem	These two words were selected for the same reasons: they are of low frequency and do not have Latin roots. The combination of these features tends to prompt reference source consultation.
frightening	The verb <i>frightening</i> was selected simply because it is morphologically identical to the adjective <i>frightening</i> . The challenge in this case was to search for the verb in this infinitive form.

Figure 3.8: Comprehension task: words selected and their challenges

3.2.2.5. Post-Task Questionnaire

In the second stage of my study, all participants were surveyed by means of a Post-Task Questionnaire (Appendix 2a). Due to the risk of the participants failing to understand the questions in the foreign language, I opted to use Portuguese for the wording of Post-Task questions (for the translated version, see Appendix 2b).

The questionnaire was divided into two sections. In the first section, participants were asked to answer a number of questions related to their social and educational background, such as nationality, age, gender, duration of EFL instruction, and type of

educational institution(s) attended. The objective of this section was to uncover relevant aspects of the profile of the Brazilian learners of English, for instance their average proficiency level in English. In the second section, the questionnaire items were related to participants' reference source(s) consultation preferences and the types of information that they consider fundamental in a reference source. The objective of this section was twofold: to learn about participants' consultation preferences, and, by means of a comparison between the results of the questionnaire and experiment tasks, to investigate whether their claimed preferences, needs, and consultation behaviour would match their actual preferences, needs and consultation behaviour. With regards to the latter, the gap between reported and actual behaviour seems to be a topic yet to be explored in lexicography user research. The studies that combine questionnaire and FL tasks in their methodology do not normally compare participants' responses to the questionnaire with their performance in the actual tasks. The role of the questionnaire in these studies is to learn about participants' background in order to establish, for example, their proficiency level in the target language (Atkins & Varantola 1998; Hartmann 1999; Lew 2004); to investigate participants' familiarity with the foreign words or phrases used in the actual task, as a way to control the experiment and induce the consultation process (Hulstijn, Hollander & Greidanus 1996); or to test participants' vocabulary learning and retention after they have completed the experiment tasks (Marello 1987; Luppescu & Day 1993; Chi 1998; Wingate 2002; Hass 2005; Dziemianko 2010; Nesi 2010). Even when the aim of the questionnaire is to learn about subjects' lexicographic preferences, the results cannot be directly compared with their behaviour in the experiment. This is because these questionnaires focus on asking participants about the type of dictionary that they have at home, the type that they most often have to use in the classroom and the frequency of consultation of these reference sources in everyday life (Lew 2004). Moreover, in all the mentioned studies, participants did not have the freedom to choose their preferred reference sources; instead researchers provided them with bilingual and/or monolingual dictionaries (or just sample entries constructed for the purpose of the study). Thus, in these studies, there would be no reason to compare participants' reported lexicographic preferences with their behaviour in the experiment.

3.3. Pilot study

Prior to the investigation in Brazil, a pilot study was conducted at the University of Glasgow with a small group of six Brazilian advanced learners of English. The objective of the pilot study was to test the efficacy of the selected methodology prior to its application to the groups in Brazil. The study was in three stages: questionnaire, test and written protocol, and interview.

In the first stage, participants were individually surveyed by means of a pre-task questionnaire containing nine questions; three about their socio-educational profile and six about their consultation preferences and habits. Because all six participants were advanced learners, the questionnaire items and the experiment instructions were provided in English. Participants had 10 minutes to answer the questionnaire.

In the second stage, in pairs, participants had to perform EFL translation tasks (one text each) and monitor/record the look-up behaviour of their peers (the same method applied to the actual experiment). Participants were provided with two texts, one in English and one in Brazilian Portuguese, which they had to translate. The text provided in English was extracted from a newspaper and its level of difficulty was assigned with the aid of the OTC. The text provided in Portuguese was also extracted from a newspaper and its level of difficulty was assigned according to my judgement to find an equivalent text. The average length of the texts was 500 words. With regard to the consultation material, participants were free to use the internet to find their preferred reference source and they could also choose from over 30 printed lexicographic and non-lexicographic reference sources (bilingual/monolingual/learners' dictionaries, encyclopaedias, English and Portuguese grammar books).²¹

Finally, in the third stage, participants were informally asked about their impression regarding the experiment. This stage was particularly important to both determine participants' acceptance and the efficacy of the methodology selected. The application of the pilot study resulted in some modifications in the methodology of the experiment conducted in Brazil. The pre-task questionnaire was converted into a post-task questionnaire. The reason was that there was evidence to suggest that participants' responses to some of the questionnaire items were interfering in their look-up behaviour. For instance, the two participants who claimed in the questionnaire to search for information about phrasal verbs, latter reported that they felt compelled to search for this type of information in the experiment even though they were not really sure what phrasal verbs were. Participants also reported having difficulties in understanding some items of the questionnaire. Thus, I decided that both questionnaire and task instructions would be provided in Portuguese and no technical jargon would be used. The last modification resulted from both participants' reported impressions and the analysis of their performance in the translations. In the post-experiment conversation, participants reported that translation tasks were not the type of EFL tasks that they were likely to perform regularly. Moreover, their performance in the tasks was far below their level of proficiency in English, suggesting that translation

²¹ All printed material was borrowed from the University of Glasgow's library.

competence is not necessarily related to linguistic competence (see Chapter 4, Section 4.1.1). Translation tasks are known, however, to prompt reference source consultation. The solution adopted was to reduce the length of the texts provided and include other types of task (free-writing and comprehension).

3.4. Choice of session format

As is typical of investigations involving human subjects, the present study had to deal with the conflict between how much data I wanted to obtain from the subjects and how much data it would be feasible to collect in terms of time, money and geography.

Subject time is an issue that needs to be carefully taken into account when designing this kind of experiment. Since the participation in this experiment was voluntary (i.e. there was no payment for participants) and all the participants were either students (using their instruction time) or professionals (using their work time), the study was designed to fit two class periods of 50 minutes. Thus, 1 hour and 40 minutes was considered a maximum acceptable demand on participants' time.

Another practical issue that the research had to deal with was the different levels of proficiency in English of the participants. To resolve this, tasks were designed to suit subjects' different profiles. In three of the four tasks, participants could choose the text to translate (translation from Portuguese into English and translation from English into Portuguese) and the topic to write about (free-writing) according to their perception of their own proficiency level (basic/intermediate, intermediate/advanced, advanced).

Finally, the study was designed in such way that participants would not be identified. In the beginning of each section, participants were assigned with a number (e.g. participant number 1, 2, 3) that was written at the top of the sheet containing the tasks and on the questionnaire. The objective of these personal numbers was to enable cross referencing between these two activities.

3.5. Procedure

All data was collected between September and October 2014. EFL tasks and the Post-Task Questionnaire were administered, for each group of subjects, during a single session (1 hour and 40 minutes), under my supervision and, in the case of the schools, together with their English teacher.

First, participants were asked to read carefully and sign the consent form for the use of data. Participants who were underage (the case of two school groups) were asked to take the form home and bring it back the next day signed by their parents/guardians. After this, participants had to perform the experiment. The experiment consisted in performing and monitoring look-up strategies in receptive and productive EFL tasks. As outlined in Section

3.2.1.4 above, to perform the task, participants could consult one of the 5 available printed dictionaries or any other free reference source available online (there was at least one device (computer or tablet) with internet access to every pair of participants). Participants were instructed to work in pairs and each of them had to perform two tasks, a receptive and a productive. While participant A was performing the task and consulting the reference sources, participant B was monitoring and recording every step taken by participant A (e.g. what word was searched in what source and with what result). After concluding the first pair of tasks (receptive and productive), participants were asked to swap roles to perform the two remaining receptive and productive tasks. Participants had 1 hour and 10 minutes to finish the experiment.

After concluding the experiment, participants had 15 minutes to answer individually a Post-Task Questionnaire. All the paper collected within this research (signed consent forms, experiment booklets and answered questionnaires) was stored in labelled folders, one for each group of subjects. This procedure was taken to minimise the risk of any confusion or switching before all the data was digitalised. In the following chapters, I present and discuss the results of the data collected in this experiment.

4. ERROR ANALYSIS

This chapter analyses the errors extracted from the samples of participants' performance with the EFL tasks from the experiment. In the first section, there is a brief recapitulation of the concept of error analysis, followed by a discussion of the difficulties of analysing and classifying the errors as they actually appear in the foreign language tasks. In the second section, combining principles of error analysis (see Section 2.4.1.2) and translation error analysis, a typology to classify the errors is proposed. In the subsequent sections, each category of the proposed typology is explained and illustrated with examples.

Building a typology to classify errors can be a valuable way of identifying the weakness of EFL learners in order to develop a lexicographic reference source to address their needs. Through my typology, it was possible to discover some patterns in the errors made by the investigated participants; especially in relation to their level of proficiency in English.

4.1. Difficulties in analysing the errors

As discussed in Chapter 2 (Section 2.4.1.2), error analysis is a branch of applied linguistics. It emerged in the 1960's, as a reaction to contrastive analysis theory,²² to demonstrate that target language errors were not only the result of the influence of learners' first language but also reflected some universal learning strategies. Error Analysis deals with the learners' performance in terms of the 'cognitive processes they make use of in recognizing or coding the input they receive from the target language' (Erdogan 2005, p. 262). Therefore, the main focus of error analysis is on the evidence that learners' errors provide for an understanding of the process of foreign language acquisition. Keshavarz (2003; 2006) suggests that the field of error analysis can be divided into two branches: theoretical and applied.

According to Keshavarz (*ibid*) the theoretical analysis of the errors concerns the 'process and strategies of language learning and its similarities with first language acquisition.' In other words, it tries to investigate what is going on in the minds of language learners. Secondly, it tries to decode the strategies of learners, such as overgeneralisation and simplification. Applied error analysis, on the other hand, concerns 'organizing remedial courses, and devising appropriate materials and teaching strategies based on the findings of theoretical error analysis' (*ibid*).

Understanding in detail the nature or cause of errors in FL learning is a difficult task. This is possibly the main reason why literature on EA has produced such a large number of different classifications of errors, depending on the examples found in the analysed data and

²² Contrastive Analysis considered language transfer as the basic process of second language learning as what behavioristic theory suggested.

the features that researchers were interested in investigating. This research is no exception to this. It had to deal with two main issues faced by any attempt to classify errors. First, translation errors are not necessarily linguistic errors. Second, to build a classification where errors do not overlap is not feasible. Both claims are discussed in the following sections (4.1.1 and 4.1.2)

4.1.1. Difference between linguistic and translation errors

Discussing the differences between linguistic and translation errors is very relevant, because of the four tasks applied in my empirical research, two involved translation (English into Portuguese and Portuguese into English).²³ This implies having to deal with two issues: to what extent the errors found in the translation tasks are purely related to linguistic competence; and to what extent this research can address this question. For example, the translation below was produced by one of the investigated participants in the translation into foreign language task:

Eu tenho dois filhos lindos [Portuguese]

** I have two children beautiful*

Even though the adjective *beautiful* is incorrectly placed in the English sentence, it is not possible to discern whether this was a linguistic or a translation error. The reason is that the participant may have been influenced by the structure of the sentence in Portuguese, in which the adjective is placed after the noun. It does not necessarily mean, however, that he/she does not know the English rule of placing the adjective before the noun. The only way to ascertain the nature of this error was to have a parallel text with similar content but different format (i.e. not a translation), to determine if the error would occur in different circumstances. My experiment was not designed to address this issue.

It is not uncommon to differentiate strictly linguistic competence from translation competence. Within theoretical linguistics, linguistic competence is the measure of a native speaker's knowledge of their language, and is distinguished from their performance, that is, 'the actual use of language in concrete situations' (Chomsky 1965, p. 4). Individuals' ability to effectively use words depends on aspects of context (cf. Austin 1962; Hymes 1972). Linguistic competence is related to the formal aspects of the language, like syntax, semantics, morphology, pragmatics.

²³ In the present study, translation is understood as a type of productive or receptive task (see Section 2.3.1) in which encoding or decoding is used as an elicitation procedure, rather than an authentic translation activity performed by skill-trained people.

Translation competence, on the other hand, is described by Bell (1991) as a complex set of sub-competencies: target language knowledge, text type knowledge, source language knowledge, subject area [world] knowledge, contrastive knowledge, then decoding [receptive] and encoding [productive].

There is no doubt that a translator (or a learner when translating) needs to have substantial knowledge of grammar, word meaning, and language usage in order to produce a good target text. However, to some scholars, a translation error is not necessarily related to linguistic competence (Reiss & Vermeer 1984; Kupsch-Losereit, 1985; Pym 1992). According to Pym (1992, p. 282), the definition of translation competence may be used to define a translation error as a ‘manifestation of a defect’ in any of the types of knowledge mentioned above. However, also according to Pym (*ibid*) treating translation and linguistic errors as two separate things puts relatively little order into a very controversial field.

Errors may have various causes (misinterpretation of the source text, lack of knowledge about the foreign language rules, poor use of time, lack of world knowledge, and so on) and be located on various levels (grammar, meaning, use). Additionally, it seems that the fields of error analysis and translation studies have failed to develop commonly agreed distinctions or fixed points of reference to interpret errors. Pym (1992, p. 283) highlights that, in Translation Studies, the term ‘equivalence’ ‘has been used and abused so many times that it is no longer equivalent to anything, and one quickly gets lost following the wanderings of discourse and associated concepts’.

Applying this discussion to my data analysis, it is worth mentioning that by analysing the results of the translation task, especially the receptive one (English into Portuguese) it is evident that there is a difference between linguistic and translation errors.

4.1.2. Overlap issues

Although it seems relatively easy to generate a typology to classify different types of errors and then search for examples to illustrate the linguistic level and likely reason behind each, it is quite a different matter to classify errors as they actually appear in translated texts. The reason is that in real texts, different types of errors tend to overlap, i.e. elements of different types and presupposed distinctions are constantly mixed. The following section proposes an appropriate typology to classify the errors found in this experiment.

4.2. Typology of the errors

The error typology proposed here combines features of some of the most important classifications found in the literature review on error analysis together with some distinctions developed specifically for this research, in order to account for all the errors found in the samples collected. My error typology, presented in Figure 4.1 below, is a hierarchical

scheme based on fundamental distinctions. In the first branch, there is an important division between errors and mistakes: because this study is more concerned with errors rather than mistakes, this branch has been thoroughly developed. The main category errors are further divided into sub-categories which in turn group more specific error types, such as ‘meaning’ and ‘grammar’ errors.

This typology has two primary objectives. The first is to organise and classify the data collected for a more systematic analysis, and the second is to identify the nature and source of the error to seeking to discover in what ways dictionaries can be improved to better address the needs of this specific target group. Figure 4.1 shows the typology developed for the present study and the further sections of this chapter will explain and illustrate with examples all the branches of this proposed scheme.

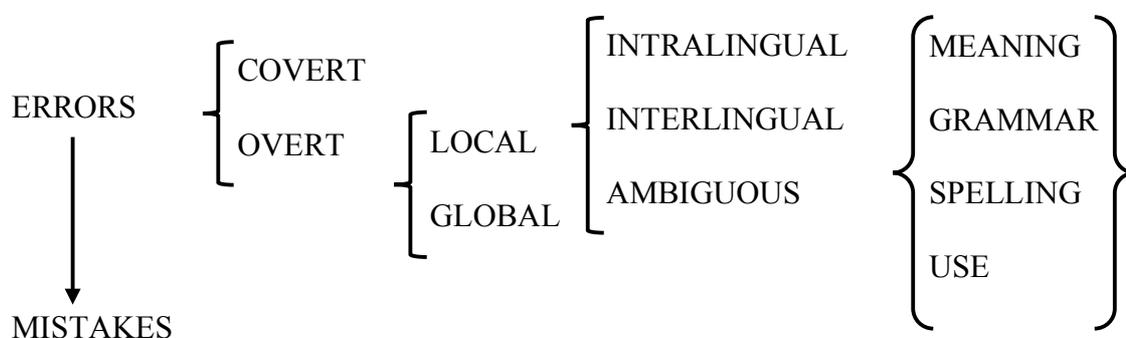


Figure 4.1: Typology proposed to classify participants’ errors in the EFL tasks

4.3. Errors and mistakes

Reading from the left, the first distinction made in this typology is between errors and mistakes. Errors are understood here as the ‘systematic misuse’ of the foreign language (issues regarding competence), while mistakes are random or unsystematic performance errors (issues regarding performance) (cf. Figueiredo 1997, p. 102; Corder 1967, p. 166). Although the competence/performance dichotomy, presented by Chomsky (1965, p. 10) is fundamental to any typology of this kind, it is very hard to state whether we are dealing with an error or a mistake in each of the analysed cases. This happens because competence by itself is an abstraction and the only way to access it is through performance.

In 1967, Corder indicated the difficulty of distinguishing between learners’ mistakes and learners’ errors. He stated that unlike errors, mistakes are not relevant to the process of language acquisition, however differentiating one from another involves “a much more sophisticated study and analysis of errors” (Corder 1967, p. 166). A more sophisticated study

can involve gathering evidence of what was taught and learned (Figueiredo 1997), psychological aspects, such as anxiety, that can have an effect on learners' performance (Jung 2013), and the kind of procedure employed to minimize the chances of making mistakes, such as participants revising their own work (Truscott 1996).

The present research acknowledges the fact that there is a difference between errors and mistakes, and that the latter are not indicative of learners' competence in foreign language. As Miller (1966, p. 46) puts it, 'it would be meaningless to state rules for making mistakes'. However, with very few exceptions, the methodology applied in the present experiment did not enable me to say whether the collected samples of 'language misuses' were occasional, or represent permanent states in the participants' competence. In more than 500 cases of language misuse, only three were categorized as mistakes – representing 0.5% of the collected samples.²⁴

- (a) *She is too shy and has seven years old [...] Fernando is one year old.
- (b) My family isn't all Japanese. [...] *My first daughter is Japane.
- (c) *hotel cabana [...]

In the first example, the grammar error *has seven years* can be interpreted as a mistake, possibly resulting from external factors (such as fatigue or distraction), since in the same translated text, just a few lines below, the participant employed the right syntactic form, i.e. *is one year old*. This is a very particular case and the reason why it can be categorized as mistake is because this syntactic structure appears more than once in the source text, giving participant a second chance to employ it correctly. The same happens in the second example. The word 'Japanese' is presented three times in the source text. The participant used the correct form twice and in the third time, possibly due to distraction, misspelled 'Japanese'. This case is a clear example of mistake rather than error. The third example is the most difficult one to analyse and categorising it as a mistake may be quite controversial. This is firstly because the Portuguese word 'cabana' [*cabin*] was not translated; and secondly, because 'cabin hotel' is not the right equivalent in English for 'hotel cabana' [a cottage hotel]. However, in the source text the word was not 'cabana', it was 'bacana' [*fancy*]. These two words have morphological similarities in Portuguese (same number of syllables, same graphemes, same phonemes), but completely different meanings. The decision to place this language misuse in the mistakes category was because clearly the participant misread the source text. Thus, the resulting language form has little relation to

²⁴ All the examples listed in this section were extracted from the experiment tasks.

his/her knowledge of the foreign language; instead this is a mistake as a result of a failure in the process of reading in his/her first language.

Due to the small percentage of language misuses that were categorized as mistakes, it is not possible to make a comparison between the investigated groups to see in which of them we are more likely to find mistakes.

4.3.1. Covert and overt errors

Continuing reading from the left, this typology divides errors in two sub-categories, covert and overt. The first researcher to suggest this division was Corder (1973). According to him, overt errors are those that are unquestionably ungrammatical at the sentence level, while covert errors are grammatically well-formed at the sentence level but are not interpretable within the context of communication (Corder 1973, p. 67). For example, *I'm fine, thanks* is a correct sentence but if it is given as an answer to the question of "How old are you?" it is a covert error. This example was extracted from Erdogan's work (2005, p. 264) and represents an extreme case. My research suggests that some utterances can be perfectly grammatical, interpretable within the context of communication and still be covert errors, especially if one considers that the process of producing in a foreign language involves translation at some level (cf. Truscott 1996). Consider the following example as an utterance from a Brazilian learner of English about his/her dessert preferences:

Teacher: What is your favourite cake?

Brazilian student: I love English cake. [*Eu adoro bolinho inglês* (PT)]

In this example, the Brazilian student made a hypothesis based on his/her knowledge of the foreign language and under the influence of his/her first language. The result is a semantic calque [*bolinho* = cake + *inglês* = English] that, although it is an existing word in English, is not the right equivalent [*bolinho inglês* = muffin]. Thus, this can be considered as a covert error despite being grammatically and communicatively acceptable. Of course errors like this are difficult to spot unless we have access to some kind of source text, or if the student is confronted with a picture of a muffin and says that it was not what he/she was referring to.

Part of the present research involves the translation of a Portuguese text into English. This enables us to identify whether there are errors that are grammatically well-formed and that fit in the context of communication, but do not correspond to the right equivalent in English. In this work, this type of error is classified as covert. See the examples below:

(a) * Dinner at great restaurants. [*Dinner at well-known restaurants*].

(b) * My family isn't Japanese at all. [*My family isn't all Japanese*].

Despite being grammatical, both examples fail to deliver the right message. Of course, there is a difference in magnitude between these two errors. While in the first one the wrong equivalent does not affect the interpretation of the text as a whole, in the second one the chosen equivalent contradicts the original information. Differences in magnitude of the errors will be discussed in the next section.

Comparing the results of the analysed groups, overt errors were prevalent in the all analysed groups. The graph (Figure 4.2) below show a comparison of the results of the investigated groups.

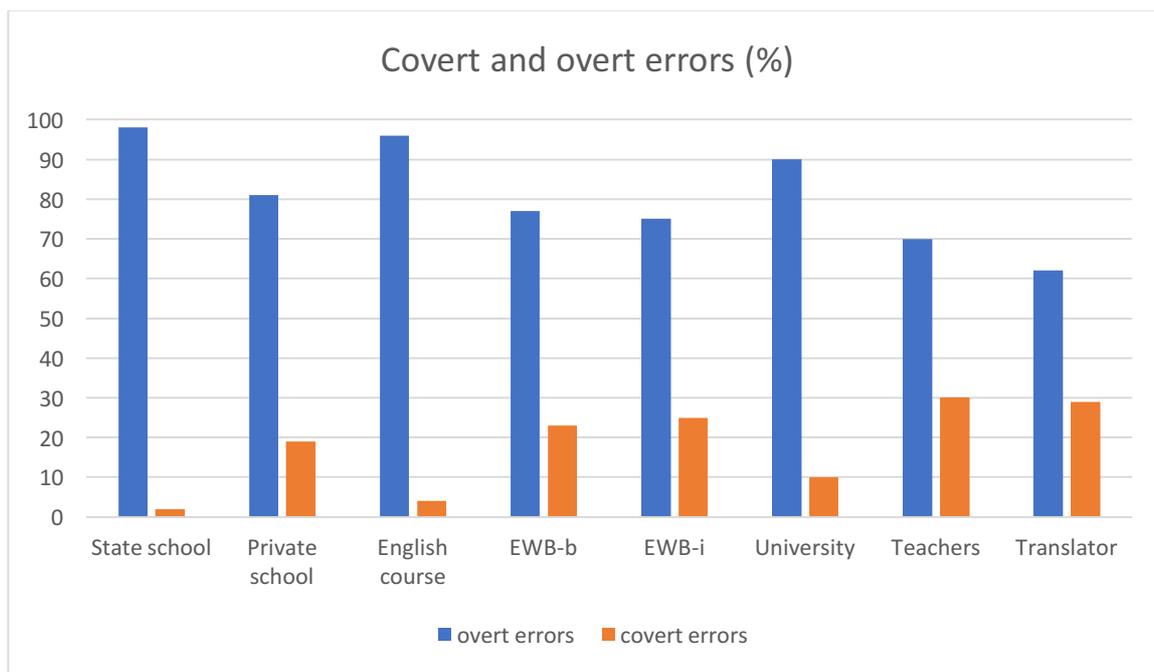


Figure 4.2: Percentage of covert and overt errors among the investigated groups

The percentages of covert and overt errors made by the investigated groups were: 98% overt and 2% covert (state school); 81% overt and 19% covert (private school); 96% overt and 4% covert (English course); 77% overt and 23% covert (EWB-b); 75% overt and 25% covert (EWB-i); 90% overt and 10% covert (university); 70% overt and 30% covert (teachers); and 62% overt and 38% covert (translators).

4.3.2. Global and local errors

The literature on error analysis states that errors can vary in magnitude (Tomiyana 1980; Dulay, Burt & Krashen 1982; Brown 2000). They can include a morpheme, a word, a sentence or even a paragraph. The third distinction made in the present typology considers this variation and divides errors into global and local types. Global errors affect communication (cf. Rifkin & Roberts 1995; Erdogan 2005). They prevent the message from being comprehended as in the example below, extracted from the field research:

**Ministry of Tourism encourage the incentive campaign the baglers.*

On the other hand, local errors do not prevent the message from being understood because there is usually a minor violation of one segment of a sentence that allows the reader to guess the intended meaning, for example:

**Now we are in Brazil and have one big house.*

The major problem with this distinction is that there is no consensus about what really affects communication, and tolerance regarding errors might depend on who is correcting/analysing them (cf. Ervin 1977; Galloway 1980; Ludwig 1982).

In the present typology, this category was reserved for very specific cases, where it was really not possible to establish what the participant was trying to express. Local errors were predominant in most of the analysed groups as the graph below indicates (Figures 4.3).

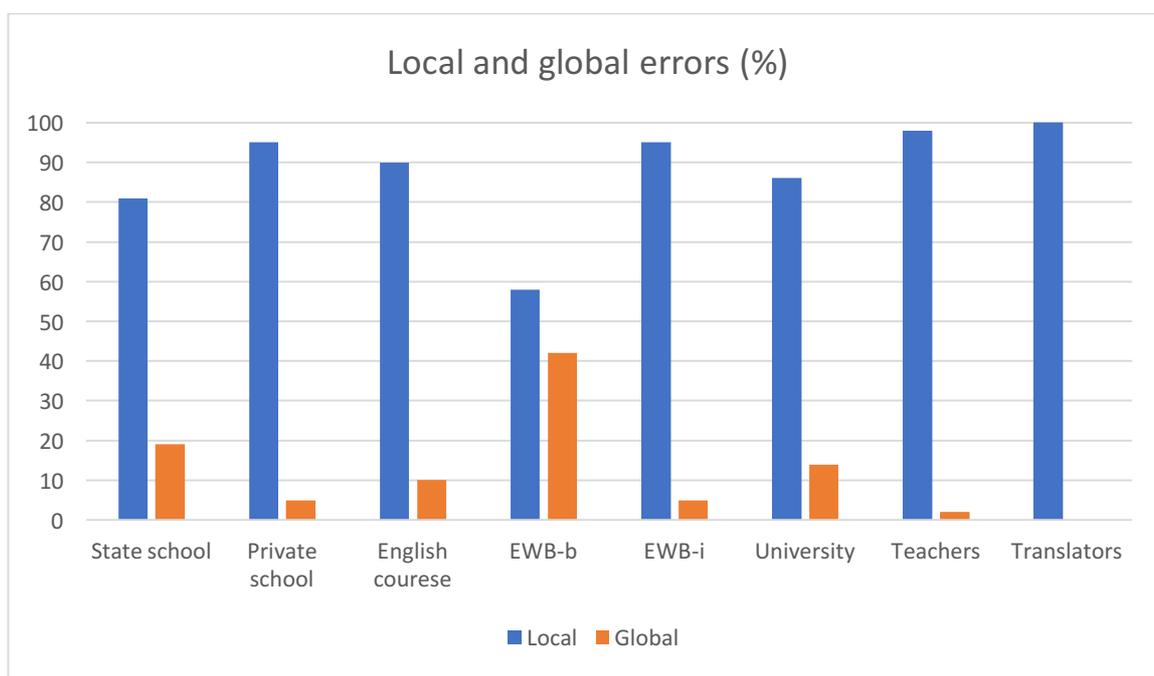


Figure 4.3: Percentage of local and global errors among the investigated groups

The percentages of local and global errors made by the investigated groups were: 81% local and 19% global (state school); 95% local and 5% global (private school); 90% local and 10% global (English course); 68% local and 42% global (EWB-b); 95% local and 5% global (EWB-i); 86% local and 14% global (university); 98% local and 2% global (teachers); and 100% local and 0% global (translators).

4.3.3. Intralingual, interlingual and ambiguous errors

Reading from the left, the fourth distinction made in this classification concerns the sources of error. It was indicated in Chapter 2 (Section 2.4.1) of this thesis that errors were assumed to be only the result of interference of the first language habits to the learning of the second language. However, in the field of error analysis, it has been understood that the nature of errors implicates the existence of other reasons for errors to occur. Then, in this classification

the sources of errors were categorised within three domains: intralingual transfer, interlingual transfer, and ambiguous transfer.

Interference from the learners' own language is not the only reason for committing errors. Ellis (1997, p. 44) states, 'some errors seem to be universal, reflecting learners' attempts to make the task of learning and using the target language simpler'. For example, the use of the past tense suffix '-ed' for all verbs is an example of simplification and over-generalisation. These errors are common in the production of foreign language learners, irrespective of their first language (cf. Erdogan 2005, p. 164). Intralingual errors result from faulty or partial learning of the foreign language rather than language transfer. They may be caused by the influence of one foreign language item upon another (cf. Brown 2000). For example, **She made me to cry*, **I want learning English*, or **I don't know why did she go*. In short, literature on EA classifies as intralingual errors those which result from learners' attempt to build up concepts and hypotheses about the target language from their limited experience with it. For researchers like Corder (1984) these errors have to be similar to those made by native speakers when acquiring their first language. In the present study, I classified as intralingual those errors that could not be explained by the influence of participants' first language. Similarities with errors made by children learning English as their first language were not taken into account. The examples below were extracted from the field research.

(a) **I'm not saying this is tottaly bad.*

(b) **His sign of scorpion.*

In the first example, the way that the word *totally* was misspelled has nothing to do with the influence of the Portuguese language, especially because the word *total* is identical in Portuguese. In the second example, the wrong sentence structure, as well as the wrong use of determiner and preposition were not influenced by the participant's first language, at least not explicitly. If this sentence was a direct transfer, it would be something like **He is from the sign of Scorpio* [Ele é do signo de Escorpião], or **He is of Scorpio*. [Ele é de Escorpião]. The sentence structure produced by the participant is more like a hypothesis about the structure of the English language.

According to Erdogan (2005, p. 265), interlingual transfer is a significant source of errors for language learners. The *Dictionary of Language Teaching and Applied Linguistics* (1992) defines interlingual errors as being the result of language transfer, which is caused by the learners' first language. However, this should not be confused with the behaviouristic approach of language transfer. EA does not regard them as the persistence of old habits, but rather as signs that the learner is internalizing and investigating the system of the acquired language. Interlingual errors may occur at different levels such as transfer of phonological,

morphological, syntactic, semantic or pragmatic elements of the first language into the foreign language. These different levels can be explained with some errors extracted from the field research. Because the research only involved written production, the phonological level was not taken into account. At the morphological level, the lower case is not used in Portuguese in words that denote nationality. Thus, it is not uncommon to spot this transfer in learners' production in English, for example **I'm japanese*. At the semantic level, the occurrence of false-friends in the productive task was quite high, for example **The government pretends to invest*.²⁵ At the syntactical level, Brazilian learners tend to have difficulties with the use of pronouns in English, for example **He was born on November*. This happens because although there are over 15 pronouns in the Portuguese language they can be replaced by just one, especially in the oral language. Interlingual errors were, by far, the majority of the errors found in this study and these were prevalent in all the analysed groups.

Finally, ambiguous errors are those that cannot be categorised as either interference-like (interlingual) or developmental (intralingual) (Mishra 2005, p. 40). For example, in the free-writing task, one of the participants wrote: **I not can drive*. In the present analysis, this example was classified as an ambiguous error. Even though its structure reflects Portuguese structure (e.g. the placement of the negation word before the verb), there are some features in this sentence that cannot be completely explained by language interference (e.g. in a typical interlingual error, a Brazilian learner of English would use the word *know* instead of *can* to describe an ability: **I not know drive*). Moreover, this error can be also typical of children learning English as their first language (cf. Dulay & Burt 1973). The graph below (Figure 4.4) shows the percentage of the occurrence of intralingual, interlingual and ambiguous errors among the investigated groups.

²⁵ A false-friend is defined as a word in a language that bears a deceptive resemblance to a word in another language but has a different meaning and, therefore, is often confused (cf. Cambridge Dictionary 2017, s.v. *false-friend*). The Portuguese word *pretende* [intends] and the English word *pretend* are false-friends.

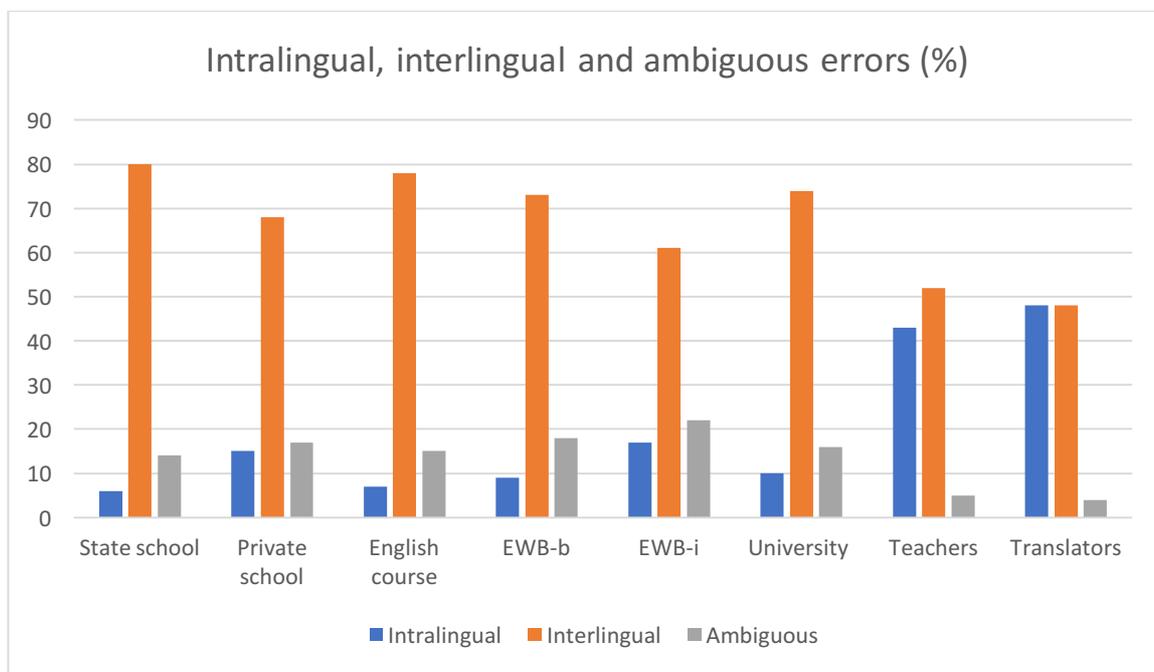


Figure 4.4: Percentage of intralingual, interlingual and ambiguous errors among the investigated groups

The percentages of intralingual, interlingual and ambiguous errors made by the investigated groups were: 6% intralingual, 80% interlingual, 14% ambiguous (state school); 15% intralingual, 68% interlingual, 17% ambiguous (private school); 7% intralingual, 78% interlingual, 15% ambiguous (English course); 9% intralingual, 73% interlingual, 18% ambiguous (EWB-b); 17% intralingual, 61% interlingual, 22% ambiguous (EWB-i); 10% intralingual, 74% interlingual, 16% ambiguous (university); 43% intralingual, 52% interlingual, 5% ambiguous (teachers); and 48% intralingual, 48% interlingual, 4% ambiguous (translators).

4.3.4. Meaning, grammar, spelling and use errors

The fifth, and last, distinction made in this classification concerns the language level where the errors were located. Traditionally, in linguistics, levels of language analysis refer to morphology, phonology and syntax (cf. Coseriu 1980). Morphology is related to the way words are formed as a single unity. Phonology is the rules of how a language sounds and how and when certain sounds can be combined. Finally, syntax is the rules concerning word order. All together these levels comprise the grammar of a language; i.e. the set of rules that will generate or produce all of the acceptable sentences, and will not produce unacceptable sentences (*ibid*). However, given that the design of my experiment did not include any EFL oral task, with which the phonological level could be evaluated, I proposed instead four levels of language analysis in order to classify the errors collected in my experiment: meaning, grammar, spelling and use. These proposed levels, however, can be easily related to subfields of linguistic studies, which can facilitate the understanding of the types of errors

that they convey (semantics, syntax, morphology and use). The examples below were extracted from the outcomes of participants' performance in the EFL task of the experiment and illustrate the types of errors that were included in each category.

Meaning: **In my free time I've been beware of my little dog.*

Grammar: **I not can drive.*

Spelling: **I go to school by trein.*

Use: **Brazil needs to valorize its teachers.*

The errors classified as meaning errors were those where the chosen word or expression did not deliver the intended message. These commonly resulted from polysemy in either the source or the target language. In the example above, what the participant was trying to say was that in his/her free time he/she would take care of his/her dog. The error happened because in Portuguese the word *cuidado* can be translated into English as both *take care* (tenho cuidado do meu cachorro / I've been taking care of my dog) or *beware* (cuidado com o cachorro / beware of the dog). The errors classified as grammar errors were those where there was a problem related to the syntax of the sentence; such as the word order in the example above. In the spelling category, I did not only include those words that were misspelled (see example above), but also those in which the use of capital letters or lower-case letters were wrong (**My family isn't all japanese / *the ministry of the tourism in brazil*). Finally, the use category was reserved for those errors in which the word choice was inappropriate; even though it could be correct in terms of meaning, grammar and spelling. In the example above, the word *valorize* in the sentence is correct in terms of meaning, grammar and spelling.²⁶ However, it is very unlikely to be used by an English native speaker in this context. Frequently a single error fits into more than one category. For example, **In my free time I've been beware of my little dog* can be classified both as a meaning error and as a grammar error. For the purpose of this analysis, whenever this happened, the error was counted twice. The percentage of errors of each type are disclosed in the graph below (Figure 4.5).

²⁶ Valorize: to assign value or merit, to acknowledge (Merriam-Webster 2017, s.v. *valorize*).

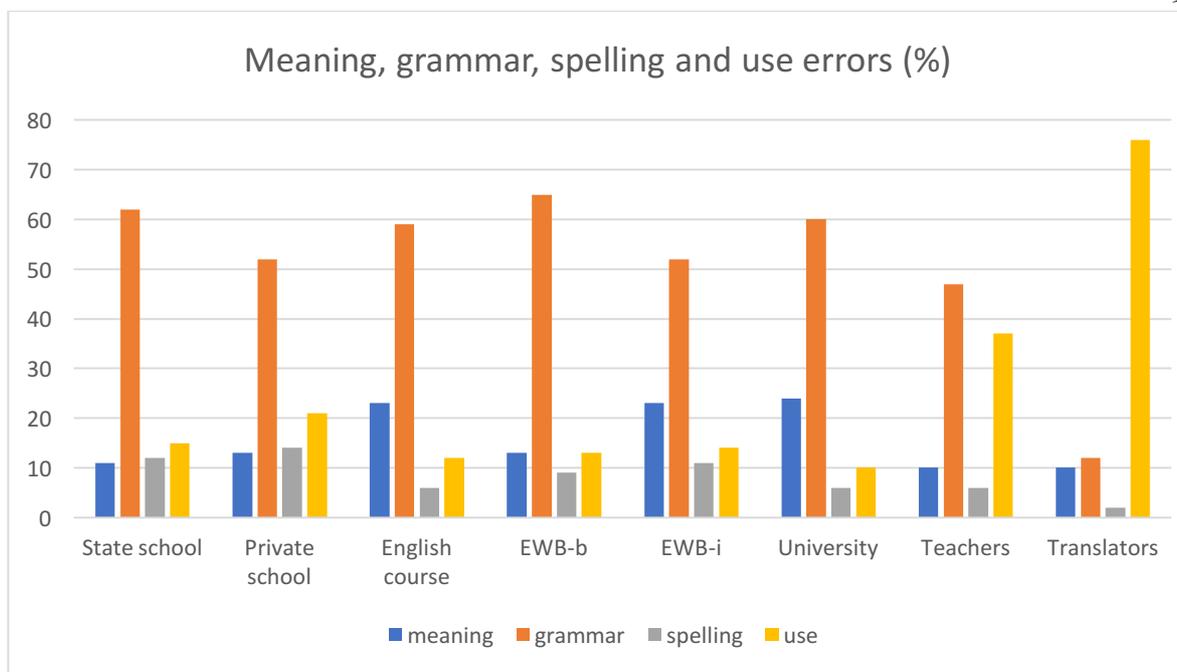


Figure 4.5: Percentage of meaning, grammar, spelling and use errors among the investigated groups

The percentages of meaning, grammar, spelling and use errors made by the investigated groups were: 11% meaning, 62% grammar, 12% spelling and 15% use (state school); 13% meaning, 52% grammar, 14% spelling and 21% use (private school); 23% meaning, 59% grammar, 6% spelling and 12% use (English course); 13% meaning, 65% grammar, 9% spelling and 13% use (EWB-b); 23% meaning, 52% grammar, 11% spelling and 14% use (EWB-i); 24% meaning, 60% grammar, 6% spelling and 10% use (university); 10% meaning, 47% grammar, 6% spelling and 37% use (teachers); and 10% meaning, 12% grammar, 2% spelling and 76% use (translators).

As learners progress on a proficiency scale, the occurrences of overt, global and interlingual errors decrease (see Figures 4.3. and 4.4). Learners with a basic command of English need more grammar and spelling information, given that their errors are more often located at these levels. Learners with a more advanced command of English, on the other hand, need more use information. The implications of these results will be further discussed in Chapter 7 as they were used to answer some of the research questions of the present thesis. In the next chapter, I present the results from participants' look-up strategy reports and their responses to some of the items of the Post-Task Questionnaire.

5. RESULTS: LOOK-UP STRATEGIES

In this chapter, I present participants' responses to some of the Post-Task Questionnaire items compared with the results of their look-up strategies. These are separated by group and type of task performed (translation into Portuguese language, free-writing, translation into English and comprehension). The Post-Task Questionnaire items which are covered in this chapter are those directly related to reference source use, as opposed to those dealing with personal and institutional educational context, which were presented in the Chapter 3 (Section 3.4). The final section of this chapter presents an overview of the results of the sample as a whole (61 participants).

5.1. State school students

This group was composed of 6 high school students from a state institution.

5.1.1. Preferred reference source and context of usage

In items 9 and 10 of the Post-Task Questionnaire, subjects were asked to specify the situations in which they normally consult dictionaries and their preferred type of dictionary (see Appendix 2a and 2b). In item 9 there were eight answer options including 'when I need to perform grammar exercises'; however, in this section I focus particularly on the options that can be compared with the results of the look-up strategies employed by the subjects to perform the main tasks.

5.1.1.1. Translation into native language

In the Post-Task Questionnaire, 5 of the 6 participants (83%) reported using some kind of dictionary to perform receptive translation tasks. A similar result appeared when analysing the reported look-up strategies of those who performed this task. In other words, the same participants who reported using dictionaries used them to perform the task. However, the frequency of dictionary use in this task was very low when compared to the use of the most popular translation software (Google Translate). Of the 69 words, clauses and phrases, searched for, 57 were searched for using Google Translate (83%), but only 12 using dictionaries (17%). No other type of reference source was used by this group to perform this task.

Regarding the type of dictionary used, 5 participants reported using exclusively bilingual dictionaries and just one reported using both bilingual and monolingual dictionaries to perform EFL tasks. The reports of the look-up strategies, however, revealed that only bilingual dictionaries were used to perform this task.

5.1.1.2. Free-writing task

One participant reported in the questionnaire using dictionaries to ‘write a text in English from scratch’. However, the look-up strategy reports revealed that no one in this group used any kind of dictionaries to perform the free-writing task. In fact, the frequency of usage of any reference source was very low in this task. In the produced texts, only one word was consulted and the participant chose Google Translate to do it.

5.1.1.3. Translation into foreign language

In item 9 of the Post-Task Questionnaire, 4 participants (67%) reported using dictionaries to perform L1-L2 translation tasks. However, a very different percentage appears when analysing the look-up strategy reports of those who performed this task (three participants). Only one participant (33%) used a dictionary; both of the others (67%) opted for Google Translate to perform this task.

Of the 54 lexical items consulted, 51 were searched for using Google Translate (94%), but only 3 using dictionaries (6%). Once again, no other type of reference source was used by this group to perform this task.

The reports reveal that only bilingual dictionaries were used in this task.

5.1.1.4. Comprehension task

In the comprehension task, the text in English had seven underlined words. Participants were asked to provide whenever it was possible an appropriate equivalent in Portuguese within the context or a paraphrase explaining the meaning of the underlined word. Subjects were expected to show that they were able to understand the text in the foreign language. In the Post-Task Questionnaire, just one of the participants (17%) reported using some kind of dictionary to ‘understand a text in English’. However, in the comprehension task all the three participants consulted dictionaries. In fact, in this task the frequency of dictionary use was higher than any other task. Of the 21 words consulted, 9 were in dictionaries (43%) and 12 in Google Translate (57%). Once again, only bilingual dictionaries were used to perform this task and besides dictionaries and Google Translate no other reference sources were consulted.

5.1.2. Preferred reference source format

In item 11 of the Post-Task Questionnaire, participants were asked about the reference source format of their preference. Among the options there were printed, electronic or online dictionaries. In this item, participants could mark one answer or more.

Although 3 participants claimed to also like printed reference sources, only online sources were consulted to perform all the four tasks.

5.1.3. The importance of cost

In item 12 of the Post-Task Questionnaire, participants were asked if price is a factor that influences their choice of reference source.

Five (83%) out of 6 participants reported that cost is not important when choosing a reference source and the most recurrent justification was because, in state schools, the government provides good dictionaries for free. However, when comparing this information with the reported look-up strategies, we see that that none of the participants used the dictionaries provided by the school or by the experiment. Besides, only online free references sources were used to perform the tasks.

5.1.4. Other preferred reference sources

In item 13 of the Post-Task Questionnaire, participants were asked to indicate which reference sources, other than dictionaries, they normally consult to perform EFL tasks. Participants could mark more than one answer option. The answer options were: web-browsers (e.g. Google search-bar), online translation software (e.g. Google Translate), Q&A websites (e.g. answers.com), online encyclopaedias (e.g. Wikipedia), ‘I don’t consult any other sources rather than dictionaries’, and ‘another unlisted source’.

In the Post-Task Questionnaire, of the 6 investigated subjects, 5 (83%) reported using automatic translation tools, 2 (33%) web-browsers, and 1 (17%) indicated that he/she did not use any other reference source than dictionaries. However, a comparison between these results and the reported look-up strategies reveals that 100% of the group used Google Translate at some point in the tasks. In fact, all the lexical items searched for outside dictionaries (41 words) were in Google Translate. Unlike the results of the Post-Task Questionnaire, there are no records of usage of web-browsers or any other reference sources listed in item 13.

5.1.5. Information often searched for

In item 14 of the Post-Task Questionnaire, participants were asked to indicate the type of information that they normally search for when consulting dictionaries. This question specifically addressed the use of dictionaries. However, most of the participants interpreted it broadly, revealing also the type of information they normally search for in any type of reference source. Due to this often broad interpretation and the fact that frequency of dictionary consultation was very low in many of the investigated groups, participants’ responses to this item were compared with the records of usage of any reference source that they might have used to perform the tasks – not only dictionaries. In the participants’ look-up strategy reports, the reason why a given word was searched for in a reference source was not always specified (e.g. “I used Google web-browser to check the spelling of the word

neighbourhood”). However, the consulted reference source itself can sometimes be indicative of the type of information that the participant was looking for – for example, whenever Google Images was consulted, it can be assumed that the participant was looking for illustrative examples (images) of a given lexical unit.

In item 14 of the questionnaire, all 6 participants reported searching for definition/equivalent of a given word, 2 (33%) reported searching for spelling, and 2 (33%) for grammar information. However, the analysis of their look-up strategy reports suggests different results.

In the translation into native language task, all participants who performed this task searched for equivalents (translation) and 1 participant (33%) searched for both equivalents and usage of a given word. Yet, the percentage of the search for usage was very low when compared to the search for equivalents. Of the 69 consulted lexical items, just 1 (less than 2%) was consulted for usage. Google Translate was the reference source used by this participant to search for the usage of a lexical item.

In the free-writing task, none of the participants consulted any type of reference source.

In the translation into foreign language task, all participants used the reference sources exclusively to search for equivalents. There is no record of reference source consultation to search for either spelling or grammar information as was indicated by the Post-Task Questionnaire. All 54 (100%) lexical items were consulted for equivalents.

In the comprehension task, all participants consulted reference sources when searching for equivalents. All 21 (100%) lexical items were consulted for equivalence.

Taking the four tasks together, translation equivalence was almost exclusively the only information searched for by all 6 participants. Of the 144 lexical items consulted, 143 (approx. 99%) were consulted for equivalence and just 1 (approx. 1%) for usage (see Figure 5.1).

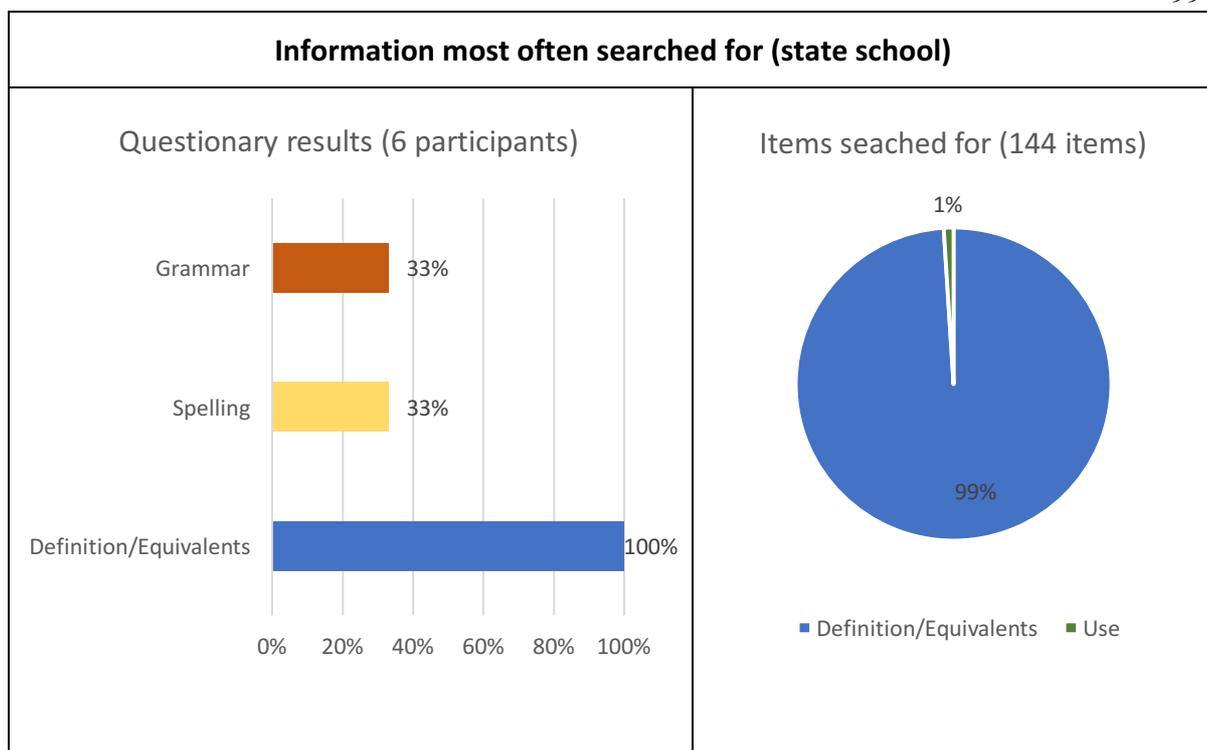


Figure 5.1: Information most often searched for (state school): a contrast between questionnaire results and task results

Figure 5.1 illustrates the contrast between participants' answers to the item 14 of the questionnaire with the aim of lookups in the reference sources.

5.2. Private school students

This group was composed of 12 high school students from a private institution.

5.2.1. Preferred reference source and context of usage

5.2.1.1. Translation into native language

In the Post-Task Questionnaire, 6 of the 12 participants (50%) reported using some kind of dictionary to perform translation tasks from English into Portuguese. However, quite a different percentage appeared in the analysis of the reported look-up strategies of those six participants who performed this task. Only 2 participants (33%) used dictionaries to translate the task text into Portuguese. The frequency of dictionary use in this task was lower when compared to that of the online translation software, Google Translate. Of the 29 consulted lexical items, 15 were searched for using Google Translate (52%), and 10 using dictionaries (34%). The percentage of usage of other reference sources was very low. Only 4 (14%) lexical items were searched for in other sources: 3 using web-browser (Google search-bar) and 1 using an online encyclopaedia (Wikipedia).

Regarding the type of dictionary normally used, 6 participants reported using bilingual dictionaries (50%), 3 using monolingual dictionaries (25%), 2 using learners' dictionaries (17%), and 4 (33%) reported not using any kind of dictionary to perform EFL

tasks. The reports of the look-up strategies, however, revealed that only bilingual dictionaries were used to perform this task.

5.2.1.2. Free-writing task

In item 9 of the Post-Task Questionnaire, 6 out of 12 (50%) participants reported using dictionaries to ‘write a text in English from scratch’. However, the look-up strategy reports revealed that none of the 6 participants who performed the free-writing task used any kind of dictionary. In fact, subjects from this group did not consult any reference source to perform this task.

5.2.1.3. Translation into foreign language

In item 9 of the Post-Task Questionnaire, 6 participants (50%) reported using dictionaries to translate from Portuguese into English. However, a very different percentage appeared when analysing the reported look-up strategies. Of the 6 participants who performed this task, just 1 of the participants (17%) used a dictionary; all the others (83%) opted for Google Translate.

Of the 42 consulted words, clauses or phrases, 40 were searched for using Google Translate (95%), and only 2 using dictionaries (5%). Once again, no other type of reference source was used by this group to perform this task.

The reports revealed that only monolingual dictionaries were used in this task.

5.2.1.4. Comprehension task

In the Post-Task Questionnaire, just 1 of the participants (8%) reported using some kind of dictionary to ‘understand a text in English’. A similar result appeared when analysing their reported look-up strategies. In this case, the results of the look-up strategy analysis match the answers given by the participants in item 9 of the questionnaire. This task had a low percentage of consultation taking into account all possible reference sources; the use of dictionaries and Google Translate was balanced. Of the 10 words searched for, 5 were in dictionaries (50%) and 5 in Google Translate (50%). Only monolingual dictionaries were used to perform this task, and besides dictionaries and Google Translate no other reference source was consulted.

5.2.2. Preferred reference source format

Although 2 participants (17%) claimed to like printed reference sources, only online sources were consulted to perform the four tasks. Just 1 participant (8%) claimed to like the app format and the same percentage was observed in the analysis of the reports of their look-up strategies.

5.2.3. The importance of cost

In item 12 of the Post-Task Questionnaire, 9 out of 12 participants (75%) reported that cost is important when choosing a reference source and the most recurrent justification was because there is no point in paying for content that is available for free on the web. Two participants (17%) stated that they do not mind paying for dictionaries and other reference sources because expensive things tend to be better quality. One participant (8%) did not answer this question. The reports of their look-up strategies reveal that only free online references sources were used to perform the tasks. Even the dictionary in app format used by one of the participants was a free reference source.

5.2.4. Other preferred reference sources

In item 13 of the Post-Task Questionnaire, of 12 investigated subjects, 9 (75%) reported using automatic translation tools, 7 (58%) web-browsers, 1 (8%) automatic answer tools, 2 (17%) online encyclopaedias, and 1 (8%) reported using an unlisted source (Linguee.com). The results of the analysis of the reported look-up strategies reveal that 92% of the group (11 participants) used Google Translate at some point in the main tasks. A web-browser (Google search bar) and an online encyclopaedia were used by one participant each (8%).

Of the lexical items searched for outside dictionaries (64 words), 60 were in Google Translate (94%), 3 in Google search-bar (5%), and 1 in Wikipedia (1%). Unlike the results of the Post-Task Questionnaire, there are no records of usage of Linguee or any other reference sources listed in item 13.

5.2.5. Information often searched for

In item 14 of the questionnaire, of the 12 participants, 9 (75%) reported searching for the equivalent/definition of a given word, 8 (67%) reported searching for spelling, 2 (17%) for grammar information, 4 (33%) for use information, and 5 (42%) for examples. However, the analysis of their look-up strategy reports revealed different results.

In the translation into native language task, all the 6 participants who performed this task (100%) searched for equivalents most often in Google Translate, 1 participant (17%) used Google web-browser to search for spelling, and another 1 (17%) used Wikipedia to search for use information. Once again, the consultation for other types of information was very low when compared to equivalents. Of the 29 consulted lexical items, just 2 (7%) were consulted for other reasons: 1 (3%) for spelling and 1 (3%) for use information.

In the free-writing task, none of the participants consulted any type of reference source.

In the translation into foreign language task, all 6 participants who performed the task (100%) used the reference sources to search for equivalents. One (17%) of the

participants used a monolingual dictionary to search for definitions. Of the 42 lexical items searched for, 40 (95%) were searched for translated equivalents and only 2 (5%) for definitions.

In the comprehension task, of the 6 participants who performed this task, 3 (50%) consulted reference sources to search for equivalents, and 1 (17%) used monolingual dictionaries to search for definitions. The other participants did not consult any type of reference source to perform this task. Of the 10 lexical items searched for, 5 (50%) were searched for translated equivalents and the other 5 (50%) for definitions.

Taking all four tasks together, translation equivalence was the information most often searched for. Of the 81 lexical items looked up, 72 (89%) were searched for equivalents, 7 (9%) for definitions, 1 (1%) for spelling and 1 (1%) for use. Unlike the results of the questionnaire, there is no record of participants consulting reference sources seeking grammar information or examples.

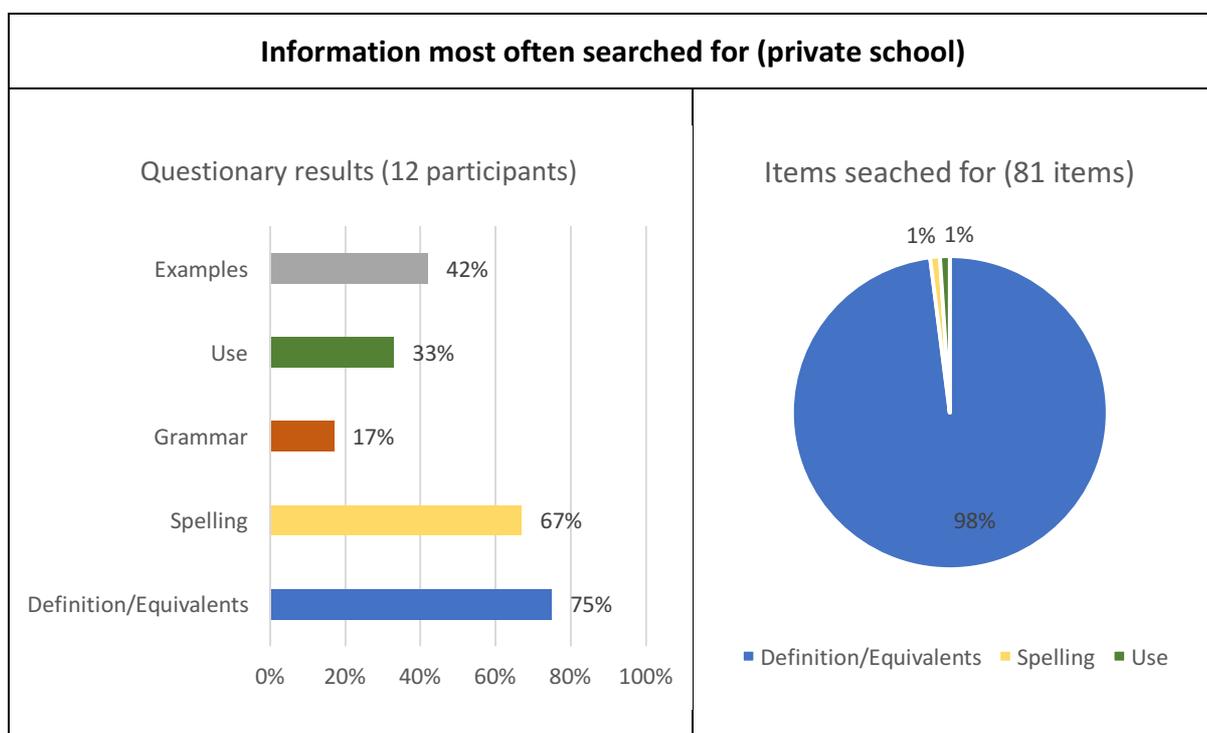


Figure 5.2: Information most often searched for (private school): a contrast between questionnaire results and task results

Figure 5.2 illustrates the contrast between participants' answers to the item 14 of the questionnaire with the aim of lookups in the reference sources.

5.3. English course students

This group was composed of 5 students taking an English course at a private language school.

5.3.1. Preferred reference source and context of usage

5.3.1.1. Translation into native language

In item 9 of the Post-Task Questionnaire, 4 of the 5 participants (80%) reported using some kind of dictionary to translate texts from English into Portuguese. However, a different percentage appeared in the analysis of the reported look-up strategies. In this task, all participants who performed this task used at least one type of dictionary to search for words. The frequency of dictionary use in this task was very high when compared to other reference sources. Of the 35 consulted lexical items, 34 (97%) were searched for using dictionaries, with just 1 (3%) using another type of reference source, a didactic book provided by the institution. There is no record of participants using any other reference source to perform this task.

In item 10 of the Post-Task Questionnaire, all 5 participants (100%) reported using bilingual dictionaries to translate from English into Portuguese, 1 using both bilingual and monolingual dictionaries (20%), 2 using both bilingual and learners' dictionaries (40%), and 1 using both bilingual and semi-bilingual dictionaries (20%). The reports of the look-up strategies, however, revealed that only 1 participant (20%) attempted to use a monolingual learners' dictionary. There is no record of use of monolingual or semi-bilingual dictionaries to perform this task.

5.3.1.2. Free-writing task

In item 9 of the Post-Task Questionnaire, all 5 participants (100%) reported using dictionaries to 'write a text in English from scratch'. However, the report of their look-up strategies revealed that no one, of those who performed this task, used any kind of dictionary to perform the free-writing. In fact, subjects from this group did not consult any reference source to write the text in English.

5.3.1.3. Translation into foreign language

In item 9 of the Post-Task Questionnaire, once again, all 5 participants (100%) reported using dictionaries to translate a text from Portuguese into English. The same percentage was observed in the look-up strategies reports of those who performed this task. In other words, all 3 participants used at least one type of dictionary to perform this task.

Of the 16 lexical items looked up, 14 were searched for using dictionaries (87%), with just 2 (13%) using a didactic book provided by their English course as a reference source. Besides dictionaries and a didactic book, no other type of reference source was used by this group to perform this task.

The reports revealed that only bilingual dictionaries were used in this task.

5.3.1.4. Comprehension task

In item 9 of the Post-Task Questionnaire, 2 of the participants (40%) reported using some kind of dictionary to ‘understand a text in English’. However, the comprehension task revealed that all participants who performed this activity used dictionaries for this purpose.

All the 18 words searched for were in bilingual dictionaries. No other types of reference source were used to perform this task.

5.3.2. Preferred reference source format

Although 2 participants (40%) claimed, in item 11 of the Post-Task Questionnaire, to also like online besides printed reference sources, only printed sources were consulted to perform all the four tasks.

5.3.3. The importance of cost

In item 12 of the Post-Task Questionnaire, 3 participants (60%) out of 5 reported that cost is not important when choosing a reference source and the most recurrent justification was that they claimed not to mind paying for good quality work. Two participants (40%) stated that cost does matter and that they always go for the cheapest reference sources. The reports of their look-up strategies reveal that only printed and paid-for reference sources were used to perform the tasks.

5.3.4. Other preferred reference sources

In item 13 of the Post-Task Questionnaire, of the 5 investigated subjects, 4 (80%) reported using online translation software, 1 (20%) web-browsers, 4 (80%) online encyclopaedias. However, the results of the analysis of the reported look-up strategies point in another direction. None of the participants used any of the claimed reference sources.

All the lexical items searched for outside dictionaries (3 words), were in the didactic English book used by the class.

5.3.5. Information often searched for

In item 14 of the questionnaire, all 5 participants (100%) reported searching for definition/equivalent and spelling of a given word when they consult reference sources, 3 (60%) reported searching for grammar information, 2 (40%) for use information, and 1 (20%) for examples. However, the analysis of their look-up strategy reports shows different results.

In the translation into native language task, all the 3 participants (100%) who performed this task searched for equivalents almost exclusively in bilingual dictionaries, 1 participant (33%) consulted a monolingual dictionary to search for a definition. Consultation

for other types of information was very low when compared to equivalents. Of the 35 lexical items searched for, just 1 (3%) was for a definition.

In the free-writing task, none of the participants consulted any type of reference source.

In the translation into foreign language task, all the 3 participants who performed this task (100%) used the reference sources to search for equivalents. One of the participants (33%) used a monolingual dictionary to search for a definition. However, consultation for equivalence was much higher than for definition. Of the 16 looked up lexical items, 15 (94%) were searched for translated equivalents and only 1 (6%) for definition.

In the comprehension task, all the 3 participants who performed this activity (100%) consulted reference sources searching exclusively for translated equivalents. Equivalence was the information searched for by all participants in the 18 consultations.

Taking all four tasks together, translation equivalence was the information most often searched for. Of the 69 looked up lexical items, 67 (97%) were searched for equivalents, and only 2 (3%) for definitions. Unlike the results of the questionnaire, there are no records of participants consulting reference sources seeking spelling, grammar information, use information or examples.

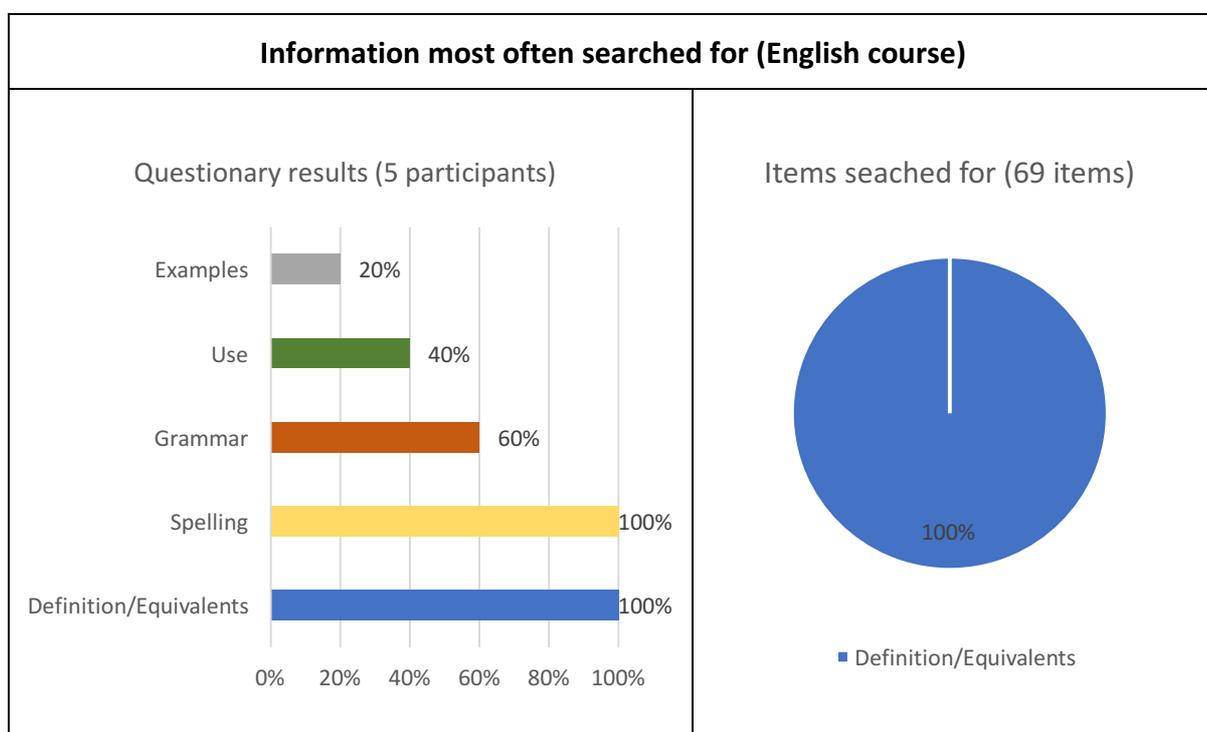


Figure 5.3: Information most often searched for (English course): a contrast between questionnaire results and task results

Figure 5.3 illustrates the contrast between participants' answers to the item 14 of the questionnaire with the aim of lookups in the reference sources.

5.4. English Without Borders – beginners (EWB-b)

This group was composed of 14 university students from a governmental program.

5.4.1. Preferred reference source and context of usage

5.4.1.1. Translation into native language

In item 9 of the Post-Task Questionnaire, 9 of the 14 participants (64%) reported using some kind of dictionary to translate from English into Portuguese. However, a different percentage appeared when analysing the reported look-up strategies of those 7 participants who performed this task. Just 3 participants (43%) used dictionaries to translate the task.

The frequency of dictionary use in this task is very low when compared to the use of Google Translate. Of the 83 lexical items consulted, 67 were searched for using Google Translate (81%), and only 16 using dictionaries (19%). No other type of reference source was used by this group to perform this task.

Nine participants (64%) reported using bilingual dictionaries, 2 (14%) using both bilingual and monolingual dictionaries and just 1 (7%) reported using learners' dictionaries alongside bilingual and monolingual dictionaries to perform EFL tasks. However, reports reveal that only bilingual dictionaries were used to perform this task. The 4 participants (29%) who claimed not to use dictionaries in fact did not consult them to translate the task.

5.4.1.2. Free-writing task

Six participants (43%) reported in the questionnaire using dictionaries to 'write a text in English from scratch'. However, the reported look-up strategies revealed that just 1 (14%) of the 7 participants who performed this task used dictionaries to perform the activity. Once again, the frequency of use of any reference source was very low in this task. In the texts produced, only 9 lexical items were looked up and the majority (78%, 7 words) was in Google Translate.

5.4.1.3. Translation into foreign language

In item 9 of the Post-Task Questionnaire, 7 participants (50%) reported using dictionaries to perform translation tasks into foreign language. However, a different percentage appeared when analysing the reports of those who performed this task. Only 2 participants (29%) used a dictionary; all the others (71%) opted for Google Translate to perform this task.

Of the 47 looked up words, clauses and phrases, 40 were searched for using Google Translate (85%), and only 7 using dictionaries (15%). No other type of reference source was used by this group to perform this task.

Regarding the type of dictionary used, the reports reveal that only bilingual dictionaries were used in this task.

5.4.1.4. Comprehension task

None of the participants reported, in item 9 of the Post-Task Questionnaire, using dictionaries to ‘understand a text in English’. However, in the comprehension task, of the 7 participants who performed this activity, 2 (29%) chose to consult dictionaries to understand the meaning of the underlined words. In this task, the frequency of dictionary use was again lower than the use of Google Translate. Of the 47 lexical items searched for, 7 were in dictionaries (15%) and 40 in Google Translate (85%). Besides bilingual dictionaries and Google Translate, no other reference source was consulted.

5.4.2. Preferred reference source format

Although 4 participants (29%) claimed to also like printed reference sources, only electronic sources were consulted to perform the four tasks (online or app format).

5.4.3. The importance of cost

Eleven (79%) out of 14 participants stated that price is an important factor when choosing a reference source, and the most recurrent justification was because dictionaries and didactic material tend to be very expensive in Brazil and participants do not make enough money to afford them. In fact, by analysing their reported look-up strategies, it is possible to observe that none of the participants used a non-free reference source.

5.4.4. Other preferred reference sources

In item 13 of the Post-Task Questionnaire, 13 of the 14 investigated subjects (93%) reported using online translation software, 12 (86%) web-browsers, 2 (14%) online encyclopaedias and 1 (7%) an unlisted reference source (Linguee). The reported look-up strategies reveal, however, that, besides dictionaries, Google Translate was the only reference source used. Unlike the results of the Post-Task Questionnaire, there are no records of usage of web-browsers or any other reference source, whether or not listed in item 13.

5.4.5. Information often searched for

In item 14 of the questionnaire, of the 14 participants, 11 (79%) reported searching for the definition/equivalent of a given word, 9 (64%) reported searching for spelling, 2 (14%) for grammar information, 4 (29%) for use information, and 2 (14%) for examples. Once again, the analysis of their look-up strategy reports shows different results.

In the translation into native language task, all the 7 participants who performed this activity (100%) searched exclusively for equivalents and most often using Google Translate. Translation equivalence was the information sought for all 83 lexical items consulted in this task.

In the free-writing task, of the 7 participants who performed this activity, 4 (57%) used reference sources to search for equivalents. The other participants did not consult any reference source to perform this task. Translation equivalence was the information sought for all 9 lexical items consulted in this task.

In the translation into foreign language task, all the 7 participants who performed this task (100%) used the reference sources to search for equivalents. One of the participants (14%) used Google Translate to check the correct spelling of a word. Of the 47 lexical items searched for, 46 (98%) were looked up for equivalents and only 1 (2%) for spelling.

In the comprehension task, all the 7 participants who performed this activity (100%) consulted reference sources searching for equivalents, and 1 participant (14%) used a monolingual dictionary to search for definitions. Of the 47 lexical items searched for, 44 (94%) were looked up for equivalents and the other 3 (6%) for definitions.

Taking all four tasks together, translation equivalence was again the information most often searched for. Of the 186 lexical items searched for, 182 (98%) were for equivalence, 3 (less than 2%) for definitions, and 1 (less than 1%) for spelling. Contrasting with the results of the questionnaire, participants in these tasks did not consult reference sources for grammar information, use information or examples.

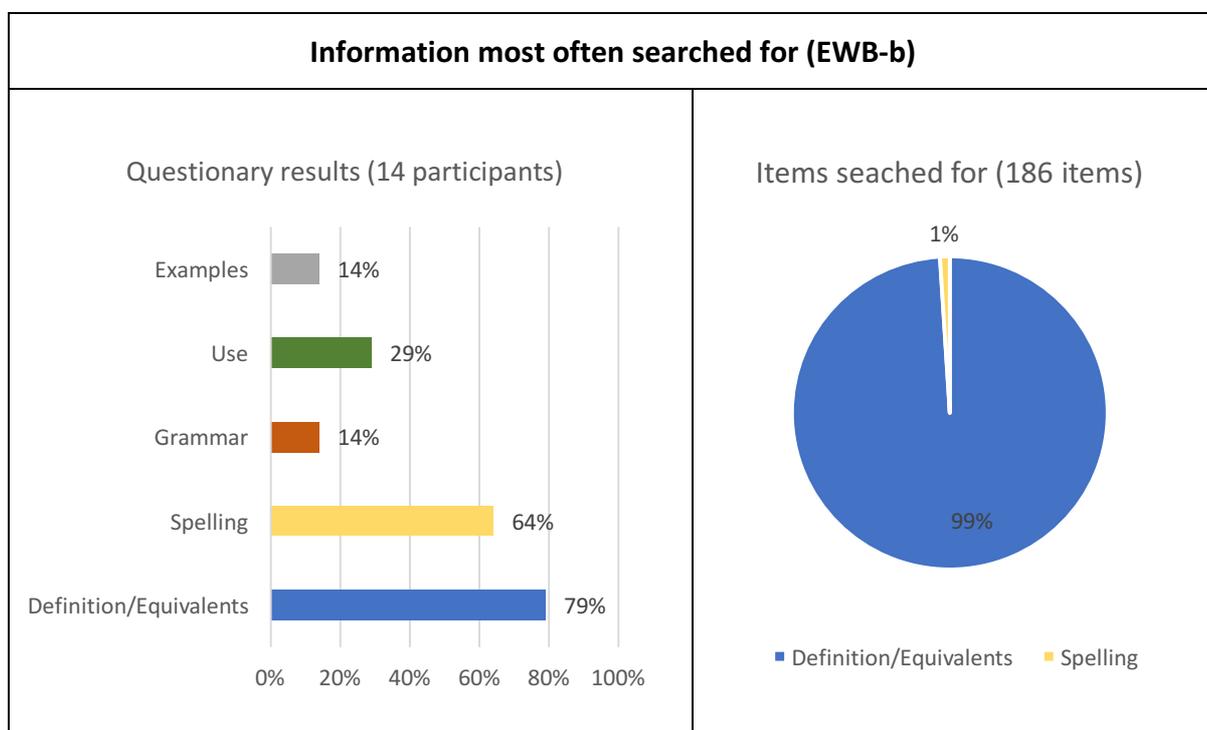


Figure 5.4: Information most often searched for (EWB-b): a contrast between questionnaire results and task results

Figure 5.4 illustrates the contrast between participants' answers to the item 14 of the questionnaire with the aim of lookups in the reference sources.

5.5. English Without Borders – intermediate (EWB-i)

This group was composed of 6 university students from a governmental program.

5.5.1. Preferred reference source and context of usage

5.5.1.1. Translation into native language

In item 9 of the Post-Task Questionnaire, 4 of 6 participants (67%) reported using some kind of dictionary to translate from English into Portuguese. The analysis of their reported look-up strategies reveals that all participants who performed this task (100%) resorted to some kind of dictionary.

The frequency of dictionary use was very high compared to other reference sources. Of the 10 lexical items searched for, 9 were in dictionaries (90%), and just 1 (10%) in Google Translate.

In item 10 of the Post-Task Questionnaire, 5 out of 6 participants (83%) reported using bilingual dictionaries, and 1 (17%) reported that he/she did not use dictionaries to perform any EFL tasks. Reports revealed that all the 3 participants who performed this task resorted to bilingual dictionaries. Reports also reveal that 2 of the 3 participants (67%) used both bilingual and monolingual dictionaries to carry out the task. The frequency of monolingual dictionary consultation was, nonetheless, very low when compared to bilingual dictionary use. Of the 9 lexical items searched for in dictionaries, 7 (78%) were searched for in bilingual dictionaries, and only 2 (22%) in monolingual dictionaries.

5.5.1.2. Free-writing task

Out of 6 participants, 4 (67%) reported in the questionnaire using dictionaries to perform free-writing tasks. However, the reported look-up strategies revealed that just 1 (33%) of the 3 participants who performed this task consulted a dictionary. Once again, the frequency of use of any reference source was very low in this task. In the produced texts, just 1 lexical item was searched for in a bilingual dictionary. No other reference sources were consulted in this task.

5.5.1.3. Translation into foreign language

In item 9 of the Post-Task Questionnaire, 3 (50%) out of 6 participants reported using dictionaries to translate into the foreign language. When analysing the reports of those who performed this task we can see that all 3 participants (100%) used at least one type of dictionary in this activity.

Of the 12 lexical items searched for, 6 were looked up using dictionaries (50%), 5 using Google Translate (42%), and 1 (8%) using an unlisted reference source (Linguee).

The reports reveal that only bilingual dictionaries were used in this task.

5.5.1.4. Comprehension task

None of the 6 participants reported, in item 9 of the Post-Task Questionnaire, using dictionaries in comprehension tasks. However, of the 3 participants who performed this activity, 2 (67%) consulted dictionaries to understand the meaning of the underlined words.

Regarding the frequency of dictionary use, all 5 lexical items searched for (100%) were looked up in dictionaries.

Regarding the type of dictionary used, the reports reveal that only bilingual dictionaries were used in this task.

Besides bilingual dictionaries, no other reference source was used to perform this task.

5.5.2. Preferred reference source format

Although all 6 participants (100%) claimed to like online reference sources, reports reveal that the provided printed dictionaries were used at least once by all participants.

5.5.3. The importance of cost

All 6 participants (100%) stated that cost is important when choosing a reference source and the most recurrent justification was because dictionaries are very expensive in Brazil and there are free sources available online.

5.5.4. Other preferred reference sources

In item 13 of the Post-Task Questionnaire, of 6 investigated subjects, 4 (67%) reported using online translation software, 4 (67%) web-browsers, 2 (33%) Q&A websites, 2 (33%) online encyclopaedias, and 1 (17%) marked the option 'other' and specified it as Linguee. However, only Google Translate and Linguee appeared in their reports. Of all the lexical items searched for outside dictionaries (6 words), 5 (83%) were in Google Translate and just 1 (17%) in Linguee. Unlike the results of the Post-Task Questionnaire, there are no instances of use of web-browsers or online encyclopaedias to perform any of the tasks.

5.5.5. Information often searched for

In item 14 of the questionnaire, of the 6 participants, 5 (83%) reported consulting reference sources to search for definitions/equivalents, 4 (67%) reported searching for spelling, 1 (17%) for grammar information, 2 (33%) for use information, and 2 (33%) for examples. However, the analysis of their look-up strategy reports reveals different results.

In the translation into native language task, all the participants who performed this task (100%) searched for equivalents most often in bilingual dictionaries, and 2 participants (67%) used monolingual dictionaries to search also for definitions. The percentage of the

search for other types of information was very low when compared to equivalents. Of the 9 lexical items searched for, just 2 (22%) were looked up for definitions.

In the free-writing task, just 1 lexical item was looked up by one of the participants. The aim of this consultation was to check the spelling of a word. For this, the participant used a bilingual dictionary.

In the translation into foreign language task, all the 3 participants who engaged in this activity (100%) used the reference sources to search for equivalents. Translation equivalence was the information sought for all the 12 looked up lexical items.

In the comprehension task, all the 3 participants who performed this activity (100%) consulted the reference sources to search for equivalents. Translation equivalence was the information sought for all 5 lexical items.

Taking all four tasks together, translation equivalence was the information most often searched for. Of the 27 looked up lexical items, 24 (89%) were searched for equivalents, 2 (7%) for definitions, and 1 (4%) for spelling. Unlike the results of the questionnaire, there are no records of participants consulting reference sources seeking grammar information, usage information, or examples.

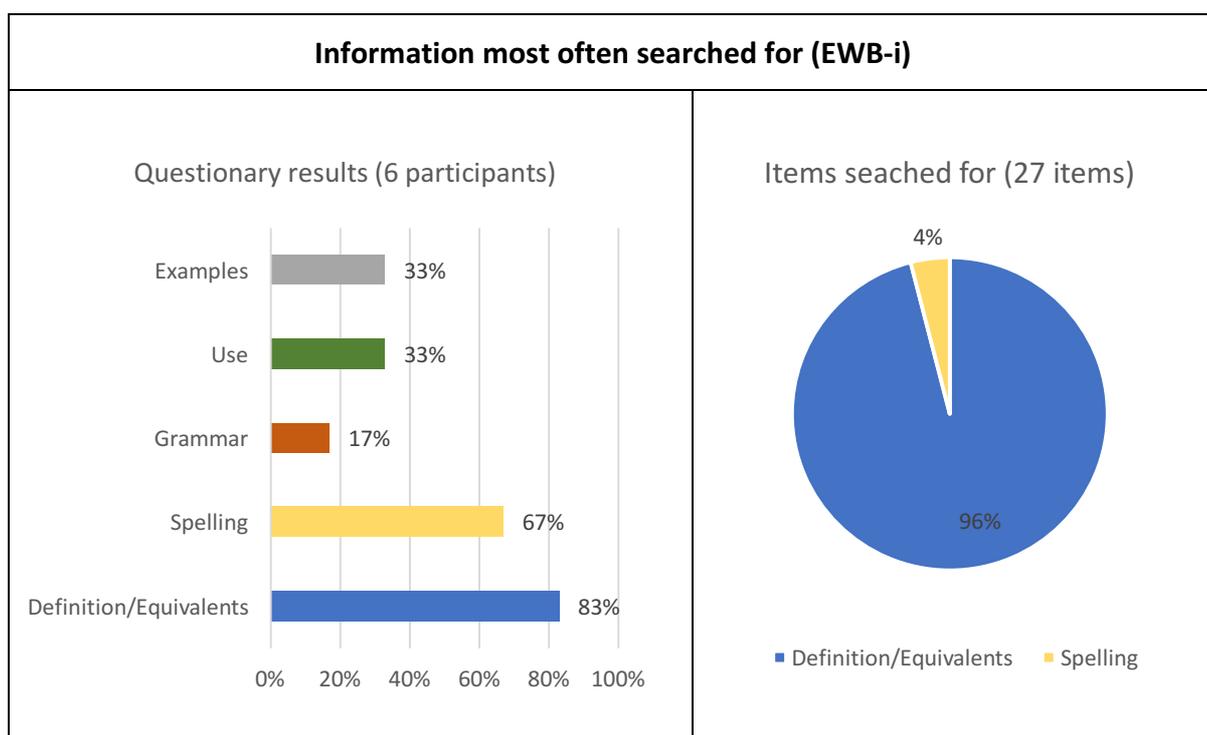


Figure 5.5: Information most often searched for (EWB-i): a contrast between questionnaire results and task results

Figure 5.5 illustrates the contrast between participants' answers to the item 14 of the questionnaire with the aim of lookups in the reference sources.

5.6. University students

This group was composed of 8 university students from a Federal university in Brazil.

5.6.1. Preferred reference source and context of usage

5.6.1.1. Translation into native language

In item 9 of the Post-Task Questionnaire, all 8 participants (100%) reported using some kind of dictionary to translate from English into Portuguese. However, the reports reveal that only 2 (50%), of the 4 participants who performed this activity, used some kind of dictionary.

The frequency of dictionary use was very low when compared to other reference sources (Google Translate). Of the 71 lexical items consulted, 6 (8%) were searched for in dictionaries.

In item 10 of the Post-Task Questionnaire, all 8 participants (100%) reported using bilingual dictionaries, and 2 of them (25%) reported using both bilingual and monolingual dictionaries to perform EFL tasks. Surprisingly, reports revealed that bilingual dictionaries were not used, and that only monolingual dictionaries were consulted to perform this task.

5.6.1.2. Free-writing task

Five participants (62%) reported in the questionnaire using dictionaries to perform this type of task. However, the reported look-up strategies revealed that none of the 4 participants who performed this task consulted a dictionary. Google Translate was the only source used by all participants to search for the 17 consulted lexical items.

5.6.1.3. Translation into foreign language

In item 9 of the Post-Task Questionnaire, all 8 participants (100%) reported using dictionaries to translate into the foreign language. However, a different percentage appeared when analysing reports of this task. Of those 4 participants who engaged in this activity, just 1 (25%) performed it with the aid of a dictionary.

Of the 30 lexical items consulted, 3 were searched for using dictionaries (10%). All the other lexical items (90%) were searched for using Google Translate.

The reports also reveal that only monolingual dictionaries were used in this task.

5.6.1.4. Comprehension task

None of the participants reported, in item 9 of the Post-Task Questionnaire, using dictionaries in comprehension tasks. However, in this task, 1 participant (25%) consulted a dictionary to understand the meaning of the underlined words.

Of the 23 consulted lexical items, 2 (9%) were searched for in dictionaries, 20 (87%) in Google Translate, and 1 (4%) in Google Images.

The reports reveal that only monolingual dictionaries were used in this task. Besides monolingual dictionaries, Google Translate and Google Images, no other reference source was used to perform this activity.

5.6.2. Preferred reference source format

Although 3 participants (37%) claimed in the Post-Task Questionnaire to like printed reference sources, reports reveal that only online sources were used in all the tasks.

5.6.3. The importance of cost

All 8 participants (100%) stated that cost is important when choosing a reference source and the most recurrent justification was because dictionaries are very expensive in Brazil and there are free sources available online.

5.6.4. Other preferred reference sources

In item 13 of the Post-Task Questionnaire, of 8 investigated subjects, 8 (100%) reported using online translation software, 8 (100%) web-browsers, 2 (25%) Q&A websites, and 6 (75%) online encyclopaedias. However, just 2 (25%) participants used reference sources other than Google Translate in the tasks. Of all the lexical items searched for outside dictionaries (97 words), 91 (94%) were in Google Translate and just 6 (6%) in web-browsers. Contrasting with the results of the Post-Task Questionnaire, there are no records of use of Q&A websites or online encyclopaedias to perform any of the tasks.

5.6.5. Information often searched for

In item 14 of the questionnaire, all 8 participants (100%) reported using reference sources to search for definitions/equivalents, 4 (50%) reported searching for spelling, 2 (25%) for grammar information, 2 (25%) for use information, 1 (12%) for examples, and 1 (12%) for frequency. Once again, the analysis of their look-up strategy reports shows different results.

In the translation into native language task, all the 4 participants (100%) who performed this activity searched for equivalents, most often using Google Translate, 2 (50%) used monolingual dictionaries to search for definitions, and 1 used Google Images to search for illustrative examples. Yet, the frequency of consultations seeking equivalents was much higher than those seeking other types of information. Of the 71 lexical items, 59 (84%) were looked up for equivalents, 6 (8%) for definitions, and the other 6 (8%) for illustrative examples.

In the free-writing task, all the 4 participants (100%) who engaged in this activity used reference sources to search exclusively for equivalents. Translation equivalence was the information sought for all 17 lexical items looked up in this task and Google Translate was the only reference source used.

In the translation into foreign language task, all the 4 participants who performed it (100%) used the reference sources to search for equivalents. One of the participants (25%) used monolingual dictionaries to check the definition of 3 words. Of the 30 lexical items searched for, 27 (90%) were looked up for equivalents and 3 (10%) for definitions.

In the comprehension task, all the 4 participants who performed it (100%) consulted reference sources searching for equivalents, 1 participant (25%) used a monolingual dictionary to search for definitions, and 1 participant (25%) used Google Images to search for illustrative examples. Of the 23 lexical items searched for, 20 (87%) were looked up for equivalents, 2 (9%) for definitions, and 1 (4%) for illustrative examples.

Taking all four tasks together, translation equivalence was again the information most often searched for. Of the 141 looked up lexical items, 123 (87%) were searched for equivalents, 11 (8%) for definitions, and 7 (5%) for examples. Despite the results of the questionnaire, there are no records of participants consulting reference sources seeking spelling, grammar information, usage information or frequency.

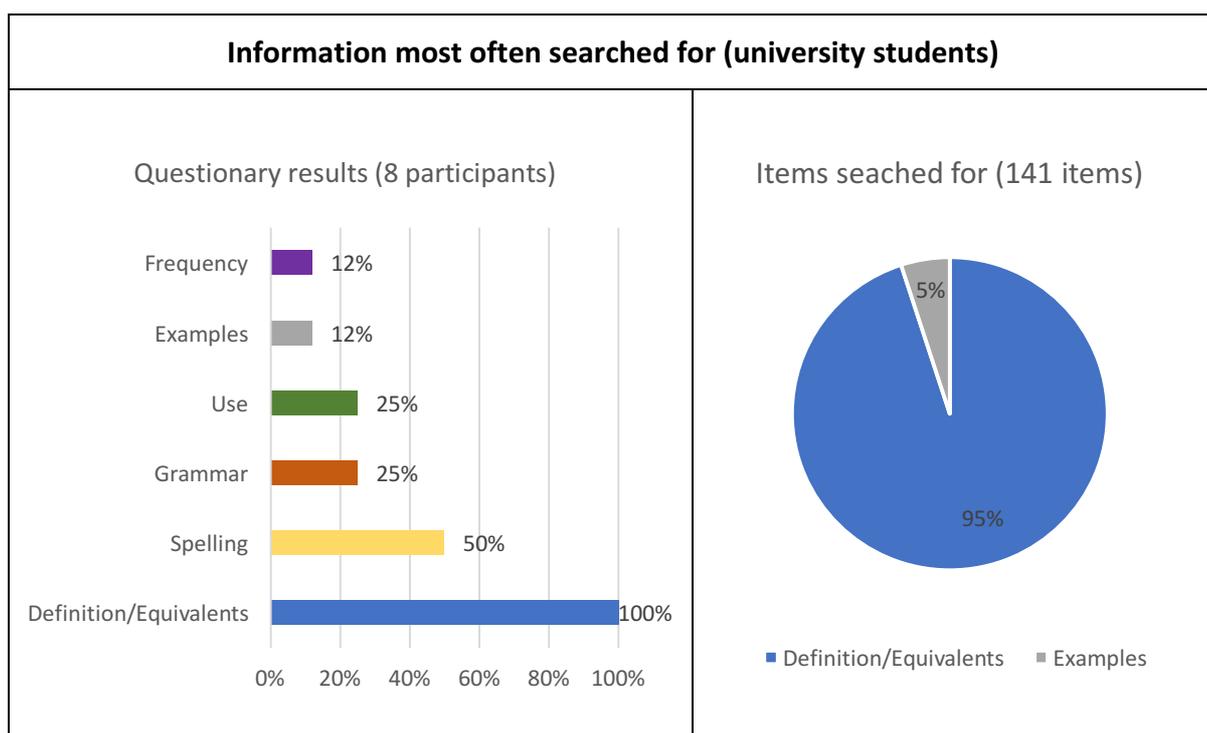


Figure 5.6: Information most often searched for (University students): a contrast between questionnaire results and task results

Figure 5.6 illustrates the contrast between participants' answers to the item 14 of the questionnaire with the aim of lookups in the reference sources.

5.7. English Teachers

This group was composed of 6 English teachers of different levels.

5.7.1. Preferred reference source and context of usage

5.7.1.1. Translation into native language

In item 9 of the Post-Task Questionnaire, 3 of 6 participants (50%) reported using some kind of dictionary to translate from English into Portuguese. However, the analysis of their reported look-up strategies reveals that just 1 participant (17%) resorted to some kind of dictionary to perform the task.

The frequency of dictionary use was very low when compared to Google Translate. Of the 18 lexical items searched for, 4 were looked up for in dictionaries (22%) and 14 in Google Translate (78%).

In item 10 of the Post-Task Questionnaire, 5 out of 6 participants (83%) reported using both bilingual and monolingual dictionaries, and 1 (17%) reported also using monolingual learners' dictionaries to perform EFL tasks. However, reports revealed that of those 3 participants who were engaged in this activity, just 1 resorted to dictionaries to do it. This participant used all the types of dictionaries reported in the questionnaire (bilingual, monolingual and learners' dictionaries). Of the 4 lexical items looked up in dictionaries, 2 (50%) were in bilingual dictionaries, 1 (25%) in a monolingual dictionary, and another 1 (25%) in a learners' dictionary.

5.7.1.2. Free-writing task

Four participants (67%) reported in the questionnaire using dictionaries to perform this type of task. However, the reported look-up strategies revealed that just 1 (33%), out of 3 participants, used a dictionary in this task. Once again, the frequency of use of any reference source was very low in this activity. In the texts produced, just 4 lexical items were searched for: 1 (25%) in a bilingual dictionary, 2 (50%) in Google web-browser and 1 (25%) in Linguee. No other references sources were consulted in this task.

5.7.1.3. Translation into foreign language

In item 9 of the Post-Task Questionnaire, 3 participants (50%) reported using dictionaries to translate into the foreign language. However, a different percentage appeared when analysing the reports. Of the 3 participants who performed this task, just 1 (33%) used dictionaries to complete it.

Of the 12 lexical items consulted, 4 were searched for using dictionaries (33%), 5 using Google Translate (42%), 2 (17%) using Google web-browser, and 1 using Linguee (8%).

Regarding the type of dictionary used, the reports reveal that only bilingual dictionaries were used in this task.

5.7.1.4. Comprehension task

All 6 participants (100%) reported, in item 9 of the Post-Task Questionnaire, using dictionaries in comprehension tasks. However, of the 3 participants who performed this task, just 1 (33%) consulted dictionaries to understand the meaning of the underlined words.

Of the 13 lexical items searched for, 2 (15%) were looked up in monolingual dictionaries, 5 (39%) in Google Translate, 4 (30%) in Google web-browser, 1 (8%) in Linguee, and 1 (8%) in Word Reference.

Regarding the type of dictionary used, the reports reveal that only monolingual dictionaries were used in this task.

5.7.2. Preferred reference source format

All 6 participants (100%) claimed to like online reference sources. Analysis of the look-up strategy reports confirms what was stated in the questionnaire.

5.7.3. The importance of cost

Five participants (83%) stated that cost is important when choosing a reference source and the most recurrent justification was because they are very expensive in Brazil and they are not a fundamental tool to teachers' work.

5.7.4. Other preferred reference sources

In item 13 of the Post-Task Questionnaire, of the 6 investigated subjects, 5 (83%) reported using online translation software, 5 (83%) web-browsers, 2 (33%) Q&A websites, 4 (67%) online encyclopaedias, and 1 (17%) marked the option 'other' and specified it as Linguee and Word Reference. The analysis of the reported look-up strategies indicates that, besides Q&A websites, all of the mentioned sources were used at least once to perform the tasks. Of all the lexical items searched for outside dictionaries (36 words), 23 (64%) were in Google Translate, 7 (19%) in Google web-browser, 3 (8%) in Linguee, 2 (6%) in Word Reference, and 1 (3%) in an online encyclopaedia. Unlike what was stated in the Post-Task Questionnaire, there are no records of use of Q&A websites to perform any of the tasks.

5.7.5. Information often searched for

In item 14 of the questionnaire, all 6 (100%) participants reported using reference sources to search for definitions and equivalents, 5 (83%) reported searching for spelling, 2 (33%) for grammar information, 4 (67%) for use information, 2 (33%) for examples, and 2 (33%) for frequency information. The analysis of their look-up strategy reports shows different results.

In the translation into native language task, all the 3 participants (100%) searched for equivalents, most often in bilingual dictionaries and Google Translate, 2 (67%) used

monolingual dictionaries to search for definitions, and 1 (33%) for use information. The search for other types of information was very low when compared to equivalents. Of the 18 looked up lexical items, 15 (83%) were searched for equivalents, 2 (11%) for definitions, and 1 (6%) for use information.

In the free-writing task, 2 participants used reference sources to search for equivalents (67%) and 2 for spelling (67%). Of the 4 lexical items looked up in this task, 2 (50%) were searched for equivalents and another 2 (50%) for spelling. Google web-browser was the reference source chosen to check the spelling. The equivalents were searched for in Linguee and in a bilingual dictionary.

In the translation into foreign language task, all 3 participants consulted the reference sources searching for equivalents. One of the participants (33%) used Google web-browser to search for the use of a lexical item. Translation equivalence was the information most often searched for. Of the 12 looked up lexical items, 11 (92%) were searched for equivalents, and just 1 (8%) for use information.

In the comprehension task, 3 participants (100%) consulted the reference sources searching for translation equivalence. Two participants (67%) used both monolingual dictionaries and Google web-browser to search for definitions, and 1 participant (33%) used Google Images to search for illustrative examples. Translation equivalence was the information most often searched for. Of the 13 looked up lexical items, 7 (54%) were searched for equivalents, 5 (38%) for definitions, and just 1 (8%) for illustrative examples.

Taking all four tasks together, translation equivalence was the information most often searched for. Of the 47 looked up lexical items, 35 (75%) were searched for equivalents, 7 (15%) for definition, 3 (6%) for spelling, 1 (2%) for use information, and 1 (2%) for illustrative examples. Unlike the results of the questionnaire, there are no records of participants consulting reference sources seeking grammar information, or frequency information.

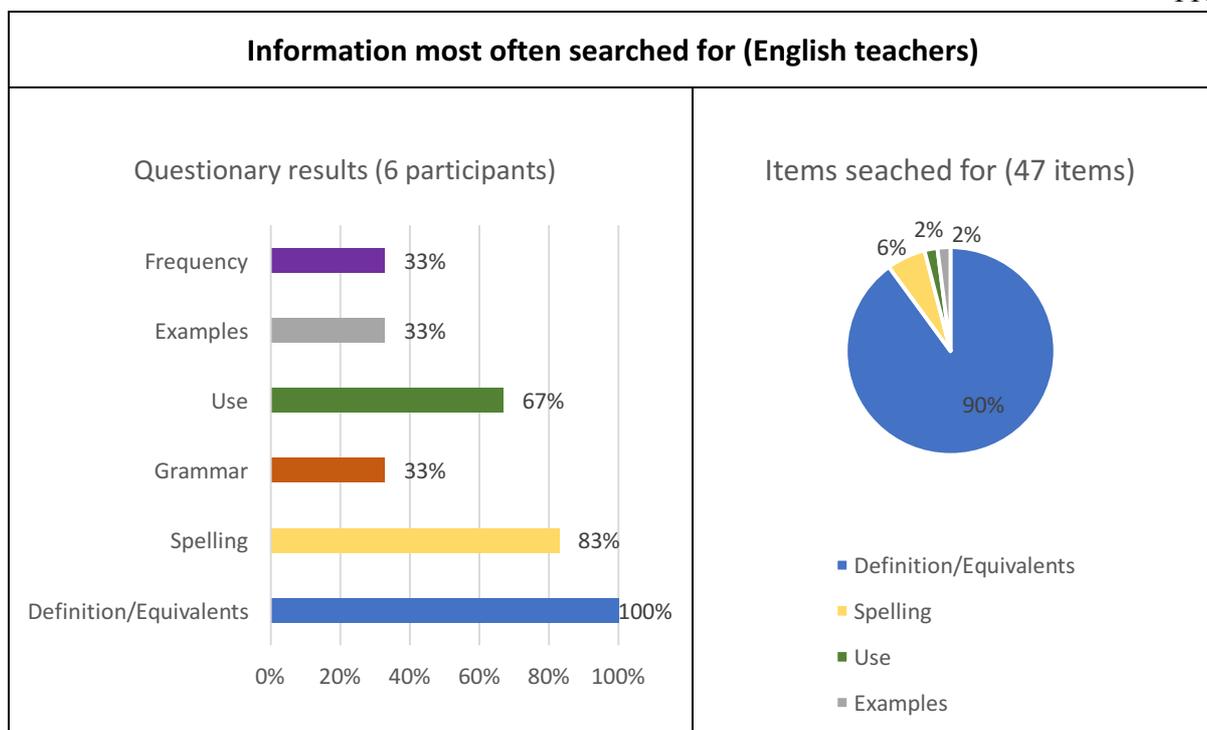


Figure 5.7: Information most often searched for (English teachers): a contrast between questionnaire results and task results

Figure 5.7 illustrates the contrast between participants' answers to the item 14 of the questionnaire with the aim of lookups in the reference sources.

5.8. English Translators

This group was composed of 4 professional English translators.

5.8.1. Preferred reference source and context of usage

5.8.1.1. Translation into native language

In item 9 of the Post-Task Questionnaire, 3 of the 4 participants (75%) reported using some kind of dictionary to translate from English into Portuguese. However, the analysis of their reported look-up strategies reveals that none of the participants resorted to dictionaries to perform this task.

In item 10 of the Post-Task Questionnaire all four participants (100%) reported using bilingual dictionaries, 2 (50%) reported using both bilingual and monolingual dictionaries, and another 2 (50%) reported using both bilingual, general monolingual and learners' dictionaries to perform EFL tasks. However, reports indicate that none of the investigated subjects who performed this task used any type of dictionary.

5.8.1.2. Free-writing task

Three participants (75%) reported in the questionnaire using dictionaries to perform to write a text in English from scratch. However, the reported look-up strategies revealed that, once again, none of the investigated subjects who performed this task consulted any type of

dictionary. The frequency of usage of any reference source was very low in this task. In the produced texts, just 1 lexical item was searched for in Google Translate. No other reference sources were consulted in this task.

5.8.1.3. Translation into foreign language

In item 9 of the Post-Task Questionnaire, 3 participants (75%) reported using dictionaries to translate into foreign language. Their look-up strategy reports reveal that the 2 participants (100%) who performed this task consulted dictionaries.

Of the 22 looked up lexical items, 7 were searched for using dictionaries (32%), 3 using Google Translate (13%), 7 using Google web-browser (32%), and 5 in other unlisted sources (23%).

The reports reveal that only general monolingual dictionaries were consulted to search for all 7 lexical items.

5.8.1.4. Comprehension task

Three participants (75%) reported, in item 9 of the Post-Task Questionnaire, using dictionaries to search for the meaning or equivalent of a given word. However, in the comprehension task none of the two investigated subjects who were assigned to this task consulted dictionaries. In fact, no reference source was used to perform this task.

5.8.2. Preferred reference source format

All 4 participants (100%) claimed to prefer online reference sources. The same percentage appeared when analysing their look-up strategy reports.

5.8.3. The importance of cost

All 4 participants (100%) stated that cost is not important when choosing a reference source and the most recurrent justification was that if they believe a given reference source is going to make their job easier they do not mind paying for it.

5.8.4. Other preferred reference sources

In item 13 of the Post-Task Questionnaire, all 4 investigated subjects (100%) claimed to use online translation software, web-browsers, and online encyclopaedias to perform tasks in English. All the mentioned sources appear in the analysis of their look-up strategy reports.

5.8.5. Information often searched for

In item 14 of the questionnaire, of the 4 participants, 3 (75%) reported using reference sources to search for definitions and equivalents, 3 (75%) for grammar information, 4 (100%) for use information, 2 (50%) for examples, and 2 (50%) for frequency information. The analysis of their look-up strategies reveals results very similar to what was reported.

In the translation into native language task, all participants who were engaged in this activity searched for equivalents, definition, use information, examples and frequency information. Of the 32 looked up lexical items, 17 (53%) were searched for equivalents, 3 (9%) for definitions, 4 (13%) for use information, 2 (6%) for examples, and 6 (19%) for frequency information.

In the free-writing task, none of the participants who were engaged in this activity consulted any reference source.

In the translation into foreign language task, the 2 participants who were engaged in this activity consulted the reference sources to search for equivalents, definition, grammar information, use information, examples and frequency information. Of the 22 lexical items consulted, 3 (13%) were searched for equivalents, 2 (9%) for definitions, 5 (23%) for grammar information, 8 (37%) for use information, 2 (9%) for examples, and another 2 (9%) for frequency information.

In the comprehension task, no reference source was used by any participant.

Taking all four tasks together, translation equivalence was the information most often searched for, though this group showed more balanced results. Of the 54 looked up lexical items, 20 (37%) were searched for translation equivalence, 5 (9%) for definitions, 5 (9%) for grammar information, 12 (22%) for use information, 8 (15%) for frequency information, and 4 (8%) for examples. Like the results of the questionnaire, there is no record of participants consulting reference sources for spelling.

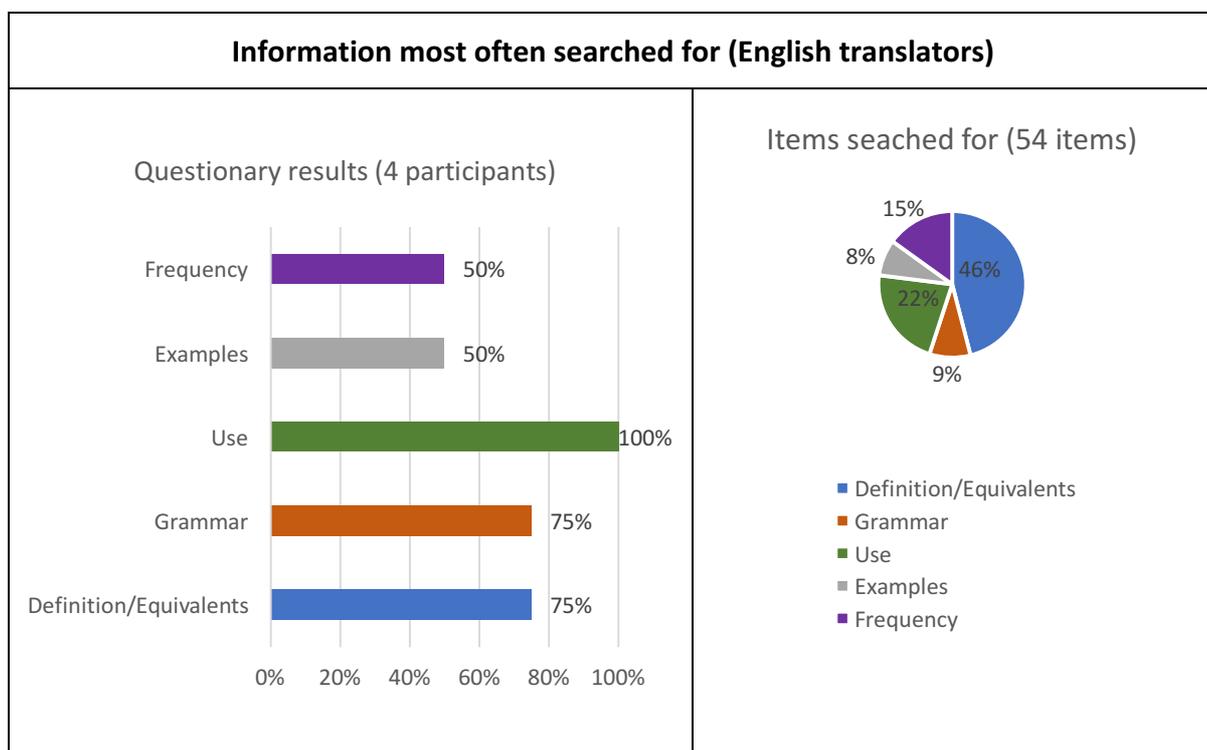


Figure 5.8: Information most often searched for (English translators): a contrast between questionnaire results and task results

Figure 5.8 illustrates the contrast between participants' answers to the item 14 of the questionnaire with the aim of lookups in the reference sources.

5.9. Total sample

This section reports the results of the whole investigated sample – 61 participants from different backgrounds.

5.9.1. Preferred reference source and context of usage

5.9.1.1. Translation into native language

In item 9 of the Post-Task Questionnaire, 42 of the 61 participants (69%) reported using some kind of dictionary to translate from English into Portuguese. However, the reports reveal 24 (77%) of the 31 participants who performed this task used some kind of dictionary.

The frequency of dictionary use was, however, very low when compared to another reference source (Google Translate). Of the 315 lexical items consulted, 219 (69%) were searched for using Google Translate and just 91 (29%) using dictionaries. Five lexical items (2%) were searched for outside these two reference sources: 3 in Google web-browser, 1 in Wikipedia and 1 in a didactic book.

In item 10 of the Post-Task Questionnaire, 57 of the 61 participants (93%) reported using bilingual dictionaries. This 93% actually represents the 100% of the sample who claimed to use dictionaries. In other words, everybody who reported using a type of dictionary to translate into the native language claimed to use bilingual dictionaries for this task. The 4 remaining participants (7%) reported not using any type of dictionary to perform this task. The use of monolingual dictionaries was reported by 11 participants (18%), of learners' dictionaries by 6 participants (10%), and of semi-bilingual dictionaries by 1 participant (2%). The analysis of their reported look-up strategies confirms that bilingual dictionaries were indeed the most widely used type of dictionary, followed by general monolingual dictionaries and learners' dictionaries. However, the frequency of use of both general monolingual and learners' dictionaries was very low when compared to bilingual dictionaries. Of the 91 lexical items searched for using dictionaries, 80 (87%) were in bilingual dictionaries, 11 (13%) were in monolingual dictionaries (general and learners'). There is no record of usage of semi-bilingual dictionaries.

5.9.1.2. Free-writing task

Of the 61 participants, 34 (56%) reported in the questionnaire using dictionaries to perform this type of task. However, the reported look-up strategies revealed that, of the 31 participants who performed this task, only 3 (10%) consulted dictionaries. In fact, the frequency of use of any reference source was very low in this task. Only 10 participants

(32%) resorted to reference sources to perform the free-writing task; and of the 32 lexical items searched for, 25 (78%) were in Google Translate, 4 (13%) were in bilingual dictionaries, 2 (6%) were in Google web-browser and 1 (3%) was in Linguee. There is no record of any other reference source being used in this task.

5.9.1.3. Translation into foreign language

In item 9 of the Post-Task Questionnaire, 39 participants (64%) reported using dictionaries to translate into the foreign language. A similar percentage appeared when analysing reports of those who performed this task (31 participants). Twenty participants (64%) performed this task with the aid of a dictionary.

Of the 235 lexical items consulted, 46 were searched for using dictionaries (19%), 171 (73%) using Google Translate, 9 (4%) using Google web-browser, 5 (2%) using Linguee, and 4 (2%) using other unlisted sources.

Regarding the type of dictionary used in this task, reports reveal that of the 46 lexical items searched for in dictionaries, 35 (76%) were in bilingual dictionaries, and 11 (24%) in monolingual dictionaries. There is no record of usage of other types of dictionary to perform this task.

5.9.1.4. Comprehension task

Thirteen participants (21%) reported, in item 9 of the Post-Task Questionnaire, using dictionaries in comprehension tasks. However, of the 31 participants who performed this task, 20 participants (65%) consulted dictionaries to understand the meaning of the underlined words.

Of the 137 consulted lexical items, 48 (35%) were searched for in dictionaries, 82 (60%) in Google Translate, 4 (3%) in Google web-browser, 1 (less than 1%) in Google Images, 1 (less than 1%) in Linguee, and 1 (less than 1%) in Word Reference.

Regarding the type of dictionary used, of the 48 lexical items searched for in dictionaries, 39 (81%) were in bilingual dictionaries and only 9 (19%) in monolingual dictionaries. Besides bilingual and monolingual dictionaries no other types of dictionary were used to perform this task.

Figure Figure 5.9 illustrates compares the results of all groups in terms of the difference between self-reported behavior and actual behavior with regards to the use of dictionaries in the four tasks. In this chart, the values are expressed in percentages and because in this questionnaire item participants could mark more than one option the number do not add up to 100 percent.

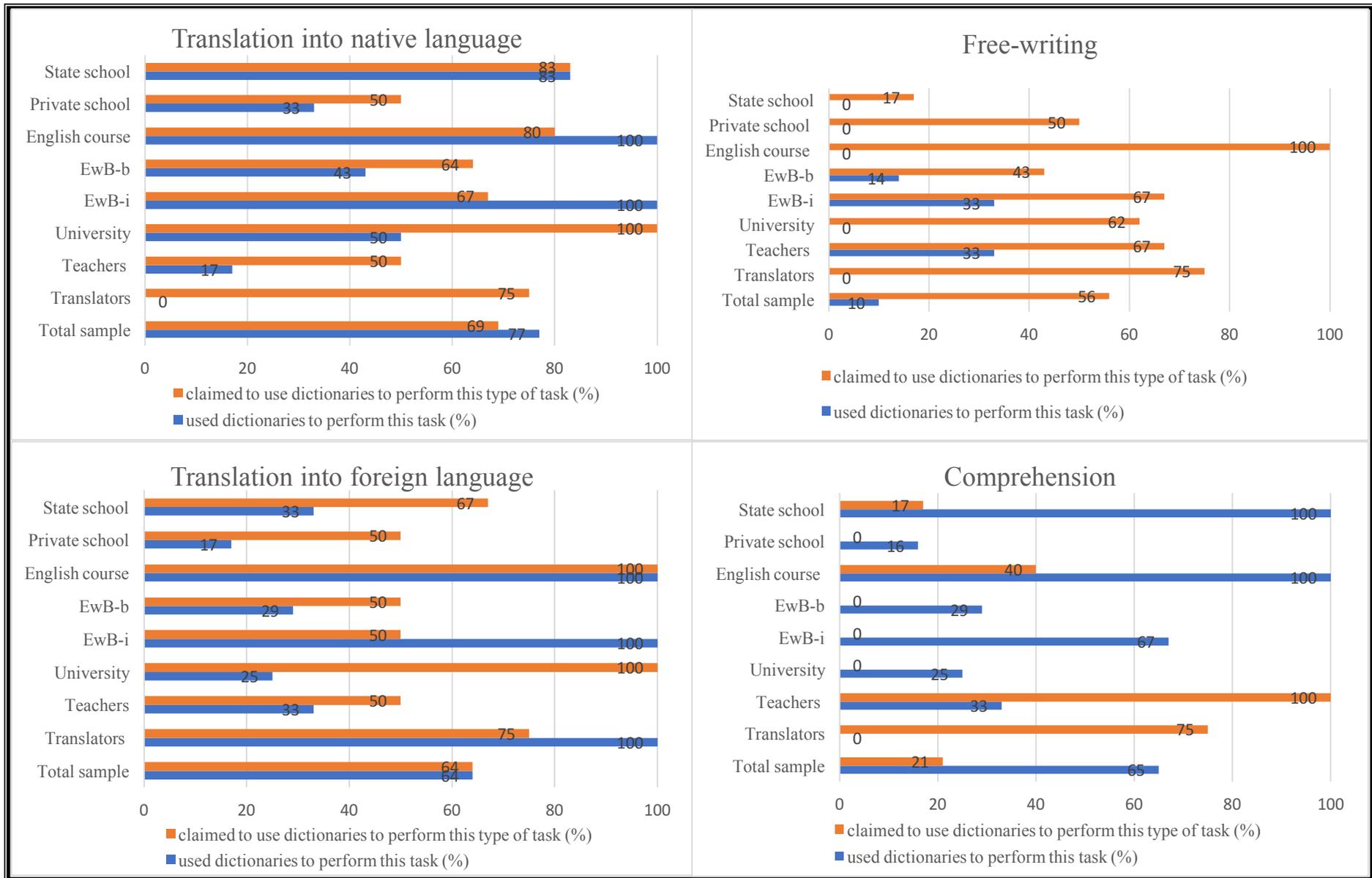


Figure 5.9: Difference between self-reported behavior and actual behavior with regards to the use of dictionaries in the task

5.9.2. Preferred reference source format

Fifteen participants (24%) claimed to like printed reference sources, and the rest of the sample reported using only online reference sources. The analysis of their look-up strategies reveals that printed sources were used by 17 participants (28%), and online sources were used by 52 participants (85%).

5.9.3. The importance of cost

Of the investigated sample, 47 (77%) stated that cost is important when choosing a reference source and the most recurrent justification was because dictionaries are very expensive in Brazil and there are free reference sources available online. The most recurrent justification among the 14 participants (23%) who stated that cost is not relevant when choosing a dictionary was because expensive dictionaries tend to have better content.

5.9.4. Other preferred reference sources

In item 13 of the Post-Task Questionnaire, of 61 investigated subjects, 53 (87%) reported using automatic translation tools, 43 (70%) web-browsers, 10 (16%) online translation software, 19 (31%) online encyclopaedias, and 5 (8%) unlisted reference sources. However, different percentages appear when analysing their look-up strategy reports. Fifty-five participants (90%) used an online translation software to perform the tasks, 9 (15%) web-browsers, 3 (5%) online encyclopaedias, and 5 (8%) unlisted reference sources. There are no records of use of Q&A websites by any participant in any task.

Of all the lexical items searched for outside dictionaries (417 words), 378 (91%), were in Google Translate, 23 (5%) were in Google web-browser, just 3 (1%) in Wikipedia, and 13 (3%) in unlisted reference sources. Unlike the results of the Post-Task Questionnaire, there are no records of use of Q&A websites to perform any of the tasks.

5.9.5. Information often searched for

In item 14 of the questionnaire, of the 61 investigated subjects, 53 (87%) reported using reference sources to search for definitions/equivalents, 37 (61%) reported searching for spelling, 17 (28%) for grammar information, 22 (36%) for use information, 15 (24%) for examples, and 5 (8%) for frequency information. The analysis of their look-up strategy reports reveals different results.

In the translation into native language task, of the 61 investigated subjects: 58 (95%) searched for equivalents, most often in Google Translate; 10 participants (16%) searched for definitions, most often in monolingual dictionaries; 1 participant (2%) used Google web-browser to search for the spelling of a given word; 8 participants (13%) searched for usage in various sources; 5 participants (8%) searched for examples, most often in Google Images;

and 4 participants (6%) searched for frequency, most often using Google web-browser. The search for all types of information was very low when compared to translated equivalents. Of the 347 looked up lexical items, 311 (90%) were searched for equivalents, 14 (4%) for definition, 1 (less than 1%) for spelling, 7 (2%) for use information, 8 (2%) for examples, and 6 (less than 2%) for frequency information.

In the free-writing task, of the 61 investigated subjects, 14 (23%) used reference sources to search for equivalents and 3 for spelling (5%). Of the 32 lexical items looked up in this task, 29 (91%) were searched for equivalents and just 3 (9%) for spelling. Google web-browser was the reference source chosen to check the spelling. The equivalents were searched for in various reference sources, but most often in Google Translate.

In the translation into foreign language task, all 61 participants consulted the reference sources searching for equivalents. Seven participants (11%) used reference sources to search for definitions, 1 (less than 2%) for spelling, 5 (8%) for usage, 4 (6%) for grammar information, 4 (6%) for examples, and 4 (6%) for frequency information. Translation equivalence was the information most often searched for. Of the 235 looked up lexical items, 213 (91%) were searched for equivalence, 1 (less than 1%) for spelling, 5 (2%) for grammar information, 1 (less than 1%) for use information, 2 (1%) for examples, and 2 (1%) for frequency information.

In the comprehension task, 46 participants (75%) consulted the reference sources searching for equivalents. Five participants (8%) searched for definitions, and 2 participants (3%) used Google Images to search for illustrative examples. Translation equivalence was the information most often searched for. Of the 48 looked up lexical items, 41 (86%) were searched for equivalents, 5 (10%) for definitions, and 2 (4%) for illustrative examples.

Taking all four tasks together, translation equivalence was the information most often searched for. Of the 662 looked up lexical items, 594 (90%) were searched for equivalents, 19 (3%) for definitions, 5 (less than 1%) for spelling, 5 (less than 1%) for grammar information, 8 (1%) for use information, 12 (2%) for examples, and 8 (1%) for frequency information.

The objective of this chapter was to numerically show the combined results from participants' Post-Task Questionnaire and look-up strategy reports. The data reported in this chapter is crucial to answering the research questions that will be discussed in Chapter 7. In the next chapter, in order to add another viewpoint to the results of this chapter and Chapter 4, I present four case-studies.

6. CASE STUDIES

As we have seen, the development of an effective dictionary begins with consideration of the learner and his or her learning needs. Unlike the macro-approach of Chapter 5, in which participants' lexicographical preferences, look-up strategies and errors were identified and presented in percentages, this chapter takes a micro-approach to this subject, i.e. a more detailed description of selected participants' performance. The objective of this chapter is use the richness of the data to provide a complementary perspective on participants' profiles, look-up strategies and EFL skills. Because participants were not provided with prepared recording sheets (see Section 3.2.1.1), some reports contained a more detailed description of the consultation behaviour than others. Of those which contained more information, I selected four. Each of the four case studies presented in this chapter raises different issues and is structured as follows: participant, performance, results, and discussion. The participant section presents a brief participant profile based on his or her responses in the Post-Task Questionnaire. The performance section describes the steps taken by the participant in his or her search for information, as well as his or her impressions and apparent difficulties during the performance of the research tasks. The data that compose this section were extracted exclusively from the look-up strategy reports. The performance section also contains translated extracts from the participant's report. These extracts were translated into English by me, maintaining as far as possible the original informal register. Finally, the results section analyses the outcome of the tasks. It combines two methodologies employed in Chapters 4 and 5: error analysis and retracing of look-up strategies.

6.1. Case study: English course

This is a case study of participant number 4 from the English course group. This group was composed of 5 mature students from a private English course in Brazil.

6.1.1. Participant

This participant is female and is between 50 and 59 years old. She has studied English for 4 years. She learned this foreign language exclusively through an English course in Brazil and she has never had a proficiency test to determine her English level. With regards to her consultation preferences, she prefers printed bilingual dictionaries and learners' dictionaries and claims to consult both types when she needs to translate texts from L1 to L2 and from L2 to L1. Other situations in which this participant claims to use these dictionaries is to understand something that she has heard in English but whose meaning or spelling she does not know, to perform grammar exercises, and to write a text in English from scratch.

According to this participant, the potential high price of a dictionary is not a problem. In fact, she believes that the more expensive a dictionary is, the better the content in it is.

When choosing a dictionary, she claims to take into account the presence of grammar information, phrasal verbs, collocations and idiomatic expressions. According to the participant, the information that she most often searches for in dictionaries is definition/equivalence, spelling and grammar. Besides dictionaries, she also likes to consult Google web-browser and Wikipedia to find out the meaning or the translation of a given word or expression.

6.1.2. Performance

The two tasks assigned to this participant were: translation into native language and free-writing. Based on the look-up strategy report, the following sections detail the participant's performance in these two tasks.

6.1.2.1. Translation into native language

She's not quite sure about her proficiency level, thus doesn't know which text to choose.

The first problem that the participant had to address was to decide whether she would translate the basic or the intermediate level text. Given that she had studied English for four years and that she was attending an intermediate level class, she apparently felt she should translate the intermediate level text. However, after reading the first two sentences and not being able to understand them well, she realized it would be too hard to translate the intermediate text. She then changed her mind and started translating the basic level text.

Though she thinks she should be translating the intermediate level text, she couldn't even understand the first two sentences [...] she decided that it would be too hard to translate something that she was having so many difficulties in understanding.

Having decided to translate the basic text, the participant started the task consulting Oxford Escolar (a bilingual dictionary) to search for the word *create*. It seems that the participant knew the meaning of this lexical item; however, she was not familiar with the tense in which the verb appeared in the sentence – *has created* (present perfect) – and consequently did not know the equivalent tense in Portuguese. In Oxford Escolar, she was not able to find the grammar information that she was searching for and, thus, attempted to use a grammar book. However, because she did not know what this verb tense was called, she could not find it in the book's table of contents. The solution found by the participant was to try to a literal translation.

She knows what create means, the word is almost the same in Portuguese, but in the sentence the verb is 'has created' and she doesn't know which tense this is and how it should be translated into Portuguese.

Acknowledging the importance of using monolingual reference sources to speed the learning process and the acquisition of new vocabulary, she decided to continue the exercise using exclusively a monolingual learners' dictionary.

It's been a while since our teacher advised us to use monolingual dictionaries [...] Though she feels more confident with bilingual dictionaries, she decided that in this task she would make the effort to use a monolingual dictionary.

The participant selected apparently randomly one of the paper monolingual dictionaries provided. She admitted not knowing the difference between the monolingual dictionaries available. The participant who was monitoring her look-up strategies and writing the report told her that Collins Cobuild was a well-known dictionary and then she remembered hearing at some point that this was a good dictionary. She decided to use it.

I told her that Collins Cobuild is famous and she said she remembered hearing good things about this dictionary before [...] it's got to be the best option.

However, she was finding it very difficult to understand most of the definitions. Of the five words, she searched for in Collins Cobuild, she was confident of having understood the definition of just one – *most*.

She used Collins Cobuild to search for the words: most, faces, bare, wall and spread. She found all the definitions a little hard to understand [...] she is only sure of having understood the definition of most.

Even though she was unsure about having understood the definition, she decided not to consult any other reference source for four of these five words. In her opinion, the most difficult definition to understand was that of the word *spread*. She felt that the best thing to do was to move back to a paper bilingual dictionary, in which she searched again for *spread* and two other lexical items: *annoyed* and *comes into*.

After not understanding a single word in the definition of the word 'spread', she gave up on Collins Cobuild. [...] She thinks this dictionary is not for her.

6.1.2.2. Free-writing task

She decided to cut her ideas short

Even though the participant did not consult any reference source to perform this task, her report contains some considerations and impressions about it.

Without hesitation, she selected the advanced level topic to write the required paragraph. In her opinion, there was no difference in difficulty between the topics presented in this task. In fact, she believed that writing about politics (presented as the advanced topic) in English was easier than describing what she likes to do in her free time (presented as the basic topic).

She didn't understand why the one about politics is the hard level [...] She chose the advanced topic because she already knows what to say.

However, after starting to write the paragraph, she realised her limitations in terms of vocabulary and syntax. She did not know how to tackle this problem and which reference source could help her.

She wants to say that 'laws should be changed, because some of them are over 40 years old and therefore have many loopholes' [...] She doesn't know how to build up this sentence in English and where to find a translation for 'brecha' [loophole] [...] 'Brecha' is too informal, she guesses it won't be in the dictionaries.

The participant decided to change drastically her argument and, instead of writing a paragraph, she wrote just a short sentence:

She decided just to say that laws are very old.

6.1.3. Results

This section presents the outcome of the two tasks performed by the participant. A colour system was used to indicate the participant's errors (in red) and hits (in green) resulting from her use of reference sources. Finally, highlighted in yellow are the errors that did not result from any consultation.

6.1.3.1. Translation into native language

Hamid mora com os pais dele e irmão em casa. Ele é um estudante de engenharia civil e está no primeiro ano para a universidade. Ele tem criado um espaço no quarto dele onde ele faz a maioria dos estudos dele. Ele tem uma pequena escrivaninha que da de cara em um muro nu. Sobre a escrivaninha ele tem um computador e uma imenso lugar de trabalho onde ele pode soltar os livros dele e papeis. Hamid algumas vezes ele deita na sua cama quando ele estuda, especialmente quando ele quer assistir alguma coisa na TV. Ele divide o quarto com seu irmãozinho. Ele fica irritado porque seu irmão algumas vezes entra no seu quarto e faz barulho.

6.1.3.1.1. Errors: resulting from consultation

One of the three consultations in the bilingual dictionary resulted in an error. The reason for this failure was the absence of the information searched for in the entry for *create*:

create *vt* criar, produzir: *to create a fuss* armar uma confusão **creation** *s* criação
creative *adj* criativo **creator** *s* criador, -ora

DOE, 2007 (*s.v.* create)

The participant was trying to find the best translation into Portuguese of the present perfect tense of the verb *create*. After not finding verb tense information in the dictionary, she opted

for a word-for-word translation that resulted in an error. The difficulty here is the fact that there is no equivalent of this tense in the target language. In Portuguese, an event that has started and finished in the past can only be expressed with the simple past, i.e. *he has created* [*ele criou*]; *he created* [*ele criou*]. When someone tries to translate the English present perfect tense word-for-word into Portuguese [*has = tem / created = criado*], he or she will end up with a tense that expresses the idea of an action that started in the past but continues in the present. The verb tense that the participant used in her translation into Portuguese is equivalent to the English present perfect continuous.

According to the error classification developed in Chapter 4, the level of language analysis at which this error is located is grammar. The participant constructed a sentence without any grammar, spelling or word choice errors, however, the meaning is not the same as the original.

All the consultations in the monolingual dictionary resulted in errors of either meaning or word choice. The first consultation was the word *most*.

most *determiner*

1. a. a great majority of; nearly all ⇒ *most people like eggs* b. (*as pronoun; functioning as sing or plural*) ⇒ *most of them don't know* ⇒ *most of it is finished*

Cobuild, 2003 (s.v. *most*)

According to the participant's report, of all the words consulted in Collins Cobuild, this was the one for which she claimed to have best understood the definition. However, when selecting an equivalent in Portuguese, possibly influenced by the word *majority* in the definition, she made a mistake in terms of word choice.

The search for the verb *faces* resulted in a meaning error. The participant failed to find or understand the definition of this word as a verb and translated it as a noun.

faces *verb*

29. (*when intr, often foll by to, towards, or on*) to look or be situated or placed (in a specified direction) ⇒ *the house faces on the square*

Cobuild, 2003 (s.v. *face*)

The entry above indicates that the information was present in the dictionary. However, this did not prevent the participant from making a mistake. The same type of error also occurred when she searched for the words *bare* and *wall*.

bare *adjective*

1. unclothed; exposed: used esp of a part of the body

wall *noun*

1. a. a vertical construction made of stone, brick, wood, etc, with a length and

3. lacking appropriate furnishings,
etc ⇒ *a bare room*

height much greater than
its thickness, used to enclose,
divide, or support b. (*as*
modifier) ⇒ *wall*

hangings ▶ Related

adjective: mural

Cobuild, 2003 (s.v. *bare* and *wall*)

Both consultations resulted in meaning errors and in both cases the right information was present in the dictionary, even though the participant failed to access it. In the case of *bare*, the participant used the first meaning offered. The result was the use of the adjective *nu* (Pt), which in Portuguese means ‘naked’ and can only be used of people. In the case of *wall*, possibly having failed to fully understand the definition, the participant focused her attention on the related adjective that appears in the entry: *mural*. The word seemed familiar, and then she associated it with the word *muro* (Pt) to produce the erroneous translation. The issue here is that the word *wall* in English is vague, it can mean both the structure that forms the side of a room and the structure that surrounds an area or separates one area from another. However, in Portuguese these two meanings correspond to two different words *parede* and *muro* respectively. The correct translation in this case would be *parede*.

The participant’s last attempt to use a monolingual dictionary was to search for the verb *spread*.

spread 1. to extend or unfold or be extended or unfolded to the fullest width ⇒ *she spread the map on the table*

Cobuild, 2003 (s.v. *spread*)

Even though the information was present in the dictionary, the participant could not comprehend it. Her strategy was to move back to the bilingual dictionary, which did not prevent her from making another ‘meaning’ error.

spread 1. *vt* ~sth (out) (on/over sth) estender, espalhar algo (em/sobre)

DOE 2007, (s.v. *spread*)

It is hard to understand what went wrong in this consultation, given that the right equivalent was not only present in the source but it was apparently straightforward to access.

6.1.3.1.2. Hits resulting from consultation

The two consultations that resulted in hits both involved the use of a bilingual dictionary. The words consulted were the verb *come* and the adjective *annoyed*. In both cases, accessing

the information was very easy because the appropriate equivalent was the first option listed in the entry.

6.1.3.1.3. Errors not resulting from consultation

There were a considerable number of errors that did not result from the consultation of any reference source. However, unlike those that did result from source consultation, these errors were more often located at the level of grammar.

The errors were almost exclusively the result of syntactic calques. The participant translated word-for-word sentences that were structured in a non-pro-drop language into a pro-drop language. For example:

(a) original structure

He has created a space in **his** bedroom where **he** does most of **his** studying.

(b) participant's translation

***Ele** tem criado um espaço no quarto **dele** onde **ele** faz a maioria dos estudos **dele**.

(c) preferred translation

Ele criou um espaço no quarto onde faz a maior parte de **seus** estudos.

Even though Brazilian Portuguese speaker allows the repetition of pronouns in an oral register, it is considered a grammatical error to use this exhaustive repetition in the written form.

The only error that was not related to grammar was the translation of *huge*. The word used by the participant in the translation is the most frequent equivalent, i.e. *imenso* (Pt). However, *imenso* in Portuguese is an adjective that is unlikely to be attributed to a working space, so this resulted in a collocational problem.

6.1.3.2. Free-writing task

The analysis of the free-writing task results is very limited because this participant wrote only a single sentence instead of the paragraph as instructed. Using the same colour system, the task result is as follows:

I believe many laws should be changed in Brazil because **it** are very old.

The single error in this task did not result from the consultation of any reference source and cannot be explained through native language interference, even though this type of error is very common among Brazilian learners of English.

6.2. Case study: English Without Borders

This is a case study of participant number 5 from the English Without Borders intermediate group. This group was composed of 6 students from a state English course that focuses on preparation for study abroad.

6.2.1. Participant

This participant is female and is between 19 and 29 years old. She has studied English for 3 years. She started to learn this foreign language at a state school and then she continued her studies at a state university and an English course, all in Brazil. To determine her proficiency level, she took the TOEFL ITP, but she either did not remember or did not want to indicate her score.

With regards to her consultation preferences, she prefers online bilingual dictionaries and claims to consult them when she needs to translate texts from L1 to L2 and from L2 to L1. Another situation in which this participant claims to use this type of dictionary is to understand something that she has heard in English but whose meaning or spelling she does not know.

According to this participant, the potential high price of a dictionary can be a problem. She states that being a student she cannot afford the printed versions of most dictionaries; thus, she uses whatever she can find for free on the internet. When choosing a dictionary, she takes into account the presence of grammar information, phrasal verbs, collocations, idiomatic expressions and examples of usage. According to the participant, the information that she most often searches for in dictionaries is lexical equivalence, spelling, grammar, usage and examples. Besides dictionaries, she also likes to consult Google web-browser, Google Translate and Answers.com to find out the meaning or the translation of a given word or expression.

6.2.2. Performance

The two tasks assigned to this participant were: translation into foreign language and comprehension. Based on the look-up strategy report, the following sections detail the participant's performance in these two tasks.

6.2.2.1. Translation into foreign language

The basic text is too easy, but the intermediate is too hard.

The participant spent the first 10 minutes of the task deciding which text she should translate. She acknowledged that she should be translating the intermediate level text because she is attending an intermediate level group, but she was not confident enough to perform that task. She read the intermediate text carefully trying to mentally translate it and came to the

conclusion that the task was too hard not just in terms of vocabulary but also in terms of sentence structure.

It took her 10 min. to decide. [...] She read the intermediate text trying to translate it in her head. [...] to translate the intermediate text she will have to search for too many words. [...] the problem is not just the words, the sentences are too long and she thinks it would be too hard to translate them into English.

The participant stated that the biggest problem was that she was assigned the translation into foreign language task and that this type of task is much harder than translation into native language. She also believes that if she was assigned the translation into native language task she could have translated the intermediate or even the advanced level text.

She said that if the task was to translate a text into Portuguese she could probably do the advanced level. She said I got the easy tasks and she got the hard ones. Then I said it wasn't true because I had to do the free-writing which wasn't easy. [...] I had to remind her that the distribution of the tasks was her choice in the first place.

After deciding not to translate the intermediate level text, she read the basic level text. Her impression was that the text was too easy to translate and that she would not have to consult any reference source to perform it.

[...] on the other hand she thinks the basic level text is too easy and she said she might not have to consult anything.

Having decided to translate the basic level text, the participant translated the first five sentences of the text without consulting any reference source. Her first consultation was to search for the word *tímida* [shy] in a bilingual dictionary. However, the dictionary was selected randomly. The report reveals that the participant typed *dicionário de inglês* [English dictionary] on Google and opened the first option that appeared on the search list. Unfortunately, the report does not state which was the bilingual dictionary used.

She typed 'English dictionary' into Google and opened the first option on the list. She searched for the word tímida and was satisfied with the equivalent found. This consultation took less than 30 seconds.

Repeating the same procedure, the participant searched for the word *signo* [star/birth sign] and was satisfied with the equivalent found. There were no other consultations to perform this task.

After these, she didn't search for anything else.

The report reveals that at some point the participant was having difficulties structuring the phrase *uma casa muito grande* [a very big house]. However, it is not clear in the report what type of difficulty she was having.

6.2.2.2. Comprehension task

She's not having any difficulties in this task because she is clearly cheating, even though I told her not to.

The participant quickly read the text and started the consultation processes. She again typed *dicionário de inglês* [English dictionary] in Google Translate and opened the first option. She searched for the word *firecracker* but did not find any hits. However, instead of consulting a different reference source, she copied the answer from the pair who were working next to her.

She copied the first answer [...] I told her I'm going to put this in the report.

Using Michaelis bilingual dictionary the participant searched for the words *gunpowder* and *threw* and she was satisfied with the results. However, when she used the same dictionary to search for the phrasal verb *ran out* she could not find any hits. She again copied the answer from the pair who were sitting next to her.

She is cheating again. She copied the translation of ran out, but she thinks I didn't see her doing it this time.

The participant hesitated to search for the meaning of the word *sap* because she believed she knew the answer. However, because the answer she thought she knew did not appear to work within the context of the text, she decided to consult Michaelis for this word.

She consulted Michaelis and was satisfied with the translation found. She almost answered that sap is a button on the TV's remote control to hear the audio track another language. I can't stop laughing.

The participant also consulted Michaelis to search for the words *stem* and *frightening*. She was satisfied with the results found.

6.2.3. Results

This section presents the outcome of the two tasks performed by the participant. The same colour system indicates the participant's errors (in red) and hits (in green) resulting from her use of reference sources. Finally, highlighted in yellow are the errors that did not result from any consultation.

6.2.3.1. Translation into foreign language

I and my family

Very pleasure! My name is Adachi and I'm japonese. My family doesn't all japonese. I have two beautiful sons. My first daught is japonese. Her name is Ayako. She is very shy, has seven years old. My second son is brasileiro. His name is Fernando. His sign of scorpion and he was born on november. Fernando has one and is My wife is very happy we are a very happy family. Now,

we are in **the** Brazil and we have a big house. I'm happy **in** work here and my wife is very happy too **for to learn** a new language.

6.2.3.1.1. Errors: resulting from consultation

The single error resulted from consultation was the word *signo* [star sign/birth sign] that was translated into English as *sign*.²⁷ Because the report did not indicate the name of the dictionary consulted, it was not possible to trace the source in order to try to understand the reason for this error. However, it is clear that this error was not caused by the absence of the entry in the dictionary, because the report states that she found an equivalent and was satisfied with it.

There are two issues to be considered in her misconceived translation of *signo*, meaning and grammar, and these issues raise two hypotheses for what went wrong in the consultation process. In Portuguese, the word *signo* is polysemous, as it can mean both visual sign and birth/star sign. It is possible that the participant did not read the whole entry and used the first listed equivalent. It is also possible that the participant read the whole entry but in the consulted dictionary the equivalents were listed without any indication of possible differentiations in meanings or usage instructions (as is the case of most bilingual Portuguese-English dictionaries, like Michaelis for example). Bilingual Portuguese-English dictionaries normally do not have any grammar instructions and rarely have examples of usage. The presence of this type of information could have prevented the learner from producing the syntactic and semantic calque *sign of Scorpion* [signo de escorpião (Pt)].

6.2.3.1.2. Hits resulting from consultation

The single consultation that resulted in a hit was in an unspecified bilingual dictionary. The word consulted was the adjective *shy*. It can be assumed that accessing the right information was very easy because the report states that it took only 30 seconds for the participant to find the appropriate equivalent. Besides, there are no issues of lexical ambiguity or polysemy regarding the pair of words *tímida* (Pt) – *shy* (En).

6.2.3.1.3. Errors not resulting from consultation

There were a very large number of errors that did not result from the consultation of any reference source. These errors were located at all levels of language analysis except usage, but they were more often at the levels of grammar and spelling.

²⁷ Even though *sign* is the correct translation for the Portuguese word *signo*, in English this word is usually used together with *birth*, *star*, or *zodiac*, as evidenced by Cambridge Dictionary (2017, s.v. sign) and the British National Corpus.

The grammar errors were almost exclusively the result of syntactic calques. The participant translated the sentences word-for-word. For example:

1.

(a) original structure

Eu e minha família

(b) participant's translation

***I** and my family

(c) preferred translation

Me and my family / My family and **I**

2.

(a) original structure

feliz **em** **aprender** um novo idioma

(b) participant's translation

*happy **for to learn** a new language

(c) preferred translation

happy **to learn** a new language / happy **learning** a new language

Both examples listed reveal the interference of the participant's mother language in the translation process and they are both very common among Brazilian learners of English, especially the second one. In the second example, the syntactic calque consisted of translating word-for-word a structure that is widely used in Portuguese: preposition plus infinitive form of the verb [*em* (preposition) *aprender* (infinitive)]. This structure is not grammatically correct in English.

Most of the meaning errors resulted in semantic calques. For example:

1.

(a) original structure

tem sete anos

(b) participant's translation

***has** seven years old

(c) preferred translation

is seven years old

2.

(a) original structure

Muito prazer!

(b) participant's translation

***Very pleasure!**

(c) preferred translation

Nice to meet you! / Pleased to meet you!

The first example is a common beginners' error. The verb used in Portuguese to give the age of something or someone is the verb *to have* and not the verb *to be*. According to Schütz (1999, n.p.), this type of error tends to disappear when Brazilian learners get to the intermediate level of English acquisition; however, it can still sometimes be spotted in the production of more advanced learners. According to Schütz (*ibid*), this type of error in the production of an intermediate level learner can be interpreted simply as a mistake, or as a sign that the error was fossilized.

Though the second example was classified as a semantic calque, the error is located at the levels of both meaning and grammar. The participant translated an idiomatic expression word-for-word, which generated a semantic error. However, she could have translated the word *muito* (Pt) as *much*, but she translated it as *very*, generating also a grammar error.

Examples of grammar errors that did not result from syntactic calques are: *My family **doesn't** all japonese [My family **isn't** all Japanese]; *was born **on** november [was born in November]. Examples of meaning errors that did not result from semantic calques are: *sign of **scorpion** [star sign is **Scorpio**]; *I have two beautiful **sons** [I have two beautiful children].

There were also a large number of spelling errors that could easily be avoided with the use of any reference source, for example: *japonesse [Japanese], *daught [daughter], *brasileiro [Brazilian]. The absence of capital letters was another very frequent type of spelling error: *november [November], *brasileiro [Brazilian], *japonesse [Japanese], *scorpion [Scorpio]. This type, however, was frequent in the production of almost all participants in this study regardless of whether or not they consulted a reference source.

6.2.3.2. Comprehension task

This section includes the original text of the task in order to understand the participant's performance. Using the same colour system, the task result is as follows:

The earliest firecrackers

A form of **firecracker** was used in China thousands of years ago even before **gunpowder** was invented. Historians believe that the tradition began around 200 BCE when someone **threw** a piece of green bamboo on the fire, when the dry

wood **ran out**. Bamboo grows very quickly creating pockets of air and **sap** in the **stem**, which expand and **burst** when heated. On the fire, it heated up, turned black, and finally exploded, causing a loud ‘boom’ and **frightening** everyone nearby. When people learned what had caused the noise, they began to find many uses for green bamboo. Farmers began to use it to scare wild animals away from their fields, and later people began burning bamboo at parties, celebrations, and special occasions like weddings.

firecracker: tipo de fogo de artifício

gunpowder: pólvora

threw: past tense of throw, jogar, atirar

ran out: acabar, esgotar

sap: seiva

stem: haste, pedaço

frightening: aterrorizante, alarmante

6.2.3.2.1. Hits resulting from consultation

The three consultations that resulted in hits used a bilingual dictionary. The words consulted were *gunpowder*, *threw* and *sap*. In all the cases, accessing the information was very easy because the appropriate equivalent was the first option/equivalent listed in the entry.

6.2.3.2.2. Errors resulting from consultation

The two consultations that resulted in errors both involved the use of the same bilingual dictionary. In the case of *stem*, translated into Portuguese as *haste, pedaço*, the right information was not only present in the entry but was also the first listed equivalent.

stem *n* 1. tronco, talo; 2. haste, pecíolo, pedúnculo, caule; 3. pé, suporte, base.

Michaelis, 2012, (s.v. stem)

In the case of *frightening*, the participant failed to realize that the hit she found in the dictionary listed the equivalents in Portuguese of the adjective *frightening*, not of the verb.

6.2.3.2.3. Errors not resulting from consultation

There were no errors that did not result from consultation.

6.3. Case study: private school

This is a case study of participant number 7 from the private school group. This group was composed of 12 students from a private high school in Brazil.

6.3.1. Participant

This participant is male and is between 15 and 18 years old. He has studied English for 6 years. Besides the 4 hours of weekly English instruction that he has in this private school, he also attends an English course in Brazil. The participant also considers himself a self-taught English speaker. He has never had a proficiency test to determine his English level.

With regards to his consultation preferences, the participant claims not to consult any type of dictionary, instead he uses Google web-browser and Google Translate when he wants to learn the translation or to check the spelling of a given word or expression.

Given that this participant only uses Google Translate and web-browser, it is not surprising that in the questionnaire he stated that the potential high price of a dictionary is irrelevant.

6.3.2. Performance

The two tasks assigned to this participant were: translation into foreign language and comprehension. Based on the look-up strategy report, the following sections detail the participant's performance in these two tasks.

6.3.2.1. Translation into native language

He asked Carolina [the researcher] if he could use his mobile instead of the computer provided.

The participant quickly selected the advanced level text. The report stated that after a quick reading he had no doubt he was capable of translating the advanced level text. The report also reveals that the participant started the task using the computer provided. However, after two consultations in Google Translate using the computer he asked to use his own mobile phone, claiming that the translation process would be faster and easier.

He wants to use the Google Translate app that he has installed in his mobile [...] he's more familiar with the app, he uses it all the time [...] he thinks he will translate it faster with the mobile.

Having decided to use the Google Translate app, the participant started the task searching for the word *Eldorado*. The report states that besides not knowing the translation of this word, the participant was not familiar with its meaning either.

However, instead of searching for the meaning first and then for the translation, he just consulted Google Translate.

He doesn't know what Eldorado means, he asked me but I don't know either. I advised him to have a look at a dictionary, but he said that he doesn't believe that a dictionary will have this word. He said that this word doesn't even sound like Portuguese. [...] he is going to use Google Translate, he just wants the translation anyway.

The participant was satisfied with the result found and carried on doing the task. Using the same app, the participant searched for the words *destino* [destination], *cobiçado* [coveted], *marcar* [mark] and *carreira* [career]. He also used Google Translate to search for the expression *marcar uma virada* [mark a turning point]. According to the report, the participant was not very confident of using the translation provided by the app. However, he did not know where else he could find a translation for an expression.

He thinks Google Translate is probably wrong in this case, but he doesn't know what to do. He is saying that if it was a single word he could probably check a dictionary, but it is an expression.

The report states that he asked his co-worker to suggest to him a reference source that contained equivalents (translations) to expressions, but his colleague could not help him. He decided to use the translation provided by Google Translate, even though he knew that it was probably wrong.

He asked me if I knew a dictionary of expressions, or something like that, and I told him I don't know any. [...] He's almost sure that this translation is wrong, but because he doesn't know what to do, he's going to use it anyway.

Still using Google Translate app, the participant searched for the words *trajetória* [trajectory], *investidores* [investors] and *negócio* [business]. According to the report he knew the translation of the word *negócio* into English, but he consulted the source anyway just to check its spelling.

He checked the spelling of business. He says Google Translate is good to check the spelling too.

The other words searched for by the participant were *matriz* [head office], *filial* [affiliated], *concorrência* [competition], *capitanear* [to captain], *equipe* [staff], *financeiro* [financial] and *bônus* [bonus]. According to the report, the aim of all these consultations was equivalence, except for the word *financeiro*, for which the participant was looking for spelling. The report also states that he was not satisfied with the equivalent found for the word *concorrência* [competition] and that his colleague

suggested that he use the thesaurus function of Google Translate. However, he could not find this function in the app and decided to use the translation he had in mind (not the one provided by the app).

He's not sure if competition is the best translation for concorrência, so I told him that it's possible to find synonyms and other possible translations by clicking on the word with the right button of the mouse when using the computer. He didn't know that it was possible to check synonyms using GT [Google Translate]. We tried to find this function in the app, but I think it's not available.

6.3.2.2. Comprehension task

He knows the meaning of all the words in bold except ran out.

According to the report, the participant quickly read the text and found it very easy to understand. The only problem he had was to understand the sentence *someone threw a piece of green bamboo on the fire, when the dry wood ran out*. Because the participant was not familiar with the phrasal verb *ran out*, he could not make sense out of the sentence.

He knows what ran means, but it doesn't make sense in this sentence.

He decided to consult Google Translate app to search for this phrasal verb. The participant was very satisfied with the result found.

He didn't know that ran out was an expression. He is happy because he learned a new word and also because now the sentence makes sense.

There were no other consultations made in the completion of this exercise.

6.3.3. Results

This section presents the outcome of the two tasks performed by the participant. The same colour system indicates the participant's errors (in red) and hits (in green) resulting from his use of reference sources. Finally, highlighted in yellow are the errors that did not result from any consultation.

6.3.3.1. Translation into native language

Eldorado of executives

Priority for big companies, **brazilian** market already pays more than developed countries and becomes a **coveted destination** for professionals of other countries. 2011's beginning **dialed a turn** in italian Nico Riggio, Dominik Mauer and brazilian Luiz Sales' **careers**. The **trajectory** of **those** executives reflects the **relevance** acquired by **brazilian** market for companies and international

investors. Riggio trade New York for Brasil to start a drinking business. Maurer denied the opportunity of coming back to germany head office T-systems to command brazilian affiliate. Sales was taken out concurrence to captain the american Targus, company of acesories for computers that will expand brasilian operation to achieve global objectives. Between multinational, Brasil is seen as an essential market. But make the command staff of a business in the country is now more expansive than in any other emergent economy. Based on the Hay Group's consultancy study, the anual remuneration of a financial director in Brasil, including salary and bonus is about US\$: 510.000. It is more than in the United States (US\$: 425.000), Germany (US\$: 430.000) and United Kingdom (US\$ 390.000).

6.3.3.1.1. Errors: resulting from consultation

The three errors resulting directly from consultation are located at three different levels. The first error was classified as a spelling error (**eldorado*), the second as meaning (**dialled a turn*), the third as word choice (**trajectory*). The following paragraphs discuss these errors in detail.

The first error resulting from consultation was the word *eldorado* [El dorado] that was translated into English as **eldorado*. In this case, most probably, the participant failed to realise that Google Translate did not translate the word. When this software does not identify a word, or does not find it in its parallel corpus, it simply does not translate it. However, the program does not inform its users when a word is not translated, it simply transfers the word from the source language box (in the left) into the target language box (in the right). This can result in error if the participant does not realise. Most of the time, it is easy to realise when a word was not translated by the program. However, in the case of loanwords like *eldorado* (Pt) it is not so easy to realise. Regarding grammar, in English the use of the word *El dorado* would require a determiner, in the case of this text the correct determiner would be *the*.

The second error resulting from consultation was the expression *marcar uma virada* [to mark a turning point or turn one's life around] that was translated into English as *dialled a turn*. When trying to retrace this consultation by using the Google Translation app, we can see that Google now provides a correct translation *mark a turning point*. However, according to the report on look-up strategies, that was not the translation provided by the app when this experiment was conducted. The third error was the translation of the word *trajetória* (Pt) as *trajectory*. Although *trajectory* is a possible translation for this word in Portuguese, in English it is restricted to the

description of the movement of something through the air or space. The cause of this error is polysemy in the first language. In Portuguese, like in English, this word is used to describe the physical movement of something, but it can also be used to describe people's career paths or their history (e.g. *Uma trajetória de sucesso / A successful history*). If the participant had used the thesaurus function of Google Translate, he could have found a more appropriate translation for the word *trajetória* (Pt). However, selecting the appropriate equivalent from the long list provided requires a high level of language awareness. Moreover, the translation that would better fit into this context is not provided by Google Translate.

(a) original structure

A **trajetória** desses executivos

(b) participant's translation

*The **trajectory** of those executives

(c) preferred translation

The **history** of these executives

(d) acceptable translation using Google Translate

The **track** of these executives

6.3.3.1.2. Hits resulting from consultation

It was difficult to decide if the hits resulting from consultation were actually hits. That is because even though they were right in term of spelling, meaning and word choice, they were often inserted into the sentence with serious grammar issues. The following example illustrates the complexity of this problem. The words in bold were the lexical units searched for in Google Translate.

(a) original structure

Maurer recusou a oportunidade de voltar para a **matriz** alemã T-Systems para comandar a **filial** brasileira.

(b) participant's translation

*Maurer denied the opportunity of coming back to gemany **head office** T-systems to command brazilian **affiliate**.

(c) preferred translation

Maurer declined the opportunity of going back to the German head office of T-Systems in order to manage the Brazilian branch.

Learning the appropriate translation of the words sought did not prevent the participant from producing global errors, i.e. errors that affect the communication and make the

sentence very hard to understand. However, because the participant used Google Translate to search for the translation of single lexical units rather than sentences, they were considered hits.

An interesting example is the translation of the collocation *destino cobiçado* as *coveted destination*. According to the report, the participant searched for the translation of these words separately and his consultation resulted in a hit. This can be considered an accidental hit that only happened because the pair of languages involved in this process have in this case a similar collocation pattern. In general, using Google Translate to search for single units of a collocation pattern leads to errors.

The other words consulted in Google Translate that resulted in hits were: *carreira* [career], *investidores* [investors], *negócio* [business], *capitanear* [to captain], *equipe* [staff] and *financeiro* [financial].

6.3.3.1.3 Errors not resulting from consultation

There were a large number of errors that did not result from consultation. These errors were located at all levels of language analysis investigated in this study and very often a single sentence contained more than one type of error. For example:

(a) original structure

E Sales foi **tirado da concorrência** para captanear a **americana** Targus, empresa de **assessórios** para informática que vai expandir a operação **brasileira** para cumprir **os objetivos globais**.

(b) participant's translation

*Sales was **taken out concurrence** to captain the **american** Targus, **company** of **acesories** for computers that will expand **brasilian** operation to achieve **global** objectives.

(c) preferred translation

*Sales was **selected from the competition** to captain the **American** Targus, a **company** that sells computer **accessories** and that will expand its operation in **Brazil** in order to achieve its **global** objectives.

In this example, it is possible to spot multiple types of errors. Regarding word choice, even though the word *concurrence* is correct, in English in terms of meaning, grammar and spelling, its use is not prototypical. Analysing other business texts using the web as a corpus, it is possible to see that the word *competition* is far more usual in this context. In fact, according to his report, *competition* was the translation provided by Google Translate, but the participant decided not to use it. Regarding grammar, in this

sentence there is a lack of usage of prepositions (e.g. *was taken out* [of] [the] *concurrency*) and determiners (*will expand* [the] *Brazilian operation to achieve* [its] *global objectives*). Not using prepositions and omitting determiners is not a very common error among Brazilian learners of English. In fact, these learners tend to transfer (calque) the syntactic structure of their mother language into English, making use of far more determiners than necessary – for example the sentence in Portuguese *Eu vou à casa da Maria* is often translated into English as *I'm going to the house of the Maria* instead of *I'm going to Maria's house*. In the analysed translated text, it is possible to spot cases that can be interpreted as hypercorrection, i.e. the over-application of a perceived grammar rule: 'In English I do not need to use as many determiners as I need to use in Portuguese'. This generalization of grammar rules can lead into errors like **to achieve global objective / to achieve its global objectives* or **taken out concurrency / taken out of the concurrency*.

Regarding spelling, in the analysed example there are seven errors: **acesories*, **american*, **brasilian(2x)*, **italian*, **germany*. The correct spelling of the word *accessories* could be easily found if the participant had used any reference source to search for it. The other six examples are more complicated. The report stated that the participant did not consult any reference source to search for these words; however, when analysing reports from other groups, we can see that generally the reference sources consulted tend to fail to alert users to the need to use initial capital letters for words for nationality. Thus, in this case it is not possible to show that the use of a reference source would prevent the error. The spelling of the word *Brazilian* with a 's' instead of a 'z' was considered a mistake rather than an error. That is because the participant wrote this word with a 'z' in other parts of the same translation.

6.3.3.2. Comprehension task

This section only includes the participant's responses to the task. The original text appears in section 6.2.3.2 above. Using the same colour system, the task result is as follows:

firecracker: "bombinha" rudimentos, que explode ao ser chacoalhada ou exposta ao fogo.

gunpowder: "pó" explosivo, utilizado em armamentos.

threw: lançar um objeto, algo.

ran out: terminou, acabou.

sap: líquido que nutre diversas espécies de vegetais, circulando em seu interior (seiva).

stem: parte do vegetal que lhe garante estrutura, caule tronco.

frightening: que assusta. causa pânico.

6.3.3.2.1. Hits resulting from consultation

The single consultation that resulted in a hit exploited the Google Translate app. The lexical unit consulted was the phrasal verb *ran out*. In this case, accessing the information was very easy because the appropriate equivalent was the only option provided. It is interesting, however, to compare this result with the results from other investigated groups that used the same reference source to search for the same phrasal verb. Other participants used the equivalent provided by Google Translate that was a literal translation of the verb *to run* and the preposition *out*. That happened because when they performed the study the literal translation was the only option provided by Google Translate. However, Google Translate often updates and improves its database, which takes the form of a parallel corpus. Given that this was the last group to complete the tasks, it is possible that Google Translate had upgraded its database to provide the appropriate equivalent.

6.3.3.2.2. Errors resulting from consultation

In this task, there were no errors resulting from consultation.

6.3.3.2.3. Errors not resulting from consultation

The single error that did not result from consultation was the verb in the present continuous form *frightening*, mistranslated into Portuguese as an adjective.

6.4. Case study: English Without Borders

This is a case study of participant number 4 from the English Without Borders intermediate group.

6.4.1. Participant

This participant is male and is between 30 and 39 years old. He had studied English for less than 3 years. He had started to learn this foreign language at a private high school in Brazil and continued his studies at a state university through the English Without Borders program. He also considers himself self-taught. To determine his proficiency level, he took the TOEFL ITP, and his score was 567.²⁸

²⁸ TOEFL ITP is an assessment to determine students' level of proficiency in English. There is no passing or failing score in this test, instead its scores are designed to map the six levels of the Common European Framework of Reference for Languages (A1/A2: basic user, B1/B2: independent user, C1/C2: proficient user). The 567-score informed by the participant, corresponds to the B1 CEFR level, i.e. independent user.

With regards to his consultation preferences, he prefers online bilingual dictionaries and claims to consult them when he needs to understand something that he has heard in English but whose meaning or spelling he does not know, to perform grammar exercises and write a text in English from scratch.

According to this participant, the potential high price of a dictionary can be problematic, but he did not justify his answer. When choosing a dictionary, he takes into account the presence of grammar information and examples of usage. According to the participant, the information that he most often searches for in dictionaries is lexical equivalence, spelling, usage and examples. Besides dictionaries, he also likes to consult Google web-browser and Wikipedia to find out the meaning or the translation of a given word or expression.

6.4.2. Performance

The two tasks assigned to this participant were: translation into native language and free-writing. Based on the look-up strategy report, the following sections detail the participant's performance in these two tasks.

6.4.2.1 Translation into native language

He thinks it's better to translate the basic level text and produce a good quality translation than to translate the intermediate and do an average translation.

According to the report, the participant started the task by reading the intermediate level text. He believed he could and should translate this text, but he thought his translation would not be as good as if he translated the basic level text. Thus, he decided to translate the basic level text and produce, according to his words, a good quality translation.

He decided to translate the easy text.

When translating the basic level text, the first problem that he had to tackle was not being able to translate the phrase: *where he does most of his studying*. According to the report he wanted to consult a reference source, but did not know either the type of source nor the word he should search for.

He thinks he understands the sentence, but doesn't know the best way to translate it. [...] He doesn't know what type of source could help him. The first thing that came to his mind was to consult a dictionary, but he doesn't know which word he should search for: where, most or studying.

The participant's colleague advised him to consult Google Translate, but he declined her suggestion. According to the report, the participant believed that Google Translate was not a reliable source and should never be used by foreign language learners.

I advised him to use Google Translate, but he thinks this program is not reliable. [...] He said that he never used it and never will. He also thinks that Google Translate will compromise his 'precious' translation.

Also according to the report, since the participant did not know how to tackle this problem in order to translate this phrase, he decided to omit this part from his translation.

He decided not to translate it.[...] He thinks that the text can be easily understood without this part.

The participant searched for the word *bare* in an online bilingual dictionary selected randomly. According to the report, he used Google web-browser to find a bilingual English/Portuguese dictionary. The report, however, does not reveal which bilingual dictionary was selected.

Using Google he found a good bilingual dictionary and searched for the word bare. He was satisfied with the result found.

The participant finished his translation easily without searching for any other lexical item. However, according to the report, after finishing the task the participant regretted not having translated the intermediate level text. He realised the main objective of the study was to monitor look-up strategies and not to obtain good quality translations.

He thinks he should have translated the intermediate text because he remembered that before the task started you [the researcher] said you were interested in our consultation process and he consulted almost nothing. He told me to write that he apologizes but he won't have time to translate the intermediate text now.

6.4.2.2. Free-writing task

This time he selected the right task [intermediate].

According to the report, after realising that he made a mistake in the previous task by selecting the basic level text to translate, he decided that in the free-writing task he would select the intermediate topic to write about. However, only one word was searched for and the source selected was Google web-browser.

He's using Google to search for the right spelling of the word neighbourhood. He expects that Google will correct his spelling. Seriously, this is taking ages; not even Google can identify what he's writing. He keeps typing neugebauer and keeps finding the chocolate factory. It's half past noon and I think he's hungry.

Once again, his colleague suggested that he use Google Translate and type the word *bairro* in Portuguese to obtain the translation *neighbourhood*. He declined her suggestion one more time.

I told him to use Google Translate and search for the word bairro, but he refuses to do what I tell him.

Using Google web-browser he finally found the correct spelling of the word he was searching for.

He finally found it. I thought I was stuck in a loop.

6.4.3. Results

This section presents the outcome of the two tasks performed by the participant. The same colour system indicates the participant's errors (in red) and hits (in green) resulting from his use of reference sources. Finally, highlighted in yellow are the errors that did not result from any consultation.

6.4.3.1. Translation into native language

Hamid vive em casa com seus pais e irmão. Ele é um estudante de engenharia civil no 1º ano de faculdade. Ele criou um espaço no seu quarto onde ele estuda. Ele tem uma pequena mesa em frente à uma parede sem decoração. Na mesa ele tem um computador e um grande espaço onde ele pode esparramar seus livros e artigos. Algumas vezes Hamid deita na sua cama durante os estudos, especialmente quando ele quer assistir algo na TV. Ele divide o quarto com seu irmão caçula. Hamid fica aborrecido pois algumas vezes seu irmão entra no quarto e faz barulho.

6.4.3.1.1. Errors resulting from consultation

Unfortunately, this analysis will be very limited for two reasons: just one word was searched for and the source used was not revealed in the report. The single error that resulted from consultation was the word *bare* translated as *sem decoração* [without decoration]. Even though this equivalent is right in terms of word choice, spelling and grammar it does not translate precisely the meaning of the original, i.e. a bare wall is more than a wall without decoration, it is a wall without anything. Here the preferred translation would be *pared vazia* [bare wall or *empty wall, translating it literally].

6.4.3.1.2 Hits resulting from consultation

Just one word was searched for, thus there were no hits resulting from consultation.

6.4.3.1.3. Errors not resulting from consultation

There were three errors that did not result from consultation. Two of them are located at the grammar level of language analysis and the other one at the meaning level. The meaning error was the omission of part of the original text: *where he does most of his studying* was translated simply as *onde ele estuda* [where he studies]. According to the report, the

participant did not know where to search for an appropriate translation to this phrase and decided to cut the sentence short by omitting this part. The model developed in the present study to classify the errors treats omissions of parts of the original texts as meaning errors.

The two errors that are located at the grammar level are not relevant to this study given that they are not a result of interference (foreign language or original text structure). Instead, they are typical errors of native Portuguese speakers. The first error is the misuse of the possessive pronoun *seus* [his] that in Portuguese has to agree with the noun in gender and number. The original sentence is *his parents and brother* and it was translated into Portuguese as *seus* [plural] *pais* [plural] *e irmão* [singular]. The first noun that comes after the pronoun is plural (parents) but the second is singular (brother). Thus, according to the grammar rules of Portuguese he would have to repeat the pronoun in order to make it agree with all the nouns of the phrase, for example: *seus* [plural] *pais* [plural] *e seu* [singular] *irmão* [singular]. The second grammar error is the misuse of the definite article *a* [the] before a numeral *uma* [a/one]. He translated *that faces* into Portuguese as *em frente à*. In Portuguese, the graphic accent on the ‘a’ indicates that there is a fusion of the preposition *a* [to] and the feminine definite article *a* [the]. In this case, the correct translation would be: *em frente a* (without the graphic accent).

6.4.3.2. Free-writing task

The participant selected the topic in which he had to describe what he normally observes in his journey from home to his study/work place. Using the same colour system, the task result is as follows:

I catch two buses to go to the university. **In the way**, I can see my **neighbourhood**. After that, I see the AACD and the **esportive** center of PUC-rs. **By** the window of the second bus I just see the Dilúvio river and **the** Bento Gonçalves street, that are not beautiful places to **look**.

6.4.3.2.1. Hits resulting from consultation

The single consultation that resulted in a hit was the word *neighbourhood* searched for using Google web-browser. According to the report, accessing the information using this source was not easy. The problem of using Google as a spell checker is that it can lead the user to the most frequent word close to what is being typed. In the case of this participant the most frequent word close to what he was typing was a brand of chocolate.

6.4.3.2.2. Errors resulting from consultation

There were no errors resulting from consultation in this task.

6.4.3.2.3. Errors not resulting from consultation

The errors that did not result from consultation were located at all levels of language analysis and were exclusively the result of the interference of the participant's native language. For example:

(a) participant's sentence

In the way I can see my neighbourhood

(b) preferred sentence

On the way I can see my neighbourhood

Even though this sentence can be understood in terms of grammar and meaning, it is not very idiomatic. The interference can be clearly spotted as *in the way* is a syntax and semantic calque of the structure *no caminho* in Portuguese.

(a) participant's sentence

and the **esportive** center of PUC-rs

(b) preferred sentence

and PUC-rs' sports centre

The misspelling of the word *sportive* is clearly influenced by the spelling of its cognate in Portuguese *esportivo*.

(a) participant's sentence

By the window

(b) preferred sentence

Through the window

This is a typical example of a grammar error that affects the meaning of the sentence and, again, is a result of the interference of the participant's native language. The preposition *por* in Portuguese has multiple uses and can be translated into English as *by, through, down* – e.g. enviar **por** email [send **by** email], olhar **pela** (por+la) janela [look **through** the window], caminhar **pela** (por+la) rua [walk **down** the street]. The multiple uses that a single preposition can have in Portuguese is the source of perhaps the most frequent type of grammatical error that Brazilians make in producing English.

(a) participant's sentence

and **the** Bento Gonçalves street

(b) preferred sentence

and Bento Gonçalves street

In Portuguese, the use of a determiner before a noun is compulsory. Brazilian learners of English often transfer this rule to the target language. The result is the very common grammar error exemplified above.

In this chapter I presented a detailed examination of four participants in my study. In research into dictionary use, case studies, like those presented in this chapter, are an unusual way of reporting findings, which impedes potential comparison with the results from previous studies. The decision to include case studies in this thesis derived from the wish to exploit the richness of the description provided by some of the participants about the consultation process and, in addition, to shed light on the origin of some behaviours that are widely reported in this field, but are not yet fully understood. For instance, many studies suggest that English learners believe that monolingual dictionaries are better even though they prefer and more frequently use bilingual dictionaries (e.g. Lew 2004). Through a detailed examination of the reports, we can find some possible explanations for this behaviour, as in Case study 1, where the participant stated: “It’s been a while since our teacher advised us to use monolingual dictionaries [...] Though she feels more confident with bilingual dictionaries, she decided that in this task she would make the effort to use a monolingual dictionary”. The case studies were also crucial to interpreting the data presented in Chapter 5 in order to answer the research questions. For instance, the data presented in Chapter 5 reveals that the task in which the fewest participants consulted any reference source was the free-writing task, which could suggest that learners search for fewer words to perform encoding tasks. However, by looking at the case studies, in particular Case Study 1 in which the participant states “she decided to cut her ideas short”, we can infer that in reality the low number of consultations in this task is most likely related to avoidance mechanisms often identified in foreign language acquisition. Issues like this will be further discussed in Chapter 7. To sum up, the objective was to present an alternative viewpoint to the results shown in Chapters 4 and 5. In the next chapter, I discuss all the results from my experiment.

7. DISCUSSION

With a view to establishing Brazilians' profile as intended target-users of English dictionaries and other reference sources, this chapter discusses both the results and analysis of the field study presented in the previous chapters (Chapters 4, 5 and 6). Each subsection in this chapter answers one of the research questions set out at the end of Chapter 2 (Section 2.5). The discussion of each research question draws on participants' error analysis results, questionnaire responses and report analysis. In some, the results of the investigated group are compared to results of other previous studies. This discussion also lays the groundwork for future lexicographic works designed to assist Brazilians in the use and acquisition of EFL.

7.1. Do Brazilians use dictionaries?

According to the Post-Task Questionnaire results, the majority of the participants claim to use at least one type of dictionary to perform EFL tasks. The percentage of participants who claimed to use dictionaries varied, however, according to the type of EFL task performed. Translation tasks, both into mother tongue and foreign language, were those in which the highest percentage of subjects reported using dictionaries (69% and 64% respectively). To perform the free-writing task, the percentage decreased to 56%; and the type of task in which fewest participants claimed to use dictionaries was comprehension (21%).

The analysis of the task results revealed, however, that Brazilians who use dictionaries to perform EFL tasks are a minority. Again, the percentage varied according to the type of task performed and translation into native language was the one in which the highest number of participants consulted dictionaries (39%). Unlike the results of the questionnaire, the use of dictionaries to perform the comprehension task was reported by 33% of the participants – the second highest percentage together with translation into foreign language (also 33%). The type of task in which fewest participants used dictionaries was free-writing (5%).

7.1.1. Reported/actual behaviour gap

As previously discussed, the gap between reported and actual behaviour seems to be a topic yet to be explored in lexicography user research (see Section 3.2.2.5). In other fields like psychology and sociology, however, the gap between reported and actual behaviour has been widely investigated and some of its principles can be applied to this discussion. The noticeable contrast between participants' claimed use of dictionaries and their actual use can be understood according to the 'social desirability response bias' theory (cf. van de Mortel 2008). Social desirability is the wish people have to be perceived as others want them to be. In other words, people will sometimes respond based on what they think they should say, do

or want. If we interpret the dictionary use among foreign language learners as the most ‘desirable behaviour’ when compared to the use of other reference sources, like Google Translate for instance, this theory can explain the apparent discrepancy. People are much more likely to omit the truth when the question they are asked has a socially accepted ‘right answer’ (*ibid*). Evidence that social desirability and conformity had an impact on participants’ responses to the questionnaire and their behaviour in the experiment are present throughout the results. Dalton & Ortegren (2011) listed a series of studies that evaluated the influence of gender differences on social response bias and concluded that women are more likely to seek social approval. Coincidentally or not, all the five participants who admitted in the questionnaire to not using dictionaries in any situation were male. Further, 5% of the sample claimed to use semi-bilingual English/Portuguese dictionaries to perform EFL tasks – a type of dictionary that is no longer available in the Brazilian lexicographic market for this pair of languages (see Section 2.1). Evidence can also be seen in the reports of their look-up strategies, as statements like “she knows that at this stage she should be using monolingual but [...]” or “he knows that Google Translate is not a reliable source but [...]” were recurrent among almost all the groups.

7.1.2. Dictionary consultation and task performed

At first glance, it might seem intriguing that the translation into native language task had a higher percentage of dictionary consultation (39%) than the translation into foreign language task, especially if we take into account the various studies that indicate that learners’ receptive vocabulary is substantially bigger than their productive vocabulary (cf. Read 1988; Nation 1990; Meara 1996; Laufer 1998). However, a deeper analysis can explain this result. First, this percentage does not correspond to the consultation rate of these tasks. In other words, it is not that participants searched for more words to perform the receptive than the productive translation task, it just means that, in the translation into native language task, dictionaries were more used for this purpose (the percentage does not account for the use of other reference sources). Second, participants could choose from three levels of task: basic, intermediate and advanced. Commonly, participants selected higher levels when performing the receptive tasks and lower when performing the productive ones, as suggested in one of the reports presented in Chapter 6 (Section 6.2.2.1): “she [the participant] said that if the task was to translate a text into Portuguese she could probably do the advanced level”.

Moreover, participants’ lack of familiarity with dictionaries – a topic that will be further discussed in this chapter – might have had an impact on this result. One of the most relevant difficulties in the process of tracing back participants’ look-up strategies was that a significant proportion of the investigated sample did not specify in their reports the

dictionary consulted. Participants often indicated in their reports that the selected reference source was a bilingual dictionary that the participant who was performing the task found by typing *dicionário de inglês* in the Google search bar and opening the first page listed. This behaviour is potentially harmful in the sense that the first option is not necessarily a good dictionary. Indeed, when I repeated this consultation strategy the first option presented by Google was a non-pedagogic bilingual dictionary called Michaelis. This dictionary simply lists all the possible translations of a given word without providing its users with any grammar or usage information. The example below is the entry *bare* extracted from Michaelis, which was one of the words most often searched for by the participants who chose to perform the basic-level translation into native language task.

bare

adj

1 nu, despido, sem coberta.

2 com a cabeça descoberta.

3 aberto, exposto, à vista.

4 vazio, sem mobília, desguarnecido.

5 simples, sem adorno.

6 gasto, poído.

To take advantage of a reference source like this, learners need to have a high level of proficiency in the target language in order to choose the most appropriate equivalent within the context in which the word is presented. This might explain why the percentage of bilingual dictionary consultation was higher in the translation into native language task. When the target language is one's native language, it becomes much easier to choose the most appropriate equivalent since grammatical appropriateness and idiomaticity are less problematic.

Another aspect that needs to be discussed is the percentage of participants who consulted dictionaries to perform the comprehension task. In the questionnaire, the percentage of participants who claimed to use dictionaries to understand a text in English was 21% and in the actual, task the percentage who used dictionaries was 33% – the only situation in which the self-reported percentage was lower than the percentage observed. A possible explanation lies in the way that the question was expressed to the participants in the questionnaire and in the structure of the comprehension task itself. In the questionnaire, participants were asked to indicate in which situations they normally consult dictionaries, and one of the possible answers was to understand the meaning of a word that they come

across in a text – to understand a text in English. However, in the actual task, participants were provided with a text in which some of the key-words were underlined and they were asked to explain the meaning of these words (in Portuguese) within the context of the text. The fact that they were instructed to provide a meaning for the underlined words might have triggered the consultation process. Perhaps if participants were reading the very same text at home, they would have simply skipped the unfamiliar words and tried to understand the overall meaning of the text without them. Moreover, results reveal that a significant proportion of the participants treated this task as a translation task, i.e. not reading the text and simply translating the underlined words. Evidence of this behaviour can be seen in the large number of participants with a high level of proficiency in English who provided the meaning of the word ‘frightening’ as an adjective and not as a verb as it was in the text, indicating that they did not read the entire sentence.

Finally, the task in which the results presented the most significant discrepancy between reported and actual behaviour was the free-writing. In the questionnaire, 56% of the participants reported using dictionaries to write a text in English from scratch. However, this behaviour was detected in only 5% of the sample. A possible explanation may rely on the avoidance mechanism often observed in foreign language acquisition. According to Laufer and Eliasson (1993, p. 36), avoidance is one of the strategies that ‘learners may resort to in order to overcome a communicative difficulty’. Usually what is avoided in the target language are words or structures that are perceived as difficult by the learners (*ibid*). When faced with a difficulty to encode in the target language, learners commonly use words and structures that they are already familiar with. This theory can be used to understand the sharp difference between learners’ reported and actual behaviour in the free-writing task. It is possible that instead of resorting to dictionaries to overcome their communicative difficulties, they opted to use words and structures that they found in some sense easier and that conveyed more or less the same content that they initially wanted to express. When avoidance takes place, ‘learners communicate by those linguistic means that make them feel safe from error’ (*ibid*).

7.1.3. The overall low dictionary consultation rate

There are at least two aspects that need to be taken into account in order to understand the overall low percentage of participants who consulted dictionaries to perform the EFL tasks: the design of the experiment itself and the participants’ lack of familiarity with this type of reference source.

7.1.3.1. The design of the task

In three of the four EFL tasks used in the experiment (the two translation tasks and the free-writing), participants had the opportunity of selecting among three different levels of difficulty (basic, intermediate and advanced) according to their perception of their own proficiency level. The possibility of choosing the difficulty of the task made some participants, who were afraid to make too many mistakes, opt for the easy tasks (see Section 7.1.3.2.2 below). This becomes evident in the reports of some subjects like the one presented in Case Study 4 (Chapter 6, Section 6.4.2.1), in which the participant explained that he was choosing the basic level task in order to produce a better-quality translation. The result of choices like this is a lower rate of consultation, because when a student chooses a task designed for a lower proficiency level, he/she is more likely to be familiar with the vocabulary used in it and therefore search for fewer words in dictionaries. The possibility of consulting other types of reference sources, Google Translate for instance, also contributed to the low rate of dictionary consultation. With the exception of the free-writing task in which very few participants consulted any type of source, the overall rate of reference source consultation was very high: one in every ten words was searched for in a reference source, while in the comprehension task this rate was even higher, at one in two.

7.1.3.2. Participants' lack of familiarity with dictionaries

Throughout the analysis of the experiment results there is evidence that the research subjects are not familiar with dictionaries, beginning with their poor performance with this type of reference source. The analysis of the effectiveness of the consulted reference source revealed that in almost 70% of the cases in which the consultation in dictionaries resulted in an error the correct information (an appropriate equivalent or definition) was present in the entry. Moreover, in almost 50% of the cases this information was very easy to access, i.e. the appropriate equivalent was the first option listed in the entry. Only in 20% of the cases in which the information was present in the reference source would finding it have required a high level of language awareness, likely to be higher than the participants had.

Both the questionnaire and reports reveal that most of the participants do not have the required knowledge to identify and choose an appropriate dictionary from the multiple titles available on the lexicographic market. In the Post-Task Questionnaire, fewer than 3% of the investigated subjects claimed to use learners' dictionaries to perform EFL tasks. This percentage, however, increased to 13% when analysing their reports, evidencing that participants did not have the experience to enable them to distinguish between general monolingual dictionaries and learners' dictionaries. Moreover, through the look-up strategy reports it is possible to observe that most participants had never heard of important titles like

the Big Four [now the Big Five] (see Section 2.2). In Case Study 1, for example, the participant interacted with her peer in order to choose a dictionary. She was advised to choose Collins Cobuild because her peer remembered hearing of this title at some point: “I remember hearing something about this dictionary, it’s famous I guess” (See section 6.1.2.1).

Further supporting evidence of participants’ lack of familiarity with dictionaries was extracted from their reports. On multiple occasions, participants reported not consulting a dictionary because they were sure that the information that they were searching for would not be there. This included grammar information, collocational patterns, terminology and more commonly what they considered to be ‘informal words’. A good example of this belief can be found in Case Study 1 (see Section 6.1.2.2) in which the participant gave up searching for the word *brecha* (loophole) believing that, because this word was too ‘informal’ in Portuguese, it was unlikely to be in dictionaries. The following sections suggest some explanations to justify participants’ lack of familiarity with dictionaries.

7.1.3.2.1. Myths about dictionaries

This section discusses participants’ misguided perceptions of the content and reliability of dictionaries. Based on the reports, it seems that the low rate of dictionary consultation might have its origin in some myths that participants build up about this type of reference source. The most recurrent ones are that there are no informal words in dictionaries and that monolingual dictionaries are better.

7.1.3.2.1.1. ‘There are no informal words in dictionaries’

Participants’ misguided perception of the content of dictionaries, grammars and other didactic materials is the ultimate result of decades of prescriptive mother language instruction in Brazil (Malfacini 2015). According to Luft (1995), this type of teaching aims to lead students to replace their own linguistic standards, considered wrong by their teachers, with the more prestigious ones considered correct. In other words, the tradition of language instruction in Brazil only values one variety of language, the standard form. Also according to Luft (1995), this was inherited from Brazil’s period as a colony. Historically, dictionaries and didactic materials only started to be developed and printed in Brazil in the mid-19th century: before that everything, including Portuguese dictionaries, was imported from Europe (Nogueira 2007, p. 24). Even after this period, when dictionaries and other materials started to be produced in Brazil, they were based on and standardized according to the Portuguese variety of the language, generating an artificial prestige standard language that was not spoken by anyone in Brazil. The belief that dictionaries do not contain informal words probably dates from this period. The so-called ‘informal words’ were in reality

examples of the Brazilian variety of Portuguese. It was only in the 1970's with the publication of the first edition of the *Dicionário Aurélio da Língua Portuguesa*, that dictionaries began to describe the Brazilian variety of Portuguese. This is a very recent event and, thus, participants' misguided beliefs about the content of dictionaries are understandable and presumably were extended to foreign language instruction materials too.

7.1.3.2.1.2. 'Monolingual dictionaries are better'

In participants' reports, especially those from the older generation (the English course group), there is evidence that English learners in Brazil are taught to believe that only monolingual dictionaries can help them to progress through levels in the proficiency scale. This belief is part of the 'language immersion' trend that started in Canada in the 1960's and became popular in Brazil in the 1980's (Backer 1993). According to this method, any reference to students' mother language, including bilingual dictionaries, should be abolished, since it was believed to be harmful and to slow down the process of language acquisition. Even though the efficiency of this method was discredited by many education specialists (Lindholm-Leary 2001; Passel & Cohn 2008; Patterson, Hakam & Bacon 2011; Christian 2011) and lexicographers (Lew 2004; Dziemianko 2012) it still has a strong impact on English learners and teachers in Brazil.

Participants' look-up strategy reports illustrate clearly the impact and the consequences of this belief. Participants often reported that using monolingual dictionaries was something that they were not willing to do, but that they thought they should be doing. These consultations most often resulted in errors or in information that participants did not use (60%). Unable to understand the definition of the lexical items searched for, participants would either resort to a bilingual reference source or try to rely on and extract some meaning from the familiar words in the definition – the Latin-derived words for instance. To rely on the Latin-derived words in a monolingual definition is a common behaviour observed among Brazilian students of English and it can have positive outcomes as long as the definition is developed for this purpose (Reolon Jardim, 2013). In other words, to encourage learners to take advantage of the lexical similarities between English and Portuguese the lexicographer needs to know this pair of languages in order to write the definition avoiding false-friends and opaque words. Because English learners' dictionaries are developed for a general target group, participants' strategy of trying to guess the meaning of the defined word by focusing on the Latin-derived words present in the definition was not always effective. An example of this failed strategy was presented in Case Study 1 in which the participant consulted a monolingual learners' dictionary (Collins Cobuild) to search for the word *wall* (See Chapter 6, section 6.1.2.1).

wall *noun*

1. a. a vertical construction made of stone, brick, wood, etc, with a length and height much greater than its thickness, used to enclose, divide, or support b. (*as modifier*) ⇒ *wall hangings* ▶ Related adjective: mural

CC, 2003 (s.v. *wall*)

Having failed to fully understand the definition, the report indicates that the participant focused her attention on the related adjective that appears in the entry: *mural*. The word seemed familiar, and then she related it to the word *muro* (Pt) to produce the erroneous translation.

As already mentioned, the reports also reveal that participants do not know the difference between general monolingual dictionaries and learners' dictionaries, even though they tend to consult the learners' type more often. One possible explanation for this is that, as a consequence of the language immersion trend, learners' dictionaries became popular in Brazil during the 1990's, especially the so-called Big Four learners' dictionaries. As a consequence, when searching for a reference source to consult, participants recall having heard at some point in their lives names like Collins Cobuild or Oxford. The fact that participants could not achieve satisfactory outcomes using these dictionaries is not related to the quality of the reference source itself, but to its inappropriateness to participants' proficiency level.

The Big Four were developed and designed to address the needs of advanced learners of English rather than the beginners who comprise the majority of learners in this study and in Brazil as a whole. In this study, participants with higher levels of English proficiency, like translators and teachers, achieved very good outcomes using this same type of reference source. However, it is important to highlight that they are a minority, and the majority of the participants achieved better outcomes using bilingual reference sources.

That said, it is worth discussing the reasons why the majority of the sample did not display higher levels of proficiency in English in these tasks, given that the average period of foreign language instruction of participants was 4 years.

7.1.3.2.2. EFL teaching in Brazil: educational background

Participants' lack of familiarity with dictionaries can also be a consequence of the poor quality of English teaching and learning in Brazil, especially in regular schools. Even though the country has parameters that determine and standardise the teaching of this language in

Brazilian schools (both state and private), experts, teachers and even the government acknowledge that this teaching is not effective in terms of helping students to progress towards a good level of proficiency in the foreign language.

According to a survey commissioned by the British Council (2014), the main causes of the inefficient teaching of English in Brazil are the unsuitable structure for language training purposes, classes with a high number of students, insufficient course load and the difficulty of finding trained teachers – most of the English teachers in Brazil are intermediate learners themselves (*ibid*). In this context, the teaching of English in Brazilian schools is limited to basic grammar rules that only enable students to read short texts and answer multiple choice questions. Moreover, according to Krieger (2006), most English teachers in Brazil are not trained to explore the potential of dictionaries as a learning tool in the classroom. The result is that Brazilian FL students are often unaware of dictionaries' potential to solve problems.

In a study performed by Krieger (2006), the author focused on the use of dictionaries among Brazilians. Even though Krieger's investigation was about monolingual Portuguese dictionaries, some of her findings can be applied to this study. She highlighted the fact that despite the undeniable recognition of the importance of dictionaries, their great potential as didactic materials is not usually explored (2006, p. 45). Learners in educational environments in Brazil (schools, universities) tend to reproduce their social practice of dictionary consultation, limiting it to obtaining straightforward answers. This may also explain why Google Translate was the preferred reference source of almost all the groups – with the exception of the English Course group in which age can be seen to have played an important role in reference source choice. As a reference source, Google Translate has an advantage over dictionaries, which is handling the translation of entire sentences rather than focusing on individual words. This advantage is particularly useful for disambiguating polysemous words, which can take care of many errors resulting from naive bilingual lookups. However, the content of participants' reports revealed that the large majority of the investigated sample used Google Translate to search for the translation of individual words rather than phrases or sentences.

These problems with the quality of the FL instruction in Brazil can also explain a trend observed in participants' reports: participants' incapability of establishing their own proficiency level. Participants were often uncertain when selecting which of the activities to perform. Several reports revealed that participants felt they should be able to perform the more advanced tasks considering the number of years that they had dedicated to the study of the English language. However, several of these same participants subsequently felt unable to complete the more advanced tasks. Nevertheless, it becomes clear that in Brazil the

correspondence between the number of years dedicated to foreign language instruction and proficiency level is often unbalanced. This also explains why participants who had been learning English for 3 years or more could not perform the intermediate or advanced tasks presented in the study. In the Post-Task Questionnaire, in response to the question “how many years have you studied English?”, participants often counted the years they had studied English in primary and secondary school, often reaching a total of 3 years or more. Whereas in other countries 3 years is enough time to enable students to progress from an elementary to an intermediate level of proficiency, in Brazil this does not necessarily happen.

7.1.3.2.3. The high price of dictionaries in Brazil

Another factor which contributes to participants’ lack of familiarity with dictionaries is their high price in Brazil. According to Nogueira (2007, p. 28), the possibility of printing and producing dictionaries in Brazil’s national territory and the tax exemption on books provided by the government does not in fact lower the price of this product to its final consumers. Also according to Nogueira (2007, p. 28), ‘circulation’ is the explanation behind their price: dictionaries are expensive because very few people buy them, very few people buy them because they are expensive. This creates a vicious circle that is hard to break (Nogueira 2007, p. 28). This may explain why almost 30% of people in Brazil do not have a single book in their home (British Council 2014, p. 9).

In fact, 77% of the participants stated that cost is important when choosing a dictionary and the most recurrent justification was because they are very expensive in Brazil and there are free reference sources available online. Moreover, 90% of the participants who claimed to use printed dictionaries said they liked or used those in pocket format (the cheapest format).

These results match the information provided by Arcaica, one of the most important distributors of dictionaries in Brazil (personal communication, 2017). The most affordable and therefore popular English dictionaries in Brazil are bilingual and in pocket format. According to Arcaica, fourteen of the twenty best-selling dictionaries in Brazil are pocket format bilingual dictionaries and only one is a monolingual English dictionary.

The problem is that generally bilingual pocket dictionaries are non-pedagogical reference sources; they have a simplified microstructure and, therefore, do not contain the necessary information to help the learner user (Landau 2001, p. 37). The microstructure of bilingual Portuguese-English dictionaries is often composed of the headword written in bold, the abbreviation of its grammatical function (adj, pn, adv) and a list of translated equivalents presented without any grammar or usage information. Examples are also rarely provided.

7.2. Do Brazilian learners prefer bilingual or monolingual dictionaries?

The questions addressed to the participants in the Post-Task Questionnaire were not exclusively about preferences but also about usage. Rather than asking just their preferred type of dictionary, participants were also asked about the dictionaries they normally use. Assuming that usage and preference are correlated, 92% of the sample claimed to prefer/use bilingual dictionaries and the remaining 8% reported not using or not liking any type of dictionary. Of the 92% of the sample that claimed to use bilingual dictionaries, 18% also liked monolingual dictionaries and 3% learners' dictionaries.

Similar percentages appeared in the analysis of the performed tasks. Bilingual dictionaries were preferred in all the tasks and by almost all the groups (except the university and the translators group), however, the frequency of usage of monolingual and bilingual dictionaries varied according to the group and the task performed (see Chapter 5). In the free-writing task only bilingual dictionaries were used. The rate of consultation of monolingual dictionaries was 1:9 in the translation into native language task (in other words, 1 in 9 consultations was made in monolingual dictionaries and the rest were made in bilingual dictionaries). In the translation into foreign language task the rate increased to 1:4 and in the comprehension task it slightly decreased to 1:5. Using percentages instead of a ratio, the figure below (Figure 7.1) illustrates participants' dictionary preferences in the four performed tasks.

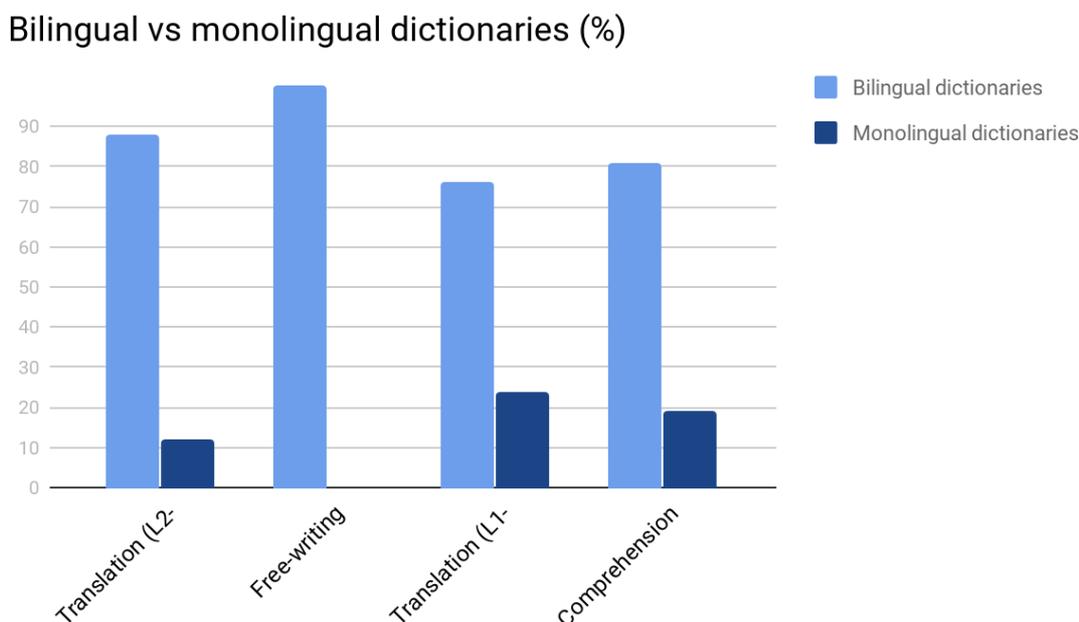


Figure 7.1: Bilingual vs Monolingual: dictionary preference in each task

As can be seen in this figure, in the translation into native language task 88% of the words were searched for in bilingual dictionaries and 12% in monolingual dictionaries. In the free-

writing task 100% of the words were searched for in bilingual dictionaries. In the translation into foreign language task 76% of the words were searched for in bilingual dictionaries and 24% in monolingual. In the comprehension task 81% of the words were searched for in bilingual dictionaries and 19% in monolingual dictionaries. These percentages were calculated over the total number of dictionary consultations and do not take account of the use of other reference sources.

There is nothing new in stating that bilingual dictionaries are learners' preferred type. When investigating the performance of Polish learners of English with different types of dictionaries, Lew (2008, p. 45) observed a weaker performance among beginners and intermediate learners when using monolingual dictionaries and concluded that the most effective tool for language learning purposes is a good bilingual dictionary. Lew (2008) also observed that when his investigated subjects used bilingual dictionaries the percentage of errors was always lower than the percentage of hits. A similar pattern was observed in the present study, with the exception of the state school group in which the percentage of errors using bilingual dictionaries was higher than the percentage of hits. Figure 7.2 below illustrates participants' performance with bilingual dictionaries. Blue columns show the percentage of hits and red columns show errors. The graph only includes the groups that used bilingual dictionaries.

Participants' performance with bilingual dictionaries (%)

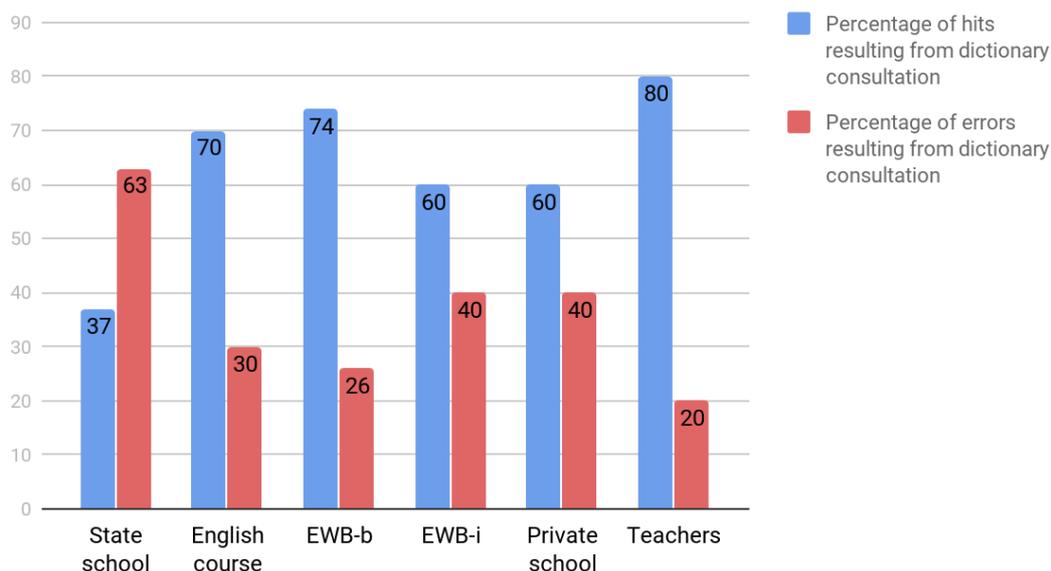


Figure 7.2: Performance with bilingual dictionaries: percentage of hits and errors

In Figure 7.2, groups are ordered according to the average proficiency level of their participants, with the state school group having the lowest proficiency and the teachers' group the highest. However, there appears to be no correlation between proficiency level

and performance with bilingual dictionaries. Even though the state school group had the weakest performance with bilingual dictionaries and the teachers' group the best, the relationship between language proficiency and performance was not observed among the other investigated groups. Both English course and EWB-b groups were composed of beginning learners of English and yet their performance with bilingual dictionaries was better than the intermediate groups (EWB-i and the private school). This result indicates that proficiency may not be central when analysing the effectiveness of dictionary consultation and that other factors may be equally important in this process, for instance participants' dictionary consultation skills and the efficacy of the consulted dictionary. These two aspects can help us to understand why the English course group demonstrated a better performance with bilingual dictionaries than the EWB-i and private school groups.

Dictionary consultation skills are built upon two aspects: formal dictionary training and frequency of dictionary usage. Given that the only group formally trained to use dictionaries is the translators, the following discussion will be focused on the frequency of dictionary usage aspect which can be applied to all groups. In terms of consultation skills, practical experience is just as important as formal instruction. In other words, the more one uses a given reference source, the more one will become familiar with its content and become able to take advantage of it. For instance, participants who claimed in the questionnaire to use Google web-browser as a reference source knew that if they placed two or more words between quotation marks they would get frequency information. In the same way, participants who claimed to prefer Google Translate were familiar with its thesaurus function and those who stated that they often used Wikipedia knew about the possibility of switching the language in order to get a precise equivalent. In this regard, presumably the English course was the group most familiar with bilingual dictionaries, which can explain their positive performance with this source. The frequency of dictionary use among participants in this group was higher than all the others and even though 40% of them claimed in the report to use reference sources other than dictionaries, reports reveal that dictionaries were the preferred reference source in 99% of the instances that a word was searched for. Moreover, this group only used printed dictionaries which might also have had an impact on their results, since the quality of the dictionary used is a factor that can influence participants' performance. It is important to draw attention to the fact, however, that the average age of the English course group might have had an impact on these findings (60+ years old). As previously stated, in terms of dictionary skills, experience is just as important as formal instruction.

In a 1984 study, Tono investigated the performance of 19 Japanese advanced learners of English with monolingual learners' dictionaries and bilingual dictionaries and concluded

that their performance was substantially better when using the bilingual type. The researcher credits these results to the good quality of bilingual English/Japanese dictionaries available on the lexicographic market. According to Tono (1984, p. 46), bilingual dictionaries in Japan are almost pedagogical reference sources in terms of macro- and microstructure. Like learners' dictionaries, bilingual dictionaries in Japan contain grammar, usage and frequency information in each entry as well as examples.

The possibility of freely using the web together with subjects' lack of familiarity with dictionaries made some participants in almost all groups type *English/Portuguese dictionary* into Google and open the first listed dictionary, regardless of its content. This behaviour, however, was not observed among the participants in the English course group. Even though this group had access to the internet, they all opted to use the available printed bilingual dictionary – *Dicionário Oxford Escolar* (DOE). When compared to other bilingual Portuguese/English dictionaries available online, the DOE has a richer microstructure. Its entries very often contain grammar and usage information; phraseology and collocational patterns are also listed. In some entries of the DOE, users can find boxes with instructions written in Portuguese of how to use the English word they are searching for and which is the most appropriate translation in different contexts.

Dicionário Oxford Escolar	Michaelis Inglês & Português
<p>tolo, -a <i>adj</i> dumb, stupid</p> <p>No inglês americano dumb e stupid são praticamente sinônimos, stupid é um pouco mais forte: <i>uma desculpa tola a dumb excuse - não seja tolo e pare de chorar</i>. Don't be stupid. and stop crying. No Inglês britânico diz-se silly ou stupid</p> <p>- <i>sm-sf</i> fool LOC fazer-se de tolo to act dumb</p>	<p>tolo</p> <p>to.lo [t'olu]</p> <p><i>adj</i></p> <p>1 foolish, crazy, daft, loony, silly. 2 stupid, soft brained. 3 simple-minded, naive.</p>

Figure 7.3: DOE and Michaelis: Comparison of microstructure

Figure 7.3 compares the information presented in the entry *tolo* [Pt] in the DOE and in Michaelis (a bilingual online dictionary and usually the first option listed by Google). Note that the same entry in the DOE contains much more information than in Michaelis. The DOE lists two possible equivalents for the word *tolo* [Pt]: *dumb* and *stupid*. It informs its users that the word is an adjective and provides them with usage information. The information written in Portuguese constitutes instructions designed to help learners to choose the most appropriate translation according to the context in which the word will be employed and the variety of English that they will use (British or American). In the blue box there are also

examples of collocational patterns. At the bottom of the DOE entry a synonym is presented together with an idiom. On the other hand, analysing the same entry in Michaelis we can see that its users are only provided with the information that *tolo* is an adjective. The entry lists a number of possible translations of the word into English, but does not inform its users of the situations in which each equivalent is more often used, or which is the most frequent one. Moreover, in Michaelis, the information about pronunciation and syllabic division under the headword is not useful from the perspective of a Brazilian learner of English.

The aim of this study is not to evaluate or criticise the content of existing dictionaries. The reason behind the choice of Michaelis for this comparison is the evidence in participants' reports that this was the bilingual dictionary they were referring to when they reported the use of the first dictionary found after searching for *dicionário de inglês* using the Google web-browser. Problems like lack of grammar, usage and semantic information as well as examples are not exclusively observed in Michaelis. As previously discussed, the microstructure of bilingual English/Portuguese dictionaries is often very simplified in the sense that it fails to provide learners with the minimum necessary amount of information needed so that they can choose the most appropriate equivalent listed in the entry. These problems emerge because, generally speaking, bilingual English/Portuguese dictionaries are developed to serve two speech communities at once – Portuguese native speakers and English native speakers. According to Lew and Adamska-Salaciak (2015), the development of a bilingual dictionary addressed to two target groups is economically more viable and therefore more commonly found in the lexicographic market. However, lexicographers' intention to serve two target groups might not explain the content of Michaelis, for example. Figure 7.4 compares the content of two entries extracted from Michaelis: *tolo* [Pt] and *stupid* (one of its possible equivalents in English).

Michaelis (Português/Inglês)	Michaelis (Português/Inglês)
<p>stupid </p> <p>stu.pid</p> <p>adj</p> <p>1 estúpido, sem inteligência, tolo, simplório, obtuso: <i>don't be stupid!</i> / não seja bobo!</p> <p>2 cansativo, desinteressante, tedioso, cacete, maçador.</p> <p>3 imbecil, absurdo, sem sentido.</p>	<p>tolo</p> <p>to.lo</p> <p>[t'olu]</p> <p>adj</p> <p>1 foolish, crazy, daft, loony, silly.</p> <p>2 stupid, soft brained.</p> <p>3 simple-minded, naïve.</p>

Figure 7.4: Michaelis: Comparison of its passive and active microstructure

In both entries, the list of equivalents is presented without any semantic information.²⁹ However, what draws attention here is the fact that in the entry for *stupid*, instead of a phonetic transcription, the dictionary places an icon in which its user can hear the pronunciation of the word. This might indicate that the main target group of this dictionary is Brazilian learners of English. On the other hand, in the English entry *stupid*, the dictionary provides its users with an example of phraseology *don't be stupid: não seja bobo*. From the perspective of a Brazilian learner of English, phraseology examples are much more useful in the active part of the dictionary (Portuguese into English) than in the passive part (English into Portuguese). Moreover, the reason why the dictionary decided to include this specific expression is not clear as its semantic content is transparent, i.e. the meaning of each word can be directly translated from English into Portuguese. To sum up, the aim to serve two linguistic communities cannot entirely justify the content and organization of the information presented in most bilingual English/Portuguese dictionaries. Jackson (2002, p. 67) stated that the efficiency of a bilingual dictionary is related to a well-planned microstructure, which includes not only content but also design. To Jackson, a well-planned microstructure means that, when developing the dictionary, a lexicographer has in mind the needs of its potential users and that these needs will vary according to the type of task that users are performing. The passive (English to Portuguese) and the active (Portuguese to English) parts of the dictionary have to be developed independently and should not simply be a mirror image of one another (Jackson 2002, p. 61).

Having now considered the content of most bilingual English dictionaries and compared the content of Michaelis and the DOE, we can suggest that the English course group's preference for printed reference sources ultimately helped them to access better quality information, that is, information designed specifically for a learner user. Moreover, unlike the other groups, the English course group did not have to choose among the multiple available titles in the lexicographic market, given that the DOE was the only available printed bilingual dictionary. To conclude, the combination of frequency of dictionary usage and quality of the dictionary consulted might be the reason behind the positive performance of the English course group with bilingual dictionaries when compared to other groups in which the participants had a higher level of proficiency in English.

Regarding the use of monolingual dictionaries, participants' performance is much more closely correlated with a high level of proficiency in English. Figure 7.5 illustrates

²⁹ Besides, the first translated equivalent provided by Michaelis for the cognate *stupid* [estúpido] can be described as a false-friend, given that the meaning of the word in Portuguese is much more offensive than in English.

participants' performance with monolingual dictionaries. The graph only includes the groups that used monolingual dictionaries.

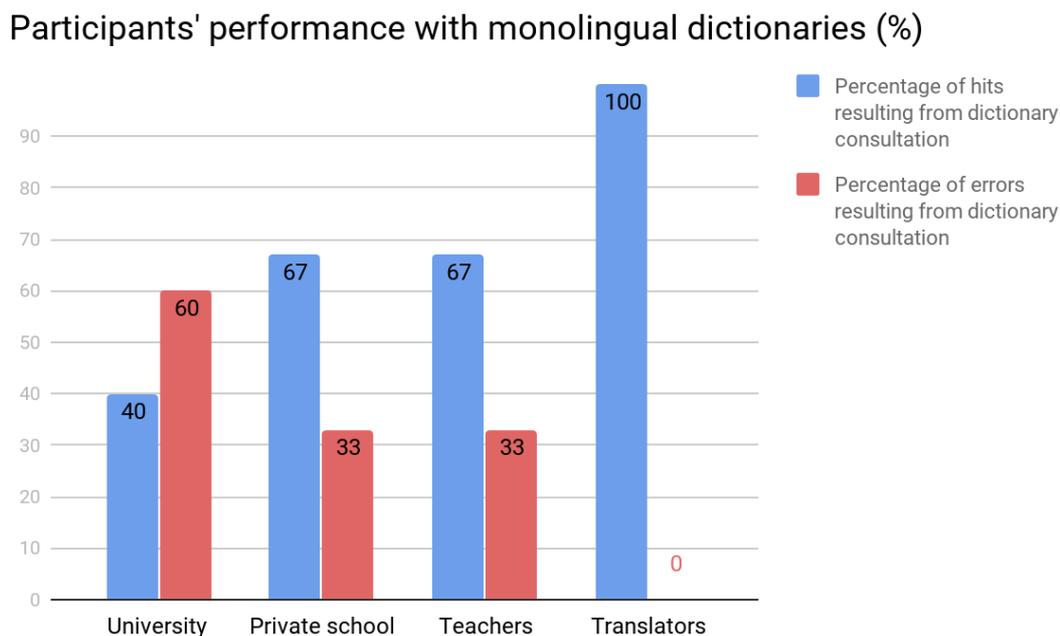


Figure 7.5: Performance with monolingual dictionaries: percentage of hits and errors

There are records of attempts at use of monolingual dictionaries among participants from other groups that are not included in this graph (English course, EWB-b, EWB-i). However, because these participants did not use the information found, most often because they apparently did not understand the definition of the word searched for, their results could not be classified as hits or errors and therefore were not included in this analysis.

In the graph above, groups are ordered according to their proficiency level in English, the lowest being the university group and the highest the translators' group. At first glance, it might seem a surprise that the proficiency level of school students was classified as higher than that of university students. In this regard, the first aspect that needs to be discussed is the difficulty of establishing the average proficiency level of all groups in general, but especially these two. That is because one single criterion cannot be applied, they are all subjective and each case has to be investigated separately. For example, the criterion 'difficulty of the task selected by the participant (basic, intermediate or advanced)' cannot be applied to those who have a misguided perception of their proficiency level. In the same way, due to the already discussed educational problems in Brazil, the criterion 'number of years of English instruction' also cannot be applied. Using participants' performance in the tasks (number of errors and hits) as a criterion is just as subjective. For example, if an intermediate learner chooses to perform an advanced level task he/she is more likely to make mistakes than an intermediate learner who chooses to perform a basic level task.

That said, the university and private school were the most heterogeneous groups among the ones investigated. The university group was composed of students who were attending a course called instrumental English (English for specific purposes). At the university where this study was conducted, this is an elective course that focuses exclusively on the development of reading skills so that students can learn how to decode academic texts of their fields of study and undertake a compulsory proficiency exam for admission in Brazilian postgraduate programs. The instrumental English course is, however, opened to all undergraduate and postgraduate students and anyone can enrol into it regardless of their proficiency level in English. Even though beginners are the large majority of students who attend this course, intermediate and advanced learners of English are also often found in the same groups. This is because there are a certain number of non-specific electives that are required for certain majors and some students who are proficient in English choose to do this course because they will not need to study hard for the final exam. Like the university, the private school group is also composed of beginners, intermediate and advanced EFL learners. The reason is that if they just had to rely on the English instruction provided by the school, they would probably be all beginners. However, some of them attend language schools outside of the school and, according to the Post-Task Questionnaire, one of them had already studied abroad.

Given that a single criterion could not be applied, it was necessary to trace back through their questionnaires: in this way, I learned that those who used dictionaries in the private school group had a higher level of proficiency level in English; as opposed to the participants from the university group.

7.3. What kind of information do Brazilian learners search for in dictionaries?

The answer to this question is based on the information provided by the participants in the Post-Task Questionnaire and look-up strategy reports. However, due to participants' broad interpretation of a questionnaire item that specifically addressed the use of dictionaries (see Section 5.1.5), and in view of the fact that frequency of dictionary consultation was very low in many of the investigated groups, the following discussion focuses on the type of information that participants searched for in any reference source that they might have used to perform the tasks, not only dictionaries. That said, this discussion approaches the issue of how the need for different types of information depends on the learners' proficiency level in English and the type of task they are engaged in. It also sheds light on the probable reasons why dictionaries are not participants' preferred reference source for searching for most types of information.

7.3.1. Variation of information needs according to participants' proficiency level

How reference needs vary according to the proficiency level of dictionary users was a topic explored by Lew (2004) in a study where he presented and discussed the results of a questionnaire-based survey about dictionary use. Lew (2004, p. 110) classified the nine types of information covered in his study in two categories according to their look-up frequency: core and peripheral. The three core types of information, which were most frequently searched for, included: meaning, English equivalents, and Polish equivalents. The remaining six types of information, less often searched for, formed the peripheral category: synonyms, style and register, collocation, sentence structure, part of speech, pronunciation.

For the particular purpose of the present discussion, an adaptation of Lew's model is used to classify the types of information that participants searched for in any reference source that they might have used to perform the tasks. The core category comprises the basic type of information: definition and equivalent (either Portuguese or English) and the peripheral category comprises the additional type of information: spelling, grammar information, use information, examples and frequency information.

According to the responses provided by the whole sample in the Post-Task Questionnaire, the information that the participants most often searched for in any reference sources are those of the core category (translated equivalents and meaning/definition) followed by those of the peripheral category (spelling, use information, grammar information, examples, and frequency information). When analysing the eight groups separately, there was not a significant difference between their responses to this questionnaire item. Therefore, it is not possible to state that the participants' proficiency level in English has an impact on the type of information that they claim to search for in reference sources. However, the analysis of their look-up strategy reports reveals different results. Indeed, the search for the core type of information was prevalent among almost all the analysed groups, but the look-up for the peripheral type tended to increase as learners' progress on a proficiency scale. The graph below (Figure 7.6) illustrates how the reference needs vary according to the participants' level of proficiency in English.

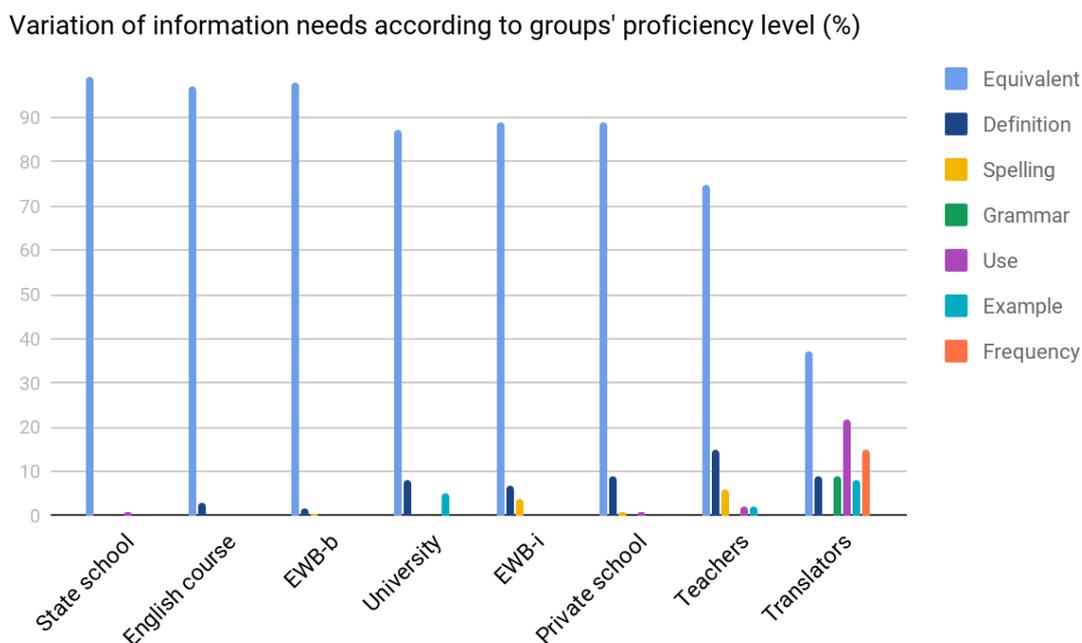


Figure 7.6: Variation of information needs according to groups' proficiency level

In the state school group, the aim of 99% of reference source consultation was the search for translated equivalents and the remaining 1% for use. In the English course group, the percentages were 97% translated equivalents and 3% definition/meaning. In the EWB-b group, the percentages were 98% translated equivalents, 1.5% definitions and 0.5% spelling. In the university students group, the percentages were 87% translated equivalents, 8% definitions and 5% examples. In the private school group, the percentages were 89% translated equivalents, 9% definitions, 1% spelling and 1% use. In the teachers group, the percentages were 75% translated equivalents, 15% definitions, 6% spelling, 2% use and 2% examples. Finally, in the translator group, the percentages were 37% translated equivalents, 9% definitions, 9% grammar information, 22% use information, 8% examples and 15% frequency information.

The present results would tally well with those of Lew (2004), where the core types of information, which are looked up most frequently, include meaning and equivalents. Also like those of Lew's study (2004), results suggested that, as learners progress on a proficiency scale, they become more interested in additional information (use, frequency, examples, etc.), without, however, losing their interest in the basic types of information (equivalent and/or meaning). The exception was the translators group, in which the additional type of information was core and the basic type was peripheral.

7.3.2. Variation of information needs according to the type of task performed

Even though translated equivalents were the target of most reference source consultations, the results from this study indicated that the need for the different types of information

depends on the type of task a participant is engaged in. The graph below (Figure 7.7) illustrates how the reference needs vary according to the type of task that participants are performing.

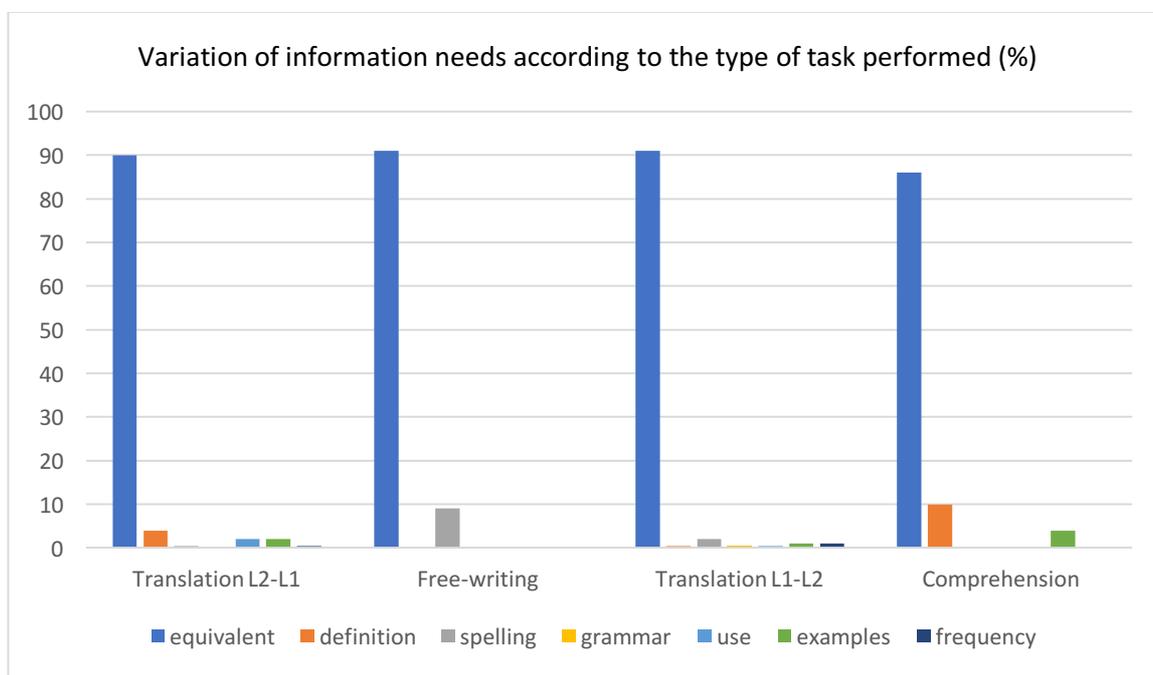


Figure 7.7: Variation of information needs according to type of task performed

In the translation from English into Portuguese task, 90% of the times participants were looking up for equivalents, 4% for definition, 2% for use information, 2% for examples, less than 2% for frequency information, and less than 1% for spelling. In the free-writing task, in 91% of the consultations, participants were searching for equivalents, and 9% for spelling. In the translation from Portuguese into English, 91% of the times participants were looking for equivalents, less than 1% for spelling, 2% for grammar information, less than 1% for use information, 1% for examples, 1% for frequency information. In the comprehension task, in 86% of the consultations, participants were searching for equivalents, 10% for definitions, and 4% for examples.

With these results, it is possible to observe that the core types of information (equivalent and definition) were most often searched for in all the tasks. Translation tasks (both L1-L2 and L2-L1), on the other hand, boosted participants' interest for peripheral types of information (spelling, grammar, use, examples, frequency). As expected, the search for definition was associated with decoding tasks (translation L2-L1 and comprehension) and the search for spelling with encoding tasks (translation L1-L2 and free-writing). The search for examples was more frequent in the comprehension tasks than in any other type. In user studies, for many years the function of the example was not well-defined and subject to discussion (cf. Jackson 2002). In this context, this finding is particularly interesting given

that it reinforces results from later studies regarding the role of examples for language production and reception, such as Frankenberg-Garcia (2012; 2014). Examples were already known to be important to encoding; they can provide dictionary users with information on the grammar and usage of the word searched for. However, these results suggest that examples also play an important role in decoding; seeing the word in a context can help dictionary users to grasp its meaning.

7.4. Are they satisfied with the information found?

Since this question was not part of the questionnaire, this discussion is based on the analysis of the actual task combined with the information provided by the participants in their reports. The criterion employed to measure subjects' satisfaction with the information found in dictionaries was whether the word searched for in these sources was used in the actual task, regardless of its linguistic appropriateness.³⁰ Taking into account all eight groups, the average percentage of satisfaction with bilingual dictionaries was 91% and with monolingual dictionaries the percentage dropped to 68%. Regarding bilingual dictionaries, the percentage of satisfaction did not vary significantly among the groups that used this source, therefore it is not possible to affirm that their proficiency level in English had an impact on their satisfaction with dictionaries. However, the same pattern was not observed for monolingual dictionaries. Participants' satisfaction with both bilingual and monolingual dictionaries is discussed below.

The school groups, both state and private, were most satisfied with the information found in bilingual dictionaries (100% of the words searched for by the participants were used in the actual task without any reconsultation), followed by the English course group (96%), EWB-b group (93%), EWB-i group (85%) and English teachers group (75%), as shown in Figure 7.8.

³⁰ The assumption that the use of a word from a look-up can be equated with a satisfactory outcome of the look-up is controversial. Frankenberg-Garcia (2005) dealt with this issue by means of a question in her prepared recording sheets that directly asked the participants if the results from the look-up were at all helpful. The design of the present study, however, did not allow such a direct clarification. Therefore, another criterion had to be used to accomplish the analysis of this variable, even though it is possible that participants may have used words that they were not entirely satisfied with simply because they could not find a more appropriate word.

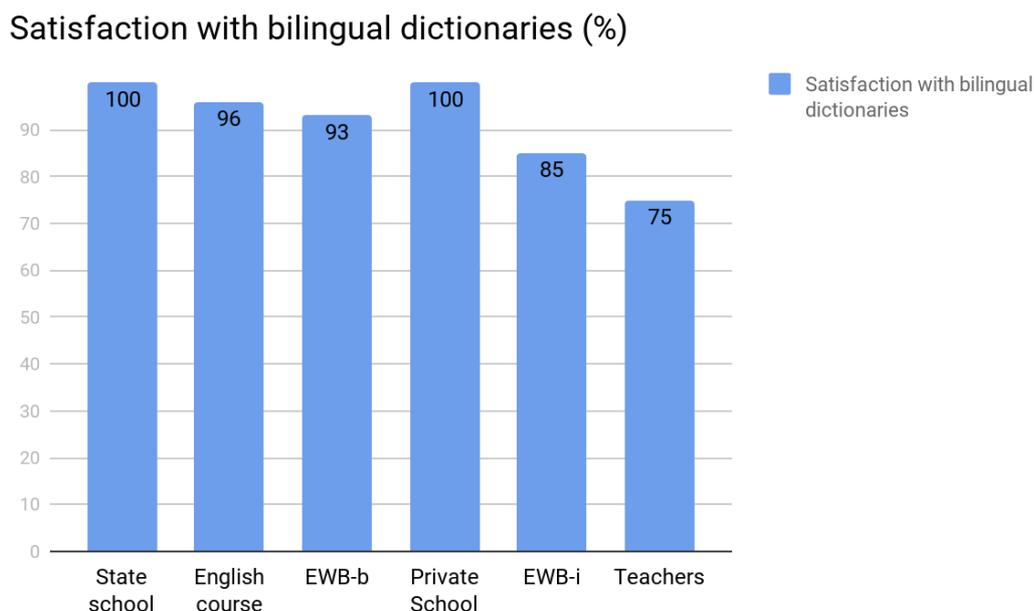


Figure 7.8: Participants satisfaction with bilingual dictionaries

At first glance, there seems to be a correlation between proficiency level and satisfaction with the information found in bilingual dictionaries, in the sense that the more proficient the participant is, the more likely he/she is to ‘disagree’ with the dictionary and search for additional information somewhere else. In other words, the increase in language awareness, which is a natural process observed in foreign language learning, would make learners more critical of the information found in dictionaries and more likely to be dissatisfied with the results of their consultation. However, a statement like this would not explain the behaviour of the private school group which, based on the results of the error analysis and difficulty level of the selected tasks, was the one with the highest level of proficiency in English. Therefore, even though the proficiency level in the foreign language might have an impact on learners’ desire to settle for the information found, there are other factors that have to be considered to understand the results, like age differences for instance.

Information about foreign language proficiency, educational and social background collected by means of the questionnaire suggest that the only thing that participants in the school groups had in common is their age (between 16 and 17 years old) and yet they showed the same level of satisfaction with bilingual dictionaries (100%). It might be suggested from this that teenage learners have less world knowledge and therefore less experience in reference source consultation, and that teenage learners are less likely to be influenced by social desirability with respect to dictionaries.

Regarding the former, the analysis of participants’ reports indicates that these groups were not familiar with the content of the reference sources used – and this statement does not apply exclusively to dictionaries. In Case Study 3 there are at least two pieces of

supporting evidence for this lack of familiarity. On one occasion the participant who was performing the task declined his colleague's suggestion to use a bilingual dictionary to search for the word *Eldorado* saying that he was pretty sure that this word would not be in the dictionary. On another occasion, the same participant acted surprised when he found out that there was a thesaurus function in Google Translate – a reference source that he claimed to use frequently.

Regarding the latter, the desire to please the investigator, or 'social desirability', was less evident among participants of the school groups. Three of the five participants who admitted not using dictionaries in any situation belonged to this age group. Moreover, reports reveal that they were not as concerned as the other participants with their performance within the tasks. For example, in the reports participants of these groups did not mind acknowledging their frustration with the information found and saying that they were going to use it anyway or simply leaving a blank space in the task.

Participants' satisfaction with monolingual dictionaries was more related to their proficiency level in English. Among the groups that used this type of dictionary, the translators group was the most satisfied with the information found (100%), followed by the private school group (86%), teachers group (75%), and university group (46%). The percentage of satisfaction of the EWB-b group, EWB-i group, and English course group with monolingual dictionaries was 0%. The figure below (Figure 7.9) illustrates these numbers.

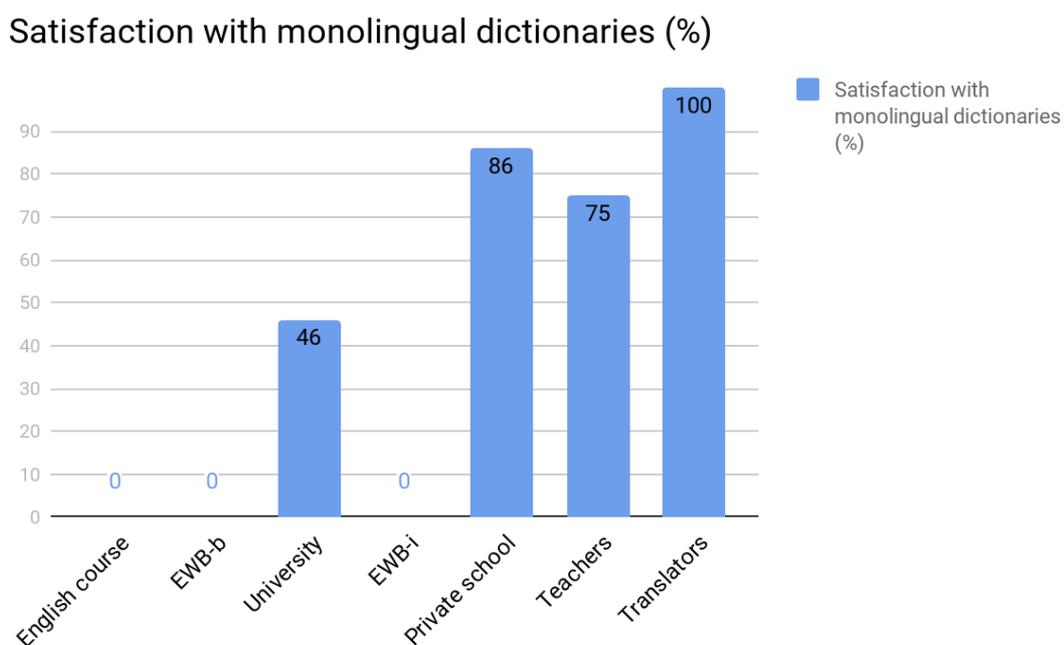


Figure 7.9: Participants' satisfaction with monolingual dictionaries

Unlike the results discussed in the previous paragraphs, participants' satisfaction with monolingual dictionaries tends to increase along with their language awareness, or foreign

language proficiency. The analysis of the reports reveals that participants with a higher level of proficiency in English were more capable of understanding and taking advantage of the information found in monolingual dictionaries. Familiarity with the reference source and consultation skills had also played an important role in the case of teachers' and especially translators' groups. Reports also reveal that the three groups in which the percentage of satisfaction with monolingual dictionaries was zero had problems understanding the definitions of the words searched for and opted to consult other reference sources. Case study number 2, in which the participant clearly states that all her attempts to use a monolingual dictionary to perform the task were frustrated due to her difficulty in understanding the definitions of words, is evidence of this behaviour.

7.5. What other sources of information do participants consult when frustrated with dictionaries?

The analysis of subjects' reports suggests that a reformulation of this research question is needed. That is because the great majority of the participants do not in fact turn to other reference sources when frustrated with dictionaries; instead dictionary consultation occurs when they are frustrated with other sources. In 91% of the cases in which participants consulted more than one reference source to search for a word, dictionaries were not the first reference source used. In fact, dictionaries seem to be at the bottom of the preferred reference source list for instances of reconsultation. In 80% of the cases in which more than two reference sources were consulted, finding the desired information in dictionaries was participants' last resort.

It is important to highlight the fact that reference source reconsultation was not a frequent behaviour among participants. In fact, taking into account all the lexical units searched for, the process of reconsultation was observed in just 6% of the sample. Moreover, there seems to be a correlation between reference source reconsultation and proficiency level, given that this behaviour was more often spotted in groups with a higher level of proficiency in English. The figure below (Figure 7.10) illustrates the frequency of the consultation process among the groups.

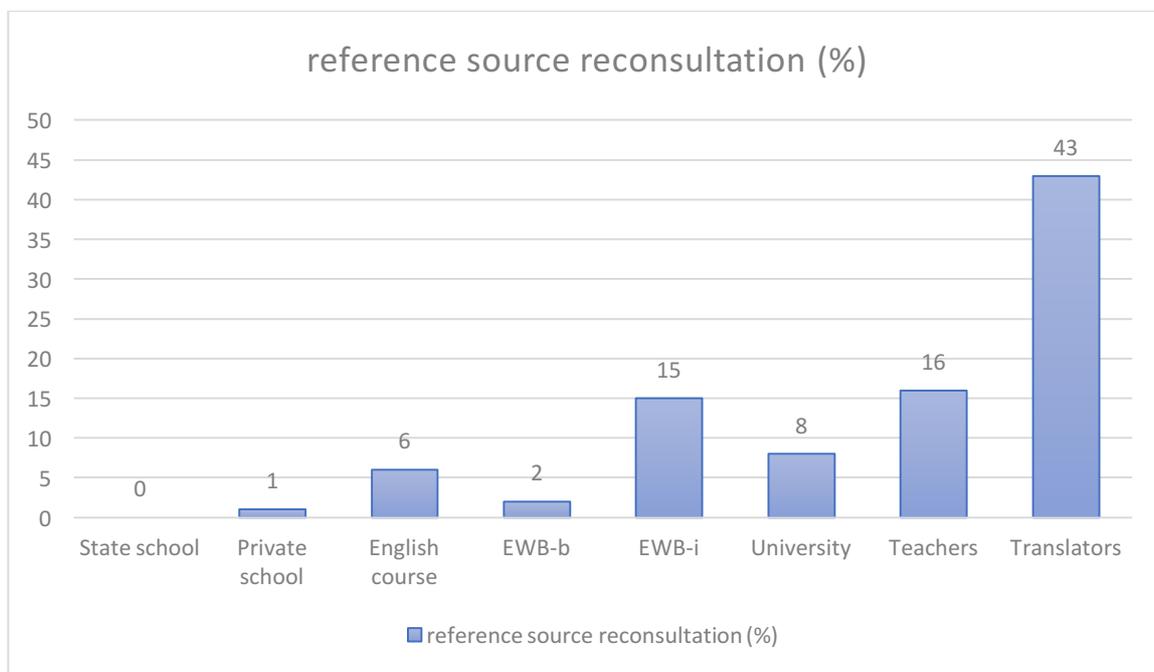


Figure 7.10: Percentage of reference source reconsultation among the investigated groups

The group in which this behaviour was most often observed was the translators' group (for 43% of the words searched for, participants used more than one reference source), followed by the teachers' group (16%), EWB-i group (15%), university students group (8%), English course group (6%), EWB-b group (2%), private school group (1%) and state school group (0%). With the exception of the English course group and private school group, there is a clear correlation between language awareness and reconsultation.

It would be interesting to see why the great majority of the participants turned to dictionaries when they were frustrated with other sources. Perhaps the reason is that dictionaries suggest authority, scholarship and precision (cf. Landau 2004). The design of the present study did not, however, allow for such information to be elicited.

To answer the research questions, in this chapter I analysed and discussed the results from Chapters 4, 5 and 6. Many findings reported in this chapter are not unique to the Brazilian context. Lack of dictionary consultation skills has been observed among groups of Korean (Kim 2017), German (Wolfer *et al* 2016), Polish (Lew 2002; 2012; 2014) and Portuguese (Frankenberg-Garcia 2005) learners of English. Also previously observed are the idea that dictionaries suggest authority (Landau 2001), and learners' preference for bilingual rather than monolingual reference sources (Laufer & Kimmel 1997; Lew 2002; Frankenberg-Garcia 2005). In this group, however, it was possible to observe that the majority of the participants lack training to use any reference source, even those claimed to be preferred by them – as evidenced by their behaviour and performance with Google Translate. It was not unlikely that participants were unfamiliar with the developments of this

tool, such as its thesaurus function. Moreover, reports suggested that the majority of the participants used Google Translate to search for the translation of individual, uninflected words and did not take advantage of what may be the main asset of this reference source, which is the possibility of disambiguating polysemous words where they are provided within the context. These findings suggest that reference skills nowadays tend to overlap with digital literacy and that in order to develop effective reference sources to address the needs of specific target groups, learning their limitations is just as important as learning their preferences. The next chapter presents the conclusion and implications of this study.

8. CONCLUSION

A good understanding of the intended target-group is fundamental for the development of an effective reference work. In the field of lexicography, this understanding can be achieved by means of user-studies. This thesis has presented and discussed the results of a lexicographic user-study aimed at investigating the profile of Brazilian learners of English as a potential target group for EFL dictionaries. What follows is a summary of its main findings with regards to the research questions set out in Chapter 2 (Section 2.5).

1. Do Brazilians use dictionaries?

The results of this study show that dictionaries are not Brazilians' preferred type of reference source. When surveyed by questionnaire, participants acknowledged the importance of using dictionaries to perform EFL tasks in that the majority claimed to consult at least one type of dictionary (71%). However, when performing the EFL tasks for the experiment itself, this percentage dropped to 39% and varied significantly according to the type of task performed. Dictionary consultation was more frequent when participants were translating texts from English into Portuguese (39%) and much less frequent when they were writing a text in English from scratch (5%). A comparative analysis of the results of the questionnaire and of the experiment suggested that, in the context of EFL learning, Brazilians view dictionary consultation as the most desirable behaviour when compared to the consultation of other reference sources, such as Google Translate. However, in the experiment their difficulties in choosing a dictionary and accessing relevant information in it made the overall rate of dictionary consultation very low when compared to that of Google Translate – for every eleven words searched for in Google Translate, only one was searched for in a dictionary. Evidence found in participants' look-up strategy reports suggested that three factors might have contributed to lower dictionary consultation rate in the experiment: participants' low level of proficiency in English; participants' lack of familiarity with dictionaries; the quality of the dictionaries available on the market.

With regard to participants' low level of proficiency in English, previous studies had already indicated that the proportion of Brazilians who reach an intermediate/advanced level of proficiency in English is 5%, and those who reach a fluent level is less than 1% (British Council, 2014). Moreover, in Brazil most English teachers are English learners themselves (British Council, 2014, p. 13). The experiment carried out in the present study was not designed to evaluate participants' proficiency level in English, so cannot be directly compared. However, information provided by participants in both questionnaire and reports, together with the results of their tasks, suggested that the majority of the investigated sample was composed of beginners and intermediate learners of English. Participants' reports

revealed that this overall low proficiency in English had an impact on their reference source preferences. A significant number of participants reported having difficulty in accessing and extracting relevant information from both monolingual and bilingual dictionaries. Regarding the former, participants' low level of proficiency in English interfered with their ability to understand the definition of the lexical items searched for. In this case, they either resorted to another reference source, or relied on and tried to extract some meaning from the familiar words in the definition (the Latin-derived words for instance). Regarding the latter, participants' low level of proficiency in English interfered with their ability to choose an appropriate translation equivalent from the list provided by the dictionary in each entry. In this case, they either randomly selected one of the translation equivalents provided by the dictionary, or resorted to Google Translate, which displays on the screen a single translation equivalent for every word searched for (the most frequent translation equivalent).

Another factor which appears to have contributed to lowering the frequency of dictionary consultation among participants was their lack of familiarity with this type of reference source. Both the questionnaire and the reports revealed that most of the participants did not have the required knowledge to identify and choose an appropriate dictionary from the multiple titles available on the lexicographic market or offered for use in the experiment. Moreover, they were unaware of the differences between dictionaries intended for learners and those intended for native speakers; tending to believe that dictionaries aimed at English native speakers were better in terms of content. Participants' misguided perceptions of the content and reliability of dictionaries often made them opt for non-pedagogical dictionaries (whether monolingual or bilingual) from which they could not decode or extract any relevant information. Reports also revealed that participants see dictionaries as a prescriptive rather than a descriptive source. The consequence of this belief is that they did not even consider consulting dictionaries when they perceived the word they were intending to search for as an informal word.

The lexicographic market lacks a reference source capable of addressing the needs of Brazilian learners of English. Even though English learners' dictionaries are acknowledged to be excellent, they are intended for intermediate/advanced learner users, and are therefore unsuitable for most of the groups that formed the focus of this research. Very few participants who recorded in their look-up strategy reports the use of English learners' dictionaries were capable of understanding the definition of the word that they searched for. In fact, there was not a significant difference between participants' performance with general monolingual and learners' monolingual dictionaries; which appears to demonstrate that the efficacy of a restricted defining vocabulary is connected to the level of proficiency in English and the linguistic background of the dictionary's intended

target-group. With regards to bilingual dictionaries (English/Portuguese), the multiple titles available online are non-pedagogical. These lexicographical sources have a very simplified microstructure in which the entries simply contain a list of possible translation equivalents. Their entries rarely contain any grammar or usage information, phraseology or collocational patterns. Moreover, these dictionaries fail to inform their users whether the list of equivalents presented in each entry is ordered by frequency or not. As a result, participants reported uncertainty when choosing the appropriate translation equivalent.

2. Do Brazilians prefer monolingual or bilingual dictionaries?

The results of this study show that Brazilians prefer bilingual dictionaries. The results of both the questionnaire and the controlled experiment revealed that bilingual dictionaries are preferred by a large majority of the investigated sample. In this study, a correlation between participants' proficiency in English and their preference for bilingual dictionaries was not observed, i.e. bilingual dictionaries are the type preferred by beginners, intermediate and advanced learners. The exception was the English translators group, in which there was no record of use of bilingual dictionaries in the look-up strategy reports. Participants' performance with bilingual and monolingual dictionaries varied, however, according to their proficiency level. Advanced/intermediate learners performed better with monolingual than with bilingual dictionaries. Intermediate/beginner learners performed better with bilingual than with monolingual dictionaries. The quality of the dictionaries' content available online might have played a role in this result.

3. What kind of information do Brazilian learners search for in the dictionaries?

The results of this study show that Brazilians most often use dictionaries to search for translation equivalents. Even though the majority of the investigated sample claimed in the questionnaire to use dictionaries to search for additional linguistic information rather than just corresponding words (e.g. spelling, grammar, usage examples, frequency), the results of the experiment revealed that the use of dictionaries was almost exclusively restricted to the search for straightforward answers (equivalents). These results do not indicate, however, that participants in the study were not interested in finding additional information about the words that they searched for; rather, dictionaries were not chosen for this purpose. The practicality and speed of Google web-browser's spell-checker function made this reference source Brazilians' primary choice in terms of checking orthography. In the same way, this reference source was the participants' primary choice for obtaining frequency and usage information. In the reports of the investigated sample, there are no records of participants searching for grammar information.

4. Are Brazilians satisfied with the information found in dictionaries?

The results of the study show that Brazilians are satisfied with the information found in dictionaries; however, this does not mean that the information they found is correct. In this study, the criterion employed to measure participants' satisfaction with dictionaries was whether the information found in dictionaries was used in the actual task or not, and whether participants searched for the same word in other reference sources (termed here the 'reconsultation rate'). The results suggested a correlation between participants' proficiency level in English and their satisfaction with the information found in dictionaries. With regards to bilingual dictionaries, participants' degree of satisfaction decreased in inverse proportion to their proficiency level. In other words, the more proficient the participant was, the more likely he/she was to disagree with the dictionary and to search for additional information elsewhere. On the other hand, participants' satisfaction with monolingual dictionaries increased in line with their proficiency level. These results suggested that the content of monolingual dictionaries available online is more pedagogical and reliable; however, only advanced learners can take advantage of this type of source.

5. What other sources of information do Brazilians consult when frustrated with dictionaries?

The results of this study show that Brazilians do not consult other reference sources when frustrated with dictionaries; instead, they consult dictionaries when frustrated with other reference sources. Reconsultation was not a frequent behaviour among participants. In other words, participants rarely consulted more than one reference source to search for a single word. However, in 91% of occurrences of reconsultation, dictionaries were at the bottom of the list of consulted reference sources. Participants' reports revealed that, even though they consider dictionaries to be more reliable than other reference sources, they find them much more difficult to access relevant information in. Therefore, they prefer the easy access provided by sources such as Google Translate or Wikipedia.

The results of the user-study presented in this thesis suggest that both linguistic and socio-cultural background have an impact on learners' expectations about dictionaries, the preferences they have, and the difficulties they experience while trying to access relevant information. Even though many of the findings of the present study were not unique to this target group (see Chapter 7), it seems that by outlining the intended users' profile in a fairly generic way, i.e. grouping all learners of English as foreign language together, dictionaries have lost ground to other reference sources. However, it is important to highlight that the investigated group still views dictionaries as more reliable when compared to other reference sources, and their low rate of dictionary consultation was mainly the consequence of the

difficulties that they experienced when using this source. It is now up to lexicographers to develop and/or adapt dictionaries to assist this target group in the use and acquisition of EFL. With a deeper understanding of the profile of the intended target-group, dictionaries can regain their leading role in Brazil and more importantly foster learners' autonomy to fill the gap left by an insufficient foreign language instruction.

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Appendices

APPENDIX 1A – Experiment EFL tasks

PARTICIPANTE A (Nº. _____)

1. Selecione, de acordo com a sua percepção do seu nível de proficiência em língua inglesa, um dos três textos abaixo e o traduza para português. (Marque com um “X” o texto selecionado).

() Básico/Intermediário – 106 palavras.

Hamid lives at home with his parents and brother. He is a civil engineering student in his first year at university. He has created a space in his bedroom where he does most of his studying. He has a small desk that faces a bare wall. On the desk he has a computer and a large workspace where he can spread out his books and papers. Hamid sometimes lies on his bed when he studies, especially when he wants to watch something on TV. He shares the bedroom with his little brother. Hamid gets annoyed because sometimes his brother comes into their room and makes noise.

() Intermediário/Avançado – 162 palavras.

Haggis is a traditional Scottish dish eaten on Burns’ night, an annual celebration to remember a famous Scottish poet. As with any dish there are many different recipes; haggis for example, may be made with beef, but traditionally it is made with lamb. The customary ingredients include sheep’s stomach and the heart and lungs of a lamb. It is mixed with onions, oatmeal and different herbs and spices. Apart from the spices, all these ingredients are found in Scotland, but nowadays many imported ingredients are used as well. Haggis is difficult to make so it is usually prepared by a butcher or a chef. At a traditional Burns’ night a piper has to lead the haggis into the room and the guests should then applaud the haggis. The host welcomes the guests, but a different person addresses the haggis. This person reads a Scottish poem before glasses are raised and everyone toasts the haggis. This dish is eaten with turnips and potatoes.

() Avançado – 230 palavras.

The Italian city of Venice is known as one of the most beautiful, romantic places in the world. Venice is famous for its rich cultural heritage, beautiful architecture, and Renaissance art – and famous for floods. Since written records about Venice’s water levels began in 1872, floods have been a part of its history. The city is situated in a lagoon in the Adriatic Sea and experts say it has sunk as much as 23 centimetres in the last century. As a result of the shifting landscape, the city currently endures flooding about 60 times a year according to some estimates. Since 1966, when record high flood waters caused the destruction of numerous historical landmarks and artistic masterpieces, Venetians have been debating what to do. The Tide Barrier Project (also known as

the MOSE project) was begun in 2003 by Silvio Berlusconi, who is Italy's former Prime Minister. It consists of 78 underwater steel gates, each around 28 meters high, 20 meters wide, and weighing 300 tons. The gates are attached to the sea floor. When a dangerously high tide is predicted, compressed air is pumped underneath the gates, causing them to rise and stop the sea water from overflowing into the city. Many people believe the project is the only way to save Venice. Others argue that it will have negative effects on wildlife, and simply won't stop the flooding.

2. Selecione, de acordo com a sua percepção do seu nível de proficiência em língua inglesa, um dos três temas abaixo e escreva um parágrafo em inglês. (Marque com um "X" o tema selecionado).

() Básico/Intermediário: **Nem só de trabalho e estudo vive o ser humano (Graças à Deus!). Descreva o que você gosta de fazer no seu tempo livre.**

() Intermediário/Avançado: **A jornada diária até o local de trabalho/estudo muitas vezes é uma oportunidade para contemplar a nossa cidade. Descreva o que você normalmente observa no caminho de casa até o local de trabalho/estudo.**

() Avançado: **Independentemente de suas posições políticas, o que, na sua opinião, pode, ou deve ser mudado no Brasil? Por quê?**

PARTICIPANTE B (Nº. _____)

3. Selecione, de acordo com a sua percepção do seu nível de proficiência em língua inglesa, um dos três textos abaixo e o traduza para inglês. (Marque com um "X" o texto selecionado).

() Básico/Intermediário – 103 palavras.

Eu e minha família

Muito prazer! Meu nome é Adachi e sou japonês. Minha família não é toda japonesa. Eu tenho dois filhos lindos. Minha primeira filha é japonesa. O nome dela é Ayako. Ela é muito tímida, tem sete anos. Meu segundo filho é brasileiro. O nome dele é Fernando. Ele é do signo Escorpião e nasceu em novembro. Fernando tem um ano e é extrovertido. Minha esposa é muito alegre. Somos uma família muito feliz. Agora estamos no Brasil e temos uma casa muito grande. Estou feliz em trabalhar aqui e minha esposa também está contente em aprender um novo idioma.

() Intermediário/Avançado – 164 palavras.

O Mundo nas Costas

Ministério do Turismo quer aumentar hospedagem nos albergues do país incentivando mochileiros

Nada de carregador de malas, hotel bacana, fartos cafês da manhã ou almoços em restaurantes de renome. A ideia é conhecer lugares e culturas diferentes de forma mais descontraída e econômica. Essa é a regra número um de quem decide colocar tudo dentro de uma mochila e sair por aí. De olho nesse tipo de viajante, que em sua maioria tem entre 20 e 30 anos, o Ministério do Turismo vai apoiar uma campanha de incentivo aos mochileiros criada pela Federação Brasileira de Albergues da Juventude. A federação, por sua vez, pretende ampliar a rede de hospedagem no país para ver o número de usuários anuais pular de 100 mil para 500 mil no curto prazo. “Queremos ter estabelecimentos para esse público em todos os Estados e criar essa cultura de viagem na cabeça dos brasileiros”, afirma José Roberto de Oliveira, da Secretaria Nacional de Políticas do Turismo.

() Avançado – 199 palavras

Eldorado dos executivos

Prioritário para grandes empresas, o mercado brasileiro já paga salários mais altos que países desenvolvidos e vira um destino cobiçado para profissionais estrangeiros

O início de 2011 marcou uma virada nas carreiras do italiano Nico Riggio, do suíço Dominik Maurer e do brasileiro Luiz Sales. A trajetória desses executivos reflete a relevância que o mercado brasileiro ganhou para empresas e investidores internacionais. Riggio trocou Nova York pelo Brasil para iniciar um negócio de bebidas. Maurer recusou a oportunidade de voltar para a matriz da alemã T-Systems para comandar a filial brasileira. E Sales foi tirado da concorrência para capitanear a americana Targus, empresa de acessórios para informática que vai expandir a operação brasileira para cumprir objetivos globais.

Entre as multinacionais, o Brasil é visto como um mercado essencial. Entretanto, montar a equipe de comando de um negócio no País passou a custar mais do que em qualquer economia desenvolvida. Segundo estudo da consultoria Hay Group, a remuneração média anual de um diretor financeiro no Brasil, incluindo salário e bônus, é de US\$ 510 mil. É mais do que nos Estados Unidos (US\$ 425 mil), na Alemanha (US\$ 430 mil) e no Reino Unido (US\$ 390 mil).

4. Explique, em português, o significado das palavras destacadas em negrito no texto abaixo.

The earliest firecrackers

A form of **firecracker** was used in China thousands of years ago even before **gunpowder** was invented. Historians believe that the tradition began around 200 BCE when someone **threw** a piece of green bamboo on the fire, when the dry wood **ran out**. Bamboo grows very quickly creating pockets of air and **sap** in the **stem**, which expand and burst when heated. On the fire, it heated up, turned black, and finally exploded, causing a loud ‘boom’ and **frightening** everyone nearby. When people learned what had caused the noise, they began to find many uses for green bamboo. Farmers began to use it to scare wild animals away from their fields, and later people began burning bamboo at parties, celebrations, and special occasions like weddings.

firecracker: _____

gunpowder: _____

threw: _____

ran out: _____

sap: _____

stem: _____

frightening: _____

APPENDIX 1B – Experiment EFL tasks translated into English

PARTICIPANT A (Nº. _____)

1. According to your perception of your own proficiency level, choose one of the three texts below and translate it into Portuguese. (Mark an “X” to indicate the text of your choice).

() Basic/Intermediate – 106 words.

Hamid lives at home with his parents and brother. He is a civil engineering student in his first year at university. He has created a space in his bedroom where he does most of his studying. He has a small desk that faces a bare wall. On the desk he has a computer and a large workspace where he can spread out his books and papers. Hamid sometimes lies on his bed when he studies, especially when he wants to watch something on TV. He shares the bedroom with his little brother. Hamid gets annoyed because sometimes his brother comes into their room and makes noise.

() Intermediate/Advanced – 162 words.

Haggis is a traditional Scottish dish eaten on Burns’ night, an annual celebration to remember a famous Scottish poet. As with any dish there are many different recipes; haggis for example, may be made with beef, but traditionally it is made with lamb. The customary ingredients include sheep’s stomach and the heart and lungs of a lamb. It is mixed with onions, oatmeal and different herbs and spices. Apart from the spices, all these ingredients are found in Scotland, but nowadays many imported ingredients are used as well. Haggis is difficult to make so it is usually prepared by a butcher or a chef. At a traditional Burns’ night a piper has to lead the haggis into the room and the guests should then applaud the haggis. The host welcomes the guests, but a different person addresses the haggis. This person reads a Scottish poem before glasses are raised and everyone toasts the haggis. This dish is eaten with turnips and potatoes.

() Advanced – 230 words.

The Italian city of Venice is known as one of the most beautiful, romantic places in the world. Venice is famous for its rich cultural heritage, beautiful architecture, and Renaissance art – and famous for floods. Since written records about Venice’s water levels began in 1872, floods have been a part of its history. The city is situated in a lagoon in the Adriatic Sea and experts say it has sunk as much as 23 centimetres in the last century. As a result of the shifting landscape, the city currently endures flooding about 60 times a year according to some estimates. Since 1966, when record high flood waters caused the destruction of numerous historical landmarks and artistic masterpieces, Venetians have been debating what to do. The Tide Barrier Project (also known as the MOSE project) was begun in 2003 by Silvio Berlusconi, who is Italy’s former Prime Minister. It consists of 78 underwater steel gates, each around 28 meters high, 20 meters wide, and weighing 300 tons. The gates are attached to the sea floor. When a dangerously high tide is predicted, compressed air is pumped underneath the gates, causing them to rise and stop the sea water from overflowing into the city. Many people believe the

project is the only way to save Venice. Others argue that it will have negative effects on wildlife, and simply won't stop the flooding.

2. According to your perception of your own proficiency level, choose one of the three topics below and write a paragraph on it in English. (Mark an "X" to indicate the text of your choice).

() Basic/Intermediate: **Life isn't just about working and studying (thank god!). Describe what you enjoy doing in your spare time.**

() Intermediate/Advanced: **Our daily journey to work/school is often a great opportunity to watch our city. Describe what you commonly see when traveling from home to work/school.**

() Advanced: **Regardless of your political orientation, what, in your opinion, could or should be changed in Brazil? Why?**

PARTICIPANT B (Nº. _____)

3. According to your perception of your own proficiency level, choose one of the three texts below and translate it into English. (Mark an "X" to indicate the text of your choice).

() Basic/Intermediate – 103 words.

Eu e minha família

Muito prazer! Meu nome é Adachi e sou japonês. Minha família não é toda japonesa. Eu tenho dois filhos lindos. Minha primeira filha é japonesa. O nome dela é Ayako. Ela é muito tímida, tem sete anos. Meu segundo filho é brasileiro. O nome dele é Fernando. Ele é do signo Escorpião e nasceu em novembro. Fernando tem um ano e é extrovertido. Minha esposa é muito alegre. Somos uma família muito feliz. Agora estamos no Brasil e temos uma casa muito grande. Estou feliz em trabalhar aqui e minha esposa também está contente em aprender um novo idioma.

() Intermediate/Advanced – 164 words.

O Mundo nas Costas

Ministério do Turismo quer aumentar hospedagem nos albergues do país incentivando mochileiros

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mochileiros criada pela Federação Brasileira de Albergues da Juventude. A federação, por sua vez, pretende ampliar a rede de hospedagem no país para ver o número de usuários anuais pular de 100 mil para 500 mil no curto prazo. “Queremos ter estabelecimentos para esse público em todos os Estados e criar essa cultura de viagem na cabeça dos brasileiros”, afirma José Roberto de Oliveira, da Secretaria Nacional de Políticas do Turismo.

() Advanced – 199 words.

Eldorado dos executivos

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Entre as multinacionais, o Brasil é visto como um mercado essencial. Entretanto, montar a equipe de comando de um negócio no País passou a custar mais do que em qualquer economia desenvolvida. Segundo estudo da consultoria Hay Group, a remuneração média anual de um diretor financeiro no Brasil, incluindo salário e bônus, é de US\$ 510 mil. É mais do que nos Estados Unidos (US\$ 425 mil), na Alemanha (US\$ 430 mil) e no Reino Unido (US\$ 390 mil).

4. In Portuguese, define the words in bold in the text below.

The earliest firecrackers

A form of **firecracker** was used in China thousands of years ago even before **gunpowder** was invented. Historians believe that the tradition began around 200 BCE when someone **threw** a piece of green bamboo on the fire, when the dry wood **ran out**. Bamboo grows very quickly creating pockets of air and **sap** in the **stem**, which expand and burst when heated. On the fire, it heated up, turned black, and finally exploded, causing a loud ‘boom’ and **frightening** everyone nearby. When people learned what had caused the noise, they began to find many uses for green bamboo. Farmers began to use it to scare wild animals away from their fields, and later people began burning bamboo at parties, celebrations, and special occasions like weddings.

firecracker: _____

gunpowder: _____

threw: _____

ran out: _____

sap: _____

stem: _____

frightening: _____

APPENDIX 2A – Post-Task Questionnaire

PARTICIPANTE (Nº. _____)

1. **Você é brasileiro?**

- Sim
- Não

2. **Sexo**

- Feminino
- Masculino

3. **Idade**

- Entre 10 e 18 anos
- Entre 19 e 29 anos
- Entre 30 e 39 anos
- Entre 40 e 49 anos
- Entre 50 e 59 anos
- Acima de 60 anos
- Prefiro não responder

4. **Por quantos anos você estudou inglês até agora?**

- Entre 0 e 3 anos
- Entre 3 e 6 anos
- Entre 6 e 9 anos
- Mais de 9 anos

5. **Como você aprendeu inglês?**

Você pode marcar mais de uma opção

- Ensino fundamental/médio em escola pública
- Ensino fundamental/médio em escola particular
- Ensino fundamental/médio em escola bilíngue
- Universidade
- Curso de inglês no seu país
- Curso de inglês no exterior (intercâmbio)
- Autodidata
- Outro:

6. **Você possui algum certificado de proficiência em língua inglesa?**

- Sim
- Não

7. **Caso tenha respondido sim à pergunta anterior, qual certificado você possui?**

Você pode marcar mais de uma opção

- TOEFL ITP
- TOEFL IBT
- IELTS Academic
- IELTS General Training
- CPE
- FCE
- Outro:

8. **Qual foi seu overall band score no teste de proficiência?**

•

- Score:
- Não lembro, ou prefiro não informar

9. **Em quais situações você consulta dicionários de inglês?**

Você pode marcar mais de uma opção

- Quando eu preciso traduzir textos de inglês para português
- Quando eu preciso traduzir textos de português para inglês
- Quando eu preciso compreender algo que escutei em inglês
- Quando eu preciso falar inglês
- Quando eu preciso fazer exercícios de gramática
- Quando eu preciso escrever um texto em inglês
- Eu não consulto dicionários
- Outro:

10. **Que tipo de dicionário você normalmente usa?**

Você pode marcar mais de uma opção

- Dicionários Bilingues (inglês-português/português-inglês)
- Dicionários monolíngues de uso geral (inglês-inglês)
- Dicionários para aprendizes de inglês (inglês-inglês)

- Dicionários semibilíngues (dicionário no qual as definições são dadas em inglês, porém há uma tradução para cada palavra definida)
- Eu não uso dicionários
- Outro:

11. **Qual formato de dicionário você prefere?**

Você pode marcar mais de uma opção

- Dicionários “pocket” impressos (aqueles de bolso)
- Dicionários “desk” impressos (aqueles maiores)
- Dicionários eletrônicos (aqueles em CD-Roms para ser instalado no PC)
- Dicionários online (aqueles que estão disponíveis na internet)
- Outro:

12. **O preço é um fator importante quando você decide adquirir um dicionário?**

- Sim
- Não

Por favor, justifique sua resposta:

13. **Além dos dicionários, quais outras fontes você consulta quando quer descobrir o significado de uma palavra ou expressão?**

Você pode marcar mais de uma opção

- Ferramentas de busca na web (ex. Google)
- Tradutores eletrônicos (ex. Google Translate)
- Ferramentas de perguntas e respostas na web (ex. Answers.com)
- Enciclopédias online (ex. Wikipedia)
- Eu não consulto outras fontes
- Outro:

14. **Que tipo de informação você normalmente busca nos dicionários?**

Você pode marcar mais de uma opção

- Tradução e/ou definição da palavra
- Como se escreve a palavra (ortografia)
- Informações gramaticais
- Informações de uso
- Exemplos
- Frequência
- Eu já disse que eu não uso dicionários

- Outro:

15. **Quais dos conteúdos abaixo você leva em consideração ao escolher um dicionário?**

Você pode marcar mais de uma opção

- Informações gramaticais
- Imagens
- Informações sobre *phrasal verbs*, colocações e expressões idiomáticas
- Exemplos de uso
- Conteúdos extra (ex. exercícios de gramática)
- Pela última vez, eu não uso dicionários
- Outro:

APPENDIX 2B – Post-Task Questionnaire translated into English

PARTICIPANT (Nº. _____)

1. **Are you Brazilian?**

- Sim
- Não

2. **Gender**

- Female
- Male

3. **Age**

- Between 10 and 18 years old
- Between 19 and 29 years old
- Between 30 and 39 years old
- Between 40 and 49 years old
- Between 50 and 59 years old
- Over 60 years old
- I prefer not to answer

4. **How long have you been studying English?**

- Between 0 and 3 years
- Between 3 and 6 years
- Between 6 and 9 years
- Over 9 years

5. **Where have you studied English?**

You can mark one answer or more

- Elementary/secondary (high) state school
- Elementary/secondary (high) private school
- Elementary/secondary (high) bilingual school
- University
- Language school (English course) in Brazil
- Language school (English course) abroad
- Self-taught
- Other:

6. **Do you have an English proficiency certificate?**

- Yes
- No

7. **If so, what certificate do you have?**

You can mark one answer or more

- TOEFL ITP
- TOEFL IBT
- IELTS Academic
- IELTS General Training
- CPE
- FCE
- Other:

8. **What was your overall band score?**

•

Score:

- I do not remember / I prefer not to answer

9. **In which of the following situations do you consult dictionaries?**

You can mark one answer or more

- When I need to translate from English into Portuguese
- When I need to translate from Portuguese into English
- When I need to understand something that I have heard in English
- When I need to say something in English
- When I need to perform grammar exercises
- When I need to write something in English from scratch
- I do not consult dictionaries
- Other:

10. **What type of dictionary do you normally use?**

You can mark one answer or more

- Bilingual dictionaries (English-Portuguese/Portuguese-English)
- General monolingual dictionaries (English-English)
- English learners' dictionaries (English-English)

- Semibilingual dictionaries (dictionaries in which the definitions are given in English, but there is a translation for each word defined)
- I do not use dictionaries
- Other:

11. **Do you prefer to use dictionaries in what format?**

You can mark one answer or more

- Printed pocket dictionaries (portable)
- Printed desk dictionaries (large)
- Electronic dictionaries (available in CD-Roms that need to be install)
- Online dictionaries (available on the web)
- Other:

12. **Is price a factor that influences your choice of dictionary?**

- Sim
- Não

Please explain:

13. **Besides dictionaries, what other reference sources do you consult to search for the meaning/translation of a given word or expression?**

You can mark one answer or more

- Web-browsers (Google)
- Translation software (ex. Google Translate)
- Question and Answer websites (ex. Answers.com)
- Online Encyclopaedias (ex. Wikipedia)
- I do not consult any other type of source
- Other:

14. **What type of information do you usually search for in dictionaries?**

You can mark one answer or more

- Meaning/Translation
- Spelling
- Grammar information
- Usage information
- Examples
- Frequency information
- I do not use dictionaries

- Other:

15. **Which of the following information do you consider important when choosing a dictionary?**

You can mark one answer or more

- Grammar information
- Pictures
- Information about phrasal verbs, collocations and idiomatic expressions
- Examples of use
- Extra content (ex. grammar exercises)
- I do not use dictionaries
- Other:

APPENDIX 3 – Translation of the Portuguese source texts from the EFL experiment

() Basic/Intermediate – 103 words.

Me and my family

Nice to meet you! My name is Adachi and I am Japanese. Not all my family members are Japanese. I have two beautiful children. My first child is a girl and she is Japanese. Her name is Ayako. She is seven years old and very shy. My second child is Brazilian. His name is Fernando. His star sign is Scorpio and he was born in November. Fernando is one year old and an extrovert. My wife is very happy. We are a happy family. Now we are in Brazil and we have a very big house. I am happy to work here and my wife is also happy to be able to learn a new language.

() Intermediate/Advanced – 164 words.

The world on your back

The Ministry of Tourism wants to increase the amount of accommodation at hostels across the country as a way to encourage backpackers

No hotel porters, fancy hotels, large breakfast buffets or lunch in well-known restaurants; the idea is to know places and different cultures in a more informal and cheaper way. This is the ‘number one’ rule for those who decide to pack everything and travel around. Aiming at this kind of traveller, normally between 20 and 30 years old, the Ministry of Tourism will promote a campaign, developed by the Brazilian Federation of Youth Hostels, to support backpackers. In turn, the Federation intends to increase the accommodation network in the country in order to see the number of annual guests jumping from 100 to 500 thousand in a short period. “We want to have establishments for this target-group in all the states of this country in order to create a culture of travel among Brazilians”, states Jose Roberto de Oliveira, from the National Secretary of Tourism Policies.

() Advanced – 199 words.

The El Dorado of the executives

Priority to the big companies, the Brazilian market already pays higher wages than the developed countries and becomes a desired destination for the foreign professionals

The beginning of 2011 marked a turning point in the career of the Italian Nico Riggio, the Swiss Dominik Maurer and the Brazilian Luiz Sales. The path of these executives provides evidences that the Brazilian market grew in importance to the companies and international investors. Riggio chose Brazil over New York to start a beverage business. Maurer declined the opportunity to return to the German head office of T-Systems to run its subsidiary in Brazil. And Sales was taken from the competition to manage the American Targus, a company of accessories for computers that will expand its activities in Brazil to address their global objectives.

Among the multinational companies, Brazil is seen as an essential market. However, assembling a business management team in this country became more expensive than in any developed economy. According to a study conducted by the consulting company Hay Group, the annual average salary of a financial director in

Brazil including wage and bonus is US\$ 510 thousand. That is more than what is paid in the United States (US\$ 425 thousand), Germany (US\$ 430 thousand) and UK (US\$ 390 thousand).