University of Southampton

Faculty of Humanities

School of Modern languages

Reading in English for academic purposes outside the language class: a social and situated academic literacy

by

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Thesis for the degree of Doctor of Philosophy

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Abstract

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This thesis investigates a variant of reading in English as performed in some academic communities where it is not spoken or taught but significantly used. To analyse the practice, a sample of ten Spanish-speaking students in Biological and Pharmaceutical Chemistry with minimal or null English language instruction was followed. The observation was focused on the way students organised themselves to read academic texts in English as part of their training due to a lack of bibliography in their native language. The research analyses three key issues in its literature: the leading role English has reached as a medium of communication in worldwide academia, the essentials of reading in English for academic purposes, and the prevalent processes framing reading for an overarching purpose of information acquisition and use.

This research is a longitudinal multiple case study under the qualitative approach. Findings are presented through four complementary perspectives: research tools, exemplary cases, categories and themes and research questions. Discussion of findings gives detailed accounts of meaningful episodes and ideologies that shape this type of academic literacy, including reading in English.

Findings show two critical elements of this academic literacy in English as a social and situated practice. First, instead of the individual process from a reader, the core mechanism of this literacy type is cooperation among readers, allowing the acquisition and use of information in English by sharing knowledge and supporting one another. Second, community members share specific characteristics that set literacy paths. They commonly consult similar texts, perform repeated drills that involve using English and developing familiarity as well as growing specialist knowledge and expertise in their field. Such particulars of the readers explain this type of academic literacy as a situated practice.

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Research Thesis: Declaration of Authorship

I, María del Carmen Gómez Pezuela Reyes declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

“Reading in English for academic purposes outside the language class: a social and situated academic literacy”

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission

Signed:

Date: August 2021

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A mi papá, siempre en mí

A mi mamá, sin ti no lo hubiera hecho

A Daniel, por tu apoyo, paciencia, música y buen humor

Definitions and Abbreviations

BPCH Biological and Pharmaceutical Chemistry

EAP English for Academic Purposes

REAP Reading in English for Academic Purposes

NLS New Literacy Studies

Chapter 1 Introduction

In many academic and research spheres, English is part of the vocational training and professional development for non-English speakers. In higher education, the acquisition and use of information in this language are commonly related to an information need rather than a means to learn the language. Hence, non-English learners have to make the best of their knowledge in the study area and reading skills to incorporate this language in academic pursuits. Such an information requirement makes these academic readers develop literacy as part of broader educational activities (e.g., comparing research protocols written in English to conduct further investigations).

The need for access to information explains why for non-native speakers within academic contexts, reading in English is of greater importance than a skill derived from learning a second or foreign language since it means accessing necessary information for them. Particularly, for non-English speakers who have not received language instruction and must read in English, the activity cannot be isolated from the rest of their academic tasks, the interaction with their peers, and how they understand the way they use languages. In this vein, such social communication phenomenon is better understood under the concept of 'academic literacy' as it enables studying it "with a specific epistemological and ideological stance towards the study of academic communication" (Lillis and Scott, 2007, p. 5).

The present study is concerned with a variant of reading in English by no language learners who need to consult specialised texts in English as there is a lack of information in their native language to carry out vocational tasks. The purpose of this chapter is to contextualise the research by highlighting the differences among readers in English, approaches to academic texts, and contexts in which the activity is developed. In the section that follows (1.1), I briefly discuss Reading in English for Academic Purposes (REAP) from two different perspectives; one that looks at REAP as a skill resulting from conventional instruction, and another that considers reading as a situated practice taking place in contexts in which English is not taught but used to consult specialised texts. Section 1.2 provides the rationale of the study, and section 1.3 presents the aim and research questions guiding this investigation. The theoretical and methodological strands that inform this research are further explained in section 1.4. Finally, an overview of what each chapter comprises and how it develops has been included in section 1.5.

1.1 Background to the study

As a research area of applied linguistics, REAP has been predominantly related to language learning and the familiarisation of the academic discourse. Most of the published research on reading situates it as an activity within the context of English courses, resulting from the gradual and accumulative learning of reading strategies as well as from the mediation of the language teacher. Consequently, non-native readers of English are expected to develop the reading skill in the way they are taught and as they practise it in the language class.

Notwithstanding, when reading in English is not related to classroom situations, other approaches provide a more solid foundation to comprehend the task. In this regard, ethnography has widened the panorama by studying reading as part of the encompassing concept of academic literacy, rather than as an isolated activity (Lea and Street, 2006), suggesting that the relationship between the reader and the text is explained from what happens around them. Reading, then, becomes one of the various components of a social and situated phenomenon (Gee, 2000).

In addition, the changing demands in global communication have posed new challenges for the understanding of reading in English for academic purposes, and the existing literature suggests that the activity takes place in one of the two separate spheres. On the one hand, within conventional scenarios, readers are or have been language learners, so they develop reading in English in the way they have been taught. It means that the knowledge of the linguistic system and regular reading strategies are the basis to get meaning from the written text (Swales, 1990). The activity is understood as a gradual skill that reflects competence as the study of English progresses. On the other hand, outside the scope of the language classes, readers consult texts in English due to an information need, which implies that the activity is an obligation rather than a choice. So, the reader's goal is to accomplish specific academic tasks in the field of study that necessarily involves information in English.

In higher education, some study areas require consulting texts only available in English regardless of the language spoken within the local context, making students deal with specialised information in English whether they are language learners or not. A wide range of conditions explains why academic communities worldwide increasingly consult texts in English. Irrespective of its origin, the most influential research is published in English with the aim of achieving greater disclosure. Even some journals that used to be published in other languages are being written in English nowadays. Also, it takes considerable time for state-of-the-art contributions to be properly translated into other languages. When publications address specialised topics, the targeted public is not that wide. It is common for publishing houses not to include those types of materials in their catalogues.

Consequently, in the absence of the necessary information in the native language, university students have no choice but to consult literature in English.

Within these academic scenarios, reading in English becomes an unavoidable activity for vocational training (Lillis and Tuck, 2016). This feature serves to differentiate the nature of certain non-prevailing practices on literacy from conventional backgrounds that relate reading in English with the language classroom. In this sense, vocational activities that require using English can be understood within two sequential phases with the same level of importance. In the first one, due to a lack of versions in the native language, students consult texts in English to obtain the required information. In the second one, after having read those texts, students directly use the information in their academic tasks. In this way, the use of English aligns with current international trends in which reading in this language is recognised as the basis for "accurate access to information" (Bernhardt, 2000, p. 805). Given this demand of reading texts in English, some academic communities are forced to use English to meet well-bounded purposes.

While research on REAP derived from mainstream scenarios has achieved much development and gained a privileged position in applied linguistics, non-standard practices are far less studied. Because the latter ones have not been the target of corresponding research, they are commonly rated from normative criteria even though their logics are different. Due to the theoretical and methodological gap to understand variants of reading in English, their valuation has been more focused on what such readers cannot do from the expectations of what language learners should do. The main reason explaining the variants of reading in English within non-English speaking academic communities is that reading is an activity widely practised in different contexts and under diverse conditions.

Even though REAP, as an umbrella term, has been valued and extensively studied, the analysis of subtleties, variations, and disparities among scenarios takes this practice to new dimensions and challenges our understanding of the practice (Lea and Street, 2006; Lillis and Scott, 2007). The richness and complexity of the task and, in particular, the different approaches to reading in English in academic contexts compel us to rethink general assumptions that do not adequately explain two fundamental aspects of this skill. First, it has been argued that some reading practices differ from those identified in mainstream English learning settings (Lillis et al., 2015). Therefore, it is worth focusing on the impact the contextual circumstances have on the practice of reading. Second, reading in English has been commonly integrated into a language learning course or explicitly developed as part of EAP training (Leung, Lewkowicz and Jenkins, 2016). Yet, the practice of reading

in English when readers are not language learners but must use texts as part of their broader academic activities has been unexplored.

Considering the above, the present study explores a variant of academic literacy that includes reading in English at a public university in the capital city of Mexico. Three critical elements inform the study; these are practices, communities of practice, and the ideology. First, members of the community in which the reading practice is developed have specific characteristics that set certain reading patterns. They commonly consult similar texts in the study area, perform training activities on a recurring basis that involve using English from which they become familiar, and grow specialist knowledge and expertise in their field (Gee, 2013). Second, instead of an individual process between the reader and the text, the core mechanism of this type of literacy is cooperation among readers as it allows them to acquire and use the information (Lave and Wenger, 1991). Third, behind the observable literacy episodes, there is an ideological background that impacts the way academic readers in English understand practices, membership, and social positions within the group (Street, 2011).

1.2 Rationale of the study

This study sets out to investigate a non-prevailing form of practising and understanding REAP. The community that develops such a variant is a sub-group of undergraduate students at a Mexican university in which English language classes are not part of the curricular programme. While a few of the community members speak English or have studied the language at previous stages of general education, most students start university with no or very little English language instruction. Therefore, due to the need of accessing information in English, these students practise a vernacular literacy that includes consulting specialised texts in English in their field of study.

For these undergraduate students, the use of English is a sudden activity. They consider it one of the most defiant challenges in their studies and relate it to a problematic issue for professional development. As part of their academic activities, they consult academic texts in both Spanish and English. While some well-known handbooks and textbooks with different editions may have earlier issues in Spanish, almost all the latest versions are in English. Thus, irrespectively of the language in which the information is available, students have to refer to specialised sources of information. To illustrate this, the annual record of the university library from the academic community of this study reports an ongoing bibliography consultation in English by students of all

degree courses[1]. Yet, although reading in English is a regular activity, there is no precise moment when these students are supposed to begin to do it.

This investigation is based on the following grounds. First, if, at present, REAP cannot be understood exclusively as a practice derived from its teaching within the language classroom, then it is necessary to leave the conventional scope in order to comprehend what is happening around it. It means that to grasp the nature of a variant, the inquiry must focus on the logical relationship between the particular communication needs and the use readers make of their available resources. To this end, moving away from a deficit perspective, it is enlightening to become aware of the adaptations these undergraduate students make to reading in English through learning by doing. Therefore, the analysis should start with what readers do and how reading in English makes sense within their context.

Second, since this variant is not a teacher-directed activity but developed through self-agency procedures, the way students organise themselves to deal with information in English must be central in any attempt to understand reading as a practice in a specific academic context. It is also of relevance the fact that if students under the academic circumstances described did not share a common learning goal, the reading procedures might follow conventional forms of REAP. Considering this, it can be assumed that this variant of reading differs from traditional reading patterns in that the practice itself is not developed as an isolated skill, nor are readers immersed in an individual process with the text.

Third, like any other social phenomenon, reading is highly influenced by individual conceptual frameworks (Street, 2004). In contrast to a transmitted knowledge, in which assimilation is learnt as a standard process (Swales, 2001), it can be thought that this variant of reading in English is ideologically driven differently among members of the same community (Zavala, 2018). Therefore, it would be of significance to any study on reading in academic contexts to look at how diverse the notion of using the language can be to readers who are considered as seasoned users of English and readers who find themselves at disadvantaged positions because they lack the language knowledge.

Finally, mainstream REAP literature has not investigated vernacular reading practices unrelated to the teaching of the language. Unlike other fields in which literacy may adopt more unrestricted pathways, in academia, normative criteria and the pursuit of meeting standards also impact the

[1] For confidentiality reasons, the reference to the library report has been omitted.

development of research on reading in English. Therefore, non-prevailing reading in English practices have been inadvertently left aside despite the variants in the actual use of English. This challenge compels the empirical observation to expand understanding towards other kinds of English users, forms of acquiring and using information, and academic environments.

1.3 Aim of the study and research questions

This research investigates how an academic community practises and understands a vernacular literacy that includes reading specialised texts in English outside the language classroom. Moving away from prevailing parameters that relate reading in English with language acquisition and acculturation pursuits, it responds to a need for accessing information not available in the native language (Spanish). A type of academic literacy that, although disregarded in the reading in English research, is a widespread practice worldwide (Seargeant, 2012). Therefore, the study seeks to learn how, while mainstream reading in English assumptions pervade, other forms of experiencing it are around even if they are not recognised or validated.

To understand the essentials of this academic literacy, this study examines three key components related to a vernacular practice. First, the way participants learn to deal with information in English through on-the-job experience. This includes the analysis of the training activities that require consulting texts in English, the contexts in which reading in English takes place and the mechanics that allow participants to get the most out of their knowledge and expertise in the field of study. Second, the form in which participants create group membership through self-agency activities and peer learning without a conventional authority figure like that of a teacher. Therefore, it implies considering the social structures that influence mutual engagement even beyond the specific episodes of reading in English. The comprehension of the relationship between the academic tasks and other activities in which apprenticeship is immersed foster the recognition of this academic literacy as a social practice. Third, because literacy is much more than the cognitive process of transmission and assimilation of knowledge by a reader working alone (Barton and Hamilton, 2005), it comprises different covenants among members of the social group. How this type of academic literacy impacts the social positioning and the construction of identities is also worth studying.

In the light of the above, the following research questions and their corresponding sub-questions have guided the present study:

> **Research question 1) What practices allow the participants to acquire and use information in English?**

The answer to this question provides the necessary framework to identify the participants' shared repertoire of knowledge and skills for social interaction and learning. It focuses on the diverse and complementary forms of dealing with a type of academic literacy that includes reading texts in English on specialised topics in the field of study. It aims to recognise the very purpose of this type of literacy, which involves the participants' ability to adapt it in the 'hands-on' actions the vocational training requires. Understanding the practices by which the participants manage to access the required information will clarify the defining characteristics of a variant of REAP through a vernacular practice. This information will synthesise insight from the following sub-questions: a) Why do participants read the way they do?, b) How do they acquire the information in English?, and c) How do they use the information in English in the rest of the training activities?

Research question 2) How do participants engage in knowledge-sharing and collective learning?

This question focuses on the way participants organise themselves to develop academic literacy. It attempts to understand how the group of students in this study consults texts in English, makes meaning from the written language, processes the information, and uses it directly in the vocational activities so that collective learning consolidates. The type of academic literacy addressed in the present study relates to the notions of shared concerns, social negotiation, and membership among the community members. Then, this question seeks to analyse how participants gather together, unfold tasks, join forces to read and learn, make the most of the available resources, and divide responsibilities to fulfil their literacy needs. This information will synthesise insight from the following sub-questions: a) What shared concerns and social membership allow participants to organise themselves to meet their information needs? and How do participants consolidate learning?

Research question 3) How do participants conceptualise the role of English in their vocational studies?

This question seeks to distinguish how the members of the community understand the use they make of English. Complementary perspectives help explain it throughout the different stages and positions of purposeful members of the same academic group. Therefore, by differentiating values, attitudes and feelings from the stakeholders, it is more feasible to shape the ideological orientation of this variant of reading in English for academic purposes. Such information ties up how they value the development of academic literacy, understand the social group they belong to and perceive themselves as members of the community. Considering this, with this question, the

present study attempts to differentiate the forms of experiencing the academic literacy depending on the eye of the beholder. The information will synthesise insight from the following sub-questions: a) What are the participants' perspectives and opinions regarding the variant of REAP they develop? and b) What are the key ideological characteristics of this academic literacy?

1.4 How this study is addressed and its essentials

This piece of research is based on the participants' perspectives about reading in English as part of their academic life. Because an empirical study analysing a vernacular practice requires listening to and tracking the participants' voices, emic descriptions are of utmost importance (Merriam, 2001; Dörnyei, 2007; Creswell, 2014). Likewise, observing readers in vivo when undertaking the reading activity both individually and collectively is paramount for the understanding of the variant of academic reading here studied. In order to answer the posed research questions, it then becomes necessary to know first-hand what participants do when reading, what they read for, how they use the information, what their perceptions regarding the practice of reading are, and how they conceptualise this type of academic literacy. Experiences and detailed accounts of the task are expected to provide insights from participants in the present inquiry. The adopted conceptualisation of the elements involved in this practice embraces the view of reading as a cognitive activity highly embedded by sociocultural matters (Gee, 2000; Lea and Street, 2006). The theory underpinning this study has, in turn, defined the methodology in this research. Qualitative methods were used to better understand the practice, which at times is carried out in silence in a personal and close way, but at others, it is practised through its socialisation. Forms of data collection, then, comprised individual and group forms. Longitudinal examination of the reading practice has also been considered necessary to answer the research question guiding the study. Observation for ten months suggests that academic literacy is not developed in a linear, progressive and cumulative fashion. Instead, it follows a spiral process with paths that sometimes cross and clash depending on several elements that frequently go beyond the knowledge of the linguistic system.

1.5 Organisation of the thesis

In the chapter that follows, I present a systematic review of related literature. The aim of the chapter is to elaborate on the contributions of the ideological model of literacy, known as New Literacy Studies, and the notion of literacy as a social and situated practice. The chapter also aims to develop the argument that the ideological model of literacy provides an adequate lens to better understand what reading in English involves when readers are not language learners and

are embedded in broader academic activities. Firstly, I present the essentials of reading as a cultural manifestation. Given the difficulties in determining what is reading, the two overarching reading goals are referred to: as a literary experience and as a means to acquire information. Since the latter embraces most purposes that frame academic reading, its defining characteristics are portrayed in the chapter. Such conceptualisations relate to the way the human mind has been trained to learn and develop reading. So, reading specialists term them as universals. Once correspondences of the reading process are pinpointed, particulars that impact the way of practising it are highlighted. This condition helps temper some postulates concerning the notions of reading. Among the most critical distinctions outstands when reading in another language through non-conventional practices.

Regarding reading in another language, I present the theoretical conceptualisation of Reading in English for Academic Purposes (REAP), as commonly developed in applied linguistics. I also synthesise some questioning positions to rethink categorical assumptions on the use of English and normative criteria of REAP. Because in applied linguistics, REAP has been traditionally related to language learning settings, idiosyncratic differences from no language learners establish central distinctions that support the adequacy of drawing on frameworks not purposely grounded on language thresholds. Finally, to achieve this last objective, I suggest embracing the concept of literacy as it facilitates the understanding of diverse practices on reading in English beyond the language classroom as well as its relationships with broader activities.

In chapter 3, aside from prevailing approaches found in REAP and the leading conceptualisation of literacy, I discuss the need for analysing non-dominant forms of reading in English where the influence of contextual aspects allows a better appreciation of the characteristics of such practices. Hence, the proper analysis of variants of this activity enhances valuing vernacular practices scarcely considered into applied linguistics, although extensively used. In this case, REAP by undergraduate students whose use of this language does not match with well-established forms.

In the methodology chapter, I firstly retake the research questions guiding the present study and include the sub-questions that contribute to answering the main research questions. The methods of inquiry used to gather data are described in this chapter. Once I emphasise the importance of the context to grasp a social and situated academic literacy, I define the methodological stance regarding its theoretical conceptualisation. The chapter mainly justifies this qualitative investigation developed through a longitudinal multiple case study with an ethnographic approach, and addresses two key elements of the case study in this work, namely, the focus on

the participants' interpretation of their literacy practice and in situ research. In addition, this chapter looks at the benefits of longitudinal research in facilitating the observation of the literacy episodes that participants follow through time and the recognition of underlying components that explain how it takes shape ideologically. Participants are undergraduate students from the same B.A. programme who had been classmates for three years and had shared some of their reading in English experiences even before the project began. Additional informants are undergraduate students attending the different years of the same B.A. programme, content teachers and the academic coordinator. Their contribution permits the exploration of corresponding views of this type of literacy, the identification of the needs of the whole community, and the way reading in English is performed cooperatively.

The methodology chapter moves on to describe the participants in this study and the selection criteria. As a whole, it is important to mention that certain shared characteristics represent the decisive reasons why these community members were recruited and considered as participants. In the first place, it is the fact that these students had none or very little previous English instruction and devoting time to formally learn the language was not considered at the time of the research. Also, participants are regular students in the third year of the same B.A. programme. Such selection was made because, according to the library reports of the university, students attending those specific courses consult databases of scientific publications in English extensively.

About data collection, I portray the setting where the case study is embedded, my role as a researcher and the implications the use of the selected methodology implies in a study like this. I retake the research questions and the procedures for empirical observation. Then, I present the methodological tools, including the way I used them and the challenges I faced during their conduction. Research tools are semi-structured individual and group interviews, think alouds, stimulated recalls, and photographs. Finally, I refer to the changes carried out throughout the research. The main reason for modifications is that the iterative development drove me to review and reformulate the understanding of REAP.

What I observed was an academic literacy, as initially stated. However, as the research progressed, the familiarisation with the context and participants made me realise the need for focusing on this type of practice more precisely. Therefore, conceptualisations of academic literacies and literacy as a social and situated practice allowed me to incorporate evidence from a more particular standpoint (Barton, 1994; Maybin, 2009; Barton and Hamilton, 2012). The other aspect that compelled me to change the way I saw this phenomenon was that as an English teacher, I had a series of ready-made and 'common-sense' assumptions. I had a hard time

detaching myself from REAP premises regarding the use of English. As I became familiar with the context and through the observation of what participants did, my own perspective changed as well. Hence, what I analysed gradually redirected the course of the thesis.

In this section, I relate the track I followed to determine that it is a vernacular practice of literacy that, far from a reading deficiency as it may be considered under traditional parameters, challenges influential conventions regarding readers, academic reading and standard use of English. Besides questioning certain criteria, evidence let me realise that at neglecting some emergent and peripheral forms of academic reading, applied linguistics does not benefit from the richness of literacy, and thus constraints language use and reading understandings. To conclude, I emphasise how the methodological selection promotes a better appreciation of the phenomenon as it does not imply normative assumptions as some principles on REAP conventionally do.

In the data analysis chapter, I discuss the process of classifying evidence into nodes. I first formulate the inductive and deductive code cycles as well as the elements that base their interpretation. To explain the categories of the academic literacy, I include the deciphering process of evidence I conducted with the aid of NVivo, a qualitative software. Description of the development and refinement of codes and nodes attempts to reflect the recursive paths evidence requested, an element that, as said above, set the theoretical route this thesis eventually followed. In order to triangulate data, matrices among nodes allowed me to distinguish the different academic literacies that interplay to shape a socially and situated practice. The analysis of data is organised into four complementary approaches as described in Chapter 5. The initial phase explores evidence from think alouds, stimulated recalls, semi-structured interviews and photographs separately. The nature of the information of each method provides detailed accounts of the diverse forms of experiencing the academic literacy from a different lens. Besides, in this chapter, analysis of data retakes evidence but this time to contextualise it embedded into the life stories of two exemplary cases. The positioning of the cases portrays how the academic literacy is experienced differently not only among individuals from the same community but also in the same case at varying points in time and circumstances.

In Chapter 6, findings are analysed through two encompassing approaches. First, from the insight provided by the analysis of research methods and cases, data are discussed in terms of categories and themes. This perspective enables portraying the defining characteristics of the academic literacy as well as the contested forms of understanding it, as happens with most complex sociocultural practices. Second, this chapter discusses the findings to answer the research questions that guide the investigation. The analysis embraces what previous approaches reveal.

The holistic understanding supports the significance of widening the scope of reading in English research to those variants that organically adapt to current global needs on literacy.

In the final chapter, I summarise the learning that the implementation of this investigation left. The understanding of the academic literacy is circumscribed into the conceptualisation of academic literacies under the ideological model of literacy and New Literacy Studies. To this end, I explain how participants tailor literacy to meet their information needs as well as the way they understand it. Afterwards, I foreground the practical and theoretical implications of the study, its limitations, and some suggestions for further research. In regards to the implications of the thesis, I underline the profits of incorporating into applied linguistics non-prevailing academic literacies in English. Such inclusion allows not only a better understanding of the possibilities of getting meaning from the printed and the variants in the use of English as a means to communicate but also implies a fairer appraisal of what certain readers do. In the absence of ethnographic studies focused on exploring REAP by non-language learners, I suggest that precisely as happened at questioning dominant literacy assumptions by other fields such as education or ethnography, approaches towards academic literacies should be broadened. By incorporating alternative forms of reading in English, applied linguistics can comprehend what is happening outside the language classroom. The main issue is to include into the research arena diverse academic communities whose members are negatively affected by normative criteria even if their purposes of reading are unrelated to language acquisition and reading instruction.

In the last chapter, I also provide some final remarks regarding my gains from conducting this study. An academic literacy that challenges mainstream criteria calls into question not only categorical assumptions that rule conventions but also the lens and positioning from those who investigate vernacular literacies. On this point, several issues confronted me regarding my role as a researcher and as a non-native speaker who writes a doctoral dissertation in English.

Chapter 2 Reading in English for academic purposes: readers, texts and contexts as fundamentals for its understanding

2.1 Introduction

This chapter expounds on the central features of Reading in English for Academic Purposes (REAP), a purpose of reading linked to the present study. How reading in English to acquire and use information occurs and how it is theoretically constructed when developed in mainstream educational settings is the framework outlining the activity this thesis investigates. The analysis of the prevailing perspectives in which REAP is conceptualised allows us to identify why certain practices are highly valued and pursued by academic readers. By presenting the general characteristics of reading as an initial step, this first section of the chapter aims to examine how empirical research has defined the proper progression of the reading skill. Next, this chapter explains why defining reading as a one-piece concept is a limitation for understanding reading due to the many elements that any reader draws upon to acquire and use written information. After discussing the essentials of reading as a uniform cognitive skill, differences among readers, texts and contexts are pinpointed in the chapter.

The second part of this chapter explores reading in English within academic domains in which readers are non-native speakers. Because the research on REAP belongs to the field of applied linguistics, the chapter discusses how this area of study has developed comprehension of the skill. In a prevalent way, REAP is situated as a further branch or subsection of English for Academic Purposes (EAP). Due to the prevailing form in which reading specialists have developed REAP, some reconsiderations arise regarding its actual scope. The main reason behind this questioning is that in many academic contexts, REAP does not attach to conventional assumptions, and this will be elaborated on within the section.

This chapter concludes by underlining how applied linguistics has defined REAP and how this area of study has constrained its understanding. The gap between prevalent REAP assumptions and other practices unrelated to a language class reveals the benefits of drawing on a broader lens as literacy. With the concept of literacy, it is possible to highlight that REAP is a multifaceted activity beyond the conventional form of using a non-native language and as a transferable skill irrespectively of the context where it is developed.

Because literacy may incorporate vernacular reading practices, implications of REAP can be extended to scenarios not previously covered. Therefore, to understand a scarcely studied academic literacy that involves reading in English outside the language classroom, this chapter is the preamble to incorporate other approaches that promote diverse REAP forms that inadvertently have been left aside from reading research. To support the aim of the present study, it is necessary to explore three key elements of a non-prevailing REAP practice. First, the way non-English language learners manage to acquire the information they need. Second, the way readers organise themselves to access information in English outside the language classroom. Third, the way these language users understand what they do.

2.2 Reading as a generic cognitive skill

Reading is a cognitive, affective, and social skill that demands an intellectual effort not naturally developed. As a human invention, reading has been taught and valued in most societies "as one of the essential ways to think, to feel, to infer and to understand other human beings" (Wolf, 2007, p. 4). The condition of the human brain of being reshaped by literacy has made us consider that once "reading takes place, the individual is forever changed, both physiologically and intellectually" (Wolf, 2007, p. 5).

The human capacity to become literate has given rise to a significant amount of research that draws heavily on cognitive psychology and sociocultural factors (Goodman, 1976). Interacting dynamics such as background knowledge, reading experiences, use of language(s), individual and group behaviours, as well as communication modalities imply that a single reader develops different facets of the same activity depending on specific circumstances (Singer, 1969; Goodman, 1976; Samuels and Kamil, 1988). Thus, reading is considered a complex process that takes shape from a combination of variables among the readers' characteristics, the diverse types of texts, and the contexts.

Due to the challenges that reading pose to its understanding, reading research has centred the analysis on the collective cognitive paths that readers follow to gain, store, and evaluate the written information. Described as universals of reading, these processes are organised into text and reader-based orders, which lay the foundation for most influential models and theories of reading. This explains why such assumptions develop approaches that value reading as an activity that follows standardised learning objectives, activities, and evaluation criteria. Accordingly, as Alderson underlines, in reading research, the way of conceptualising reading derives from the observation of "how well readers can process meaning" (Alderson, 2000, p. 80).

Besides defining reading as a universal skill, most theoretical constructs explain the activity like a set of sub-processes with the capacity of being isolated and assembled simultaneously. Reading processes are sequential and accumulative, and their teaching follows criteria depending on the demand for knowledge and automaticity (Samuels and Kamil, 1988). Hence, these processes go from learning what, then how, up to their smooth operation (Grabe, 2009). No matter what the specific characteristics of the readers are, a selection of key reading processes is acknowledged as part of the human reasoning and called universals of reading (Grabe and Stoller, 2011). In this way, once a person learns those common skills, he or she is considered literate. To get a clearer picture of what theorists consider as universals of reading, Grabe (2009) lists the following seven processes any reader develops regardless of the age, language, teaching conditions, and purpose of reading:

1. carry out phonological processing while reading
2. use syntactic information to determine text meaning and text comprehension
3. set goals, engage in reading strategies
4. apply some level of metacognitive awareness to text comprehension
5. engage a capacity-limited working-memory system
6. draw on long-term memory (background knowledge) to interpret text meaning
7. carry out very rapid pattern recognition and automatic processing skills (Grabe, 2009, p. 123)

As can be observed in the list above, universals of reading refer to a series of sub-skills that allow the reader to make meaning of what is being read in an abstract way. These common processes involve the interaction between the recognition of the linguistic system and the use of the reader's previous knowledge and expertise to eventually achieve a clear literate condition. Because universals of reading describe what a proficient reader does while acquiring information, then most theoretical and empirical research present reading from commonalities. As a result, the initial phase of the reading process refers to a text-based order ranging from the recognition of words or chunks of words as first stimuli towards more demanding reader-based processes (LaBerge and Samuels, 1985). The continual development and aggregation of universals of reading lead to their automaticity, which implies "thousands of hours of practice" (Grabe and Stoller, 2011, p. 21).

Notwithstanding, at this point, it is important to emphasise that although automaticity in the general reading processes reveals a significant progression, the way of experiencing this activity should not be taken as a steady condition, but as a fluctuating activity based on several specific factors (Morgan and Ramanathan, 2005). Regarding the true scope of synthesising the reading processes, Alderson (2001) pinpoints that reading processes are not constructions of a simple nature. Each cognitive process involves a series of considerations that constitute separate research fields. For instance, he points out that besides the degree of reading development, the

reading processes depend on “the reader’s motivation to read, and the way this interacts with the reasons why a reader is reading a text at all” (Alderson, 2001, p.33). Furthermore, variations among texts modify the general reading processes as well. These factors fluctuate in response to “aspects of text content, to text types or genres, text organisation, sentence structure, lexis, text typography, layout, the relationship of between verbal and non-verbal text, and the medium in which the text is presented” (Alderson, 2001, p.61). Consequently, readers, texts and contexts lead the selection and impact of the reading processes.

According to the above, reading depends on different and variable factors beyond the command of declarative and procedural processes or time devoted to fluency. Automaticity in reading cannot be taken for granted even if previous phases are controlled neither is a final product that, once developed, remains unaffected (Gee, 2013). Being literate is a condition that takes shape from the way the human mind responds to the written texts and the individual’s capacity to capitalise and adapt resources to make the activity a meaningful experience. Therefore, it becomes enlightening to understand both the common forms in which readers are taught to read and those varying circumstances that make readers adapt their reading abilities to meet particular communication needs (Gee, 2013).

After considering the reservations of representing reading as a skill derived from standard processes, it is very useful to analyse how this activity is metaphorically outlined and mostly explained in reading research. From such an understanding, theories of reading organise the cognitive processes into two broad models (Grabe, 2009). On the one hand, the bottom-up models focus on the way readers decode hierarchically from the smallest linguistic units to higher ones to gain meaning (Gough, 1972; LaBerge and Samuels, 1985; Rayner and Pollastek, 1985). On the other hand, the top-down models prioritise comprehension from how readers search for meaning selectively to confirm or reject predictions about the information as they read (Goodman, 1976; Smith, 1994). From these two explanations of reading, research has elaborated extensively on the nature of reading and specific sub-processes. In the following sections, such rationale will be discussed.

2.2.1 Text and reader-driven processes as collective paths for comprehension

Text- and reader-driven processes are commonly defined as the basis to characterise reading. This representation is based on the assumption that the skill acquisition follows a hierarchical organisation from lower to higher cognitive demands on the basis of a conventional reader, which are: someone who learns to read at an early age, in the native language, with training materials, and the guidance of a teacher into a school environment (Grabe and Stoller, 2011). Therefore,

text- and reader-driven processes are figured out like complementary components that operate together to achieve comprehension in a controlled and stable manner.

Text-driven processes relate to the "surface structure of the language" (Smith, 1994, p. 47). At initial levels, readers rely "on short-term memory for word recognition, syntactic parsing and semantic-proposition encoding" (Gough, 1972, p.316-317). Subsequently, their complexity reaches operational components "of a coherent representation of main idea information from the text to create a fluid system" (Grabe, 2009, p. 35). Thus, because text-driven processes are valued as "the critical input proficient readers employ to compile and decipher information" (LaBerge and Samuels, 1985, p. 832), it is assumed that once they are mastered, readers can shift to non-mechanised attentional demands.

Because reader-driven processes comprise diverse and changing components, they "are not uniformly specified in the reading comprehension literature" (Grabe, 2009, p. 39). Nevertheless, they are associated mainly with the reader's ability to interlocking mental structures to summarise "what the text is likely to mean based on the personal background in order to construct new experiences" (Grabe and Stoller, 2011, p. 24). Hence, schemata and background knowledge "influence not only what they [readers] remember of a text, … but the product -their understanding of a text- and the way they process it" (Alderson, 2000, p. 33). In this way, the same text may provide a different meaning among readers and even in a single reader at different points in time.

Text and reader-driven processes condense cognitive correspondences. These processes are considered commonalities as long as readers have some schemata, such as knowledge of the linguistic system, knowledge of the subject matter, and cultural awareness (Grabe, 2009). Hence, these processes represent, in a broad sense, "the procedural claims that explain how research conceptualise the construct of reading" (Alderson, 2000, p. 79). However, due to the different forms in which readers draw on the text and reader-driven processes to build meaning, researchers acknowledge that attempting to define reading as a unified construct is not profitable. Based on these generalising processes, reading scholars refine the understanding of specific reading processes, goals and outcomes that lead readers to vary how they approach the practice of reading depending on the reading purposes and the background.

2.2.2 Selection of reading processes as individual paths for comprehension

As discussed in the previous section, a separate analysis of text- and reader-driven processes favours identifying the generic and abstract mechanism readers carry out to achieve

comprehension. Nevertheless, this conceptualisation of reading does not refer to a series of more detailed processes that make readers follow separate paths. In this regard, experts on the matter suggest that since reading is not a unitary phenomenon, it is necessary to distinguish the strategic use of the comprehension processes that individual readers select. And, a detailed analysis of these processes is further required.

Because the specific comprehension processes refer to particular forms of developing reading, they are regarded as a higher order. While many and varied, these processes can be organised into two sequential types. In an initial stage, readers draw on the elements that provide more support to understand and direct attentional resources "from the selection of a family of skills and activities" (Grabe, 2009, 39). Afterwards, derived from the customised selection, another group of processes make "readers gain a sense of how comprehension emerges" (Grabe, 2009, 40). In this way, the use and significance of the high-order comprehension processes largely explain why reading is not a standard phenomenon.

Taken together, comprehension processes of higher-order allow readers to interconnect mentally different text ideas and build a text synthesis. While most of the time, specific processes seem to operate automatically, their contribution to the comprehension process becomes evident when they are specifically used to cope with particular challenges such as making inferences, finding main ideas, and overcoming lack of lexical knowledge, among others. Therefore, higher-order comprehension processes respond to two spheres of reading. On the one hand, the comprehension the reader achieves by associating ideas within a text. On the other hand, the comprehension the reader gains by interpreting such ideas (Alderson, 2000).

2.2.2.1 Text model and situation model: moving away from universals

The text model refers to the identification of specific elements of the written input that allows the reader "to establish linkages into a network; to overlap certain elements; to suppress less important information; to make simple inferences, and/or to make a summary for reconstruction" (Grabe, 2009, p. 42). The personal construction of this model provides coherence between the ideas to achieve global comprehension. Because "the text model amounts to an internal summary of main ideas" (Grabe, 2012, p.46), the reader establishes what the text relates. Thus, the text model functions as the bridge between the surface and the deep structures of the reading comprehension process.

On its part, the situation model allows the reader to integrate information provided by the text model with the reader's schemata and knowledge of the world to create a sort of own system. This model appeals to the representation of a text due to the reader's attitudes, experiences, and

expectations (Alderson and Urquhart, 1984). It is then especially fruitful to differentiate the adult readers' comprehension processes to get meaning from the written texts as they may draw upon previous knowledge and expertise in comparison to a young reader who lacks such support. It means that the situation model may help readers compensate for shortcomings (Adams, Bell and Perfetti, 1995). As a whole, both the text and the situation models comprise a set of reading skills that supports the reader to negotiate the meaning and "create a mental model" (Grabe, 2009, p. 43).

The text and situation models show the diversity that can be found in developing reading comprehension. While the text and reader-driven process uniformly explain this activity, readers follow varied paths due to their interests, resources, and conditions. Such particularity in the use of the comprehension processes has conditioned scholars to conceptualise reading as a standard ability and to identify some well-defined reading purposes to explain reading in its broader sense. In this way, high-order comprehension processes are related to their contribution to meet a specific reading purpose (Grabe. 2009). For example, in academic settings, readers primarily require interpreting information to learn new things. To achieve this goal, readers elaborate text and situation models to synthesise, infer, evaluate, and selectively use information. Consequently, acquiring knowledge through reading involves various processes which readers assemble differently to fulfil a specific purpose (Rayner and Pollastek, 1985).

2.3 Reading goals as an attempt to understand reading from different perspectives

Due to the many comprised elements in reading, the activity is better explained according to the text and to the situation-models readers develop to meet particular goals. Specific information needs, types of texts, and even the reader's characteristics define the decision-making when reading (Rayner and Pollastek, 1985). A novel, an e-mail, a scientific protocol or a billboard are all written to be read differently. Therefore, in reading research, compensation resources in text and situation models are considered "to reflect the actual variety of coping abilities readers develop for the same activity" (Alderson, 2000, p. 83). For this reason, in order to identify the form in which comprehension processes commonly work together, they are grouped based on how readers use them for a specific reading goal (Grabe, 2009).

As a first step to categorising reading goals, specialists differentiate two overarching intentions: reading for literary experience and reading to acquire and use information (Mullis, Martin and Sainsbury, 2006). On the one hand, reading for literary purposes is an aesthetic experience which most enriching effect is to find entertainment and pleasure from the words themselves (Grabe

and Stoller, 2011). Although widely related to fiction, it is not restricted to a specific genre or type of text; instead, it is principally guided by the reader's taste and mood. On the other hand, reading to acquire and use information takes as a constant the aim of searching, through reading, an ultimate interest. This second category assumes that depending on the text and its cognitive demand, the reader selects higher-order comprehension processes specially targeted to obtain the expected information (Linderholm et al., 2004). Reading to acquire and use information signifies a fundamental goal for studying that combines an inventory of more specific purposes, which belongs to experienced readers with background knowledge and familiarity with different types of texts (Carrell, Devine and Eskey, 2000).

2.4 Context as a constitutive component of the reading practice

As addressed earlier in this chapter, comprehension processes can be isolated for a detailed analysis. However, what truly explains their functioning in reading is how they group to fulfil specific goals (Grabe, 2009). In collaboration, comprehension processes provide a clearer panorama of the series of processes that intervene to develop reading. However, at this point, it is necessary to underline that most comprehension processes explain reading from the observation of two controversial points that take us back to the complexity of conceptualising it as a regular activity.

The first point to consider is that comprehension processes are descriptions of what "skilled, adult readers" (Urquhart and Weir, 1998, p.101) report to do "rapidly in almost any purposeful context" (Grabe and Stroller, 2011, p. 18). Such explanations hold the underlying assumption that a good reader completes reading processes efficiently or with minimal difficulty in a steady fashion. However, this mechanism does not necessarily happen in a single reader when reading new, specialised or challenging information, even if he or she possess knowledge about the topic, the pragmatics of the text and proficiency in the language of communication. Beyond text and reader-driven processes, the complexity of contents, how texts are written or the context within which the activity is developed makes that reading is not always smooth.

The second point to consider is that the valuation of reading relies mainly on comprehension tests. There is a broad tendency in mainstream research for measuring comprehension through standardised approaches (cf. Eskey and Grabe, 1988; Balota, Flores d'Arcais and Rayner, 1990; Alderson, 1991, 2000; Weir, Huizhong and Jin, 2000). While such appraisal represents a useful understanding of what is expected to obtain from reading, it promotes, at the same time, decoupling the product from the process. Accordingly, although general parameters ease the reading conceptualisation, observation of different practices shows the need for incorporating

alternatives to comprehend this task. Considering this, to complete the same reading goal, readers use the comprehension processes in a differentiated manner. Besides, sometimes comprehension processes mesh well, others do not. Their significance and effective achievement rely on multiple factors that general criteria can hardly consider. In this sense, Elizabeth Bernhardt underlines that "there are basically no generic or generalised readers or reading behaviours. That is, there are multiple readers within one person since each context will influence each reader" (Bernhardt, 1991, p.10).

Diversity of contexts includes distinctive needs, resources, and settings. By considering such possibilities, the conceptualisation of reading becomes more elaborated. In this sense, a critical element that modifies reading comprehension processes is when the activity is performed in another language; particularly, when circumstances do not match those commonly expected. Differences in the development of reading by non-native speakers do not necessarily follow expected paths. Thus, it is essential to consider the contextual conditions to appreciate other forms to acquire and use information differently but not necessarily inadequate or wrong.

2.5 The way REAP is mainly developed in applied linguistics

This section focuses on the overarching goal of reading to acquire and use information with two particular characteristics: reading within the academic context and reading in English carried out by non-native speakers. This type of reading is known as Reading in English for Academic Purposes (REAP), which has been developed as a research field of applied linguistics. REAP rationale and pedagogical proposals stem from the superordinate division of English for Academic Purposes (EAP). It is targeted to English language learners and research derives its understanding from the idea that readers possess the following elements: English language knowledge, classroom-based instruction, and the interest in developing reading in cooperation with speaking, listening and writing (Hudson, 1988; Alderson, 2000; Hellekjaer, 2009; Kuzborska, 2015). Consequently, such conditions are the basis on which REAP is prevalently defined in theory and practice.

In language acquisition research, there is general recognition of the primacy of spoken discourse as first natural contact with a language and its sequential progression to its written form (Goody, 1977; Astington, Harris and Olson, 1988; Ong, 1999, 2002). Following this line, REAP receives exceptional attention as it enables students to consult primary sources of information and gain the necessary skill to succeed in academia (Monaghan and Hartman, 2000). Johns and Dudley-Evans have addressed this by stating that "the international community recognized the importance of reading in English not only as a means to achieve transmission of knowledge and

communication but also as a neutral language to be used in international communication" (1991, pp. 301-302). Therefore, considered as the central skill to acquire, select, and interpret information in English, REAP has played a "crucial point of focus for applied linguistics research" (Alderson and Urquhart, 1984, p. IX).

Within academic domains, the understanding of REAP is supported by emphatic assumptions like the one stated by Flowerdew and Peacock, who consider that "the international language of research and academic publication is English and anyone who wishes to have ready access to this material needs to know the language" (2001, p. 10). With this rationale, REAP methodological proposals continue growing like no other EAP area, especially where English is not the medium of instruction (Swales, 2001). On this point, Grabe estimates that "millions of students are expected to learn English as an additional language to some extent. Reading in English provides one of the few avenues for these students to develop their English L2 abilities to the point at which advanced academic curricular goals can be archived" (Grabe, 2009, p. 6).

While extensively based on the linguistic system, REAP is addressed through two main categories: for general or for specific purposes (Carkin, 2005). The general approach mostly develops all-purpose strategic reading guidelines. Whatever the discipline, goals, tasks, and reading materials, they are subsumed as analogous. This approach aims to build academic language knowledge and general reading strategies rather than practising the skill (Dudley-Evans and St John, 2001). This explains why this type of instruction is mostly considered as up-skilling and the complementary parallel to enhance writing in English (Hirvela, 2001). The specific approach focuses on reading goals, purposes and materials following the characteristics and practices from a particular area of study (Flowerdew and Peacock, 2001). By concentrating learning on the distinctive features of the academic discourse from a specific field, this approach enables readers to acquire precise language and content knowledge. Consequently, in both REAP methodologies, the language and the acculturation are the most important teaching goals.

2.6 Reading in English for Academic Purposes outside conventional scenarios

Despite the broad recognition of the REAP rationale, there is a reading research trend in applied linguistics that discusses the need to critically examine most influential conventions regarding the actual needs and challenges readers in English have to deal with. (Canagarajah, 2001; Norton and Toohey, 2004; Pennycook, 2004, 2013; Benesch, 2009). Broadening reading in English contexts, this critical orientation has provided in-depth investigations of alternative practices that show how many assumptions imply openly or in a very subtle way an ideological system among specialists, learners and teaching materials. For this reason, Benesch, a recognised researcher of

critical REAP, highlights that, "[t]he social changes resulting from globalisation are fertile ground for critical EAP to explore the relationship between academic English(es) and the larger socio-political context" (2009, p. 82).

Due to the above, while much is known about academic reading under the parameters of English language learning environments, far less is explored in situations and contexts in which those readers are neither language students, nor didactically guided. Even more important, readers who are not language learners are very common in non-English speaking academic communities, yet they have been insufficiently studied (Harwood and Hadley, 2004; Morgan and Ramanathan, 2005). To understand non-prevailing reading in English practices, it is necessary to draw on a different underpinning that moves away from homogenising standpoints. In this sense, applied linguistics assumptions regarding REAP should consider those readers whose purpose is reading to learn the language and those who use English for other academic purposes not related to the language class.

2.6.1 Influence of Reading in English for Academic Purposes criteria beyond the language teaching environments

As the influence of English broadens, it is easier to find academic communities that use this language extensively even though its teaching is not part of the curricular programmes. Within this context, readers are users of English, not learners. The preponderance of REAP assumptions and the lack of corresponding frameworks to facilitate an understanding of those practices that do not fall into conventional parameters cause concerns about their legitimacy (Pennycook, 2007, 2013; Canagarajah, 2013c). Although reading in English represents a significant part of the academic tasks worldwide, diverse specialists in the research area acknowledge that it continues to be prevalently considered from a single perspective (Carkin, 2005; Benesch, 2009). In this way, non-mainstream reading practices do not have enough room in the reading in English research and, as a side effect, REAP criteria influence stakeholders incidentally.

Consequently, the standardisation in the characteristics of the academic readers as language learners and the gradual and accumulative reading comprehension processes adversely affect readers who do not attach to main assumptions (Gee, 2000, 2013). If the language command is pondered as the primary condition to develop REAP, those readers who lack it commonly consider their reading practice as flawed (Pennycook, 2004, Zavala, 2018). Therefore, to understand vernacular forms of acquiring and using English information, it is necessary to draw on broader reading tenets not related to language learners and classroom environments. Instead of attaching to REAP criteria, it makes more sense to analyse alternative practices through multidisciplinary

views. In this vein, ethnography and education have developed complementary perspectives about varied and previously unconsidered ways of getting meaning from the written language. These disciplines concur using the concept of literacy with the aim of relating the reading process with the motivations that lead people to read in a particular form (Street, 1988; Baker and Street, 1994; Besnier and Street, 1994; Canagarajah, 2013b).

Concerning the way ethnography and education build an understanding of literacy, both research disciplines emphasise the following three main elements in their approaches. First, the recognition of the sociocultural uses of literacy is of utmost importance. The analysis changes the focus from standard positions to contextualise the varied literacy practices, mainly where particulars do not fall within prevailing constructs (Maybin, 2009). Second, those who develop the skill primarily evaluate their communication needs, practices and achievements. In this way, comprehension processes and scopes are not analysed from an external perspective based on general norms (Kress, 1997). Third, needs, resources and beliefs about literacy evolve due to complex forms of social interchange. Distinctive characteristics of literacy are regarded as shifting conditions instead of conceptualising them as stable or unbiased (Barton, 2013).

As a result of the three literacy assumptions, it is worth mentioning that reading and literacy are not quite the same. While reading refers to a single skill, literacy encompasses a series of relevant mechanisms that allows people to get meaning from the written language (Barton, Hamilton and Ivanič, 2000). For educational research, the notion of literacy has been used to observe these capabilities beyond cognitive processing and takes into account diverse sociocultural forms of expression and interaction. Then, knowledge building such as learning, collaboration, meaning-making, and practice is the centre of attention (cf. Maybin, 1994, 2009; Kress, 1997; Gee, 2013). Likewise, ethnographic research has gone a long way to provide relevant evidence concerning the culture's influence on literacy procedures in traditional and unconventional contexts (cf. Street, 1984; Szwed, 1991; Martin-Jones and Jones, 2001; Keefe and Copeland, 2011). For this reason, Street, a remarkable literacy ethnographer, has distanced his views from centralising assumptions and observed the following:

> Literacy is a social practice, not simply a technical and neutral skill; that it is always embedded in socially constructed epistemological principles. It is about knowledge: the ways in which people address reading and writing are themselves rooted in conceptions of knowledge, identity, and being. It is also always embedded in social practices, such as those of a particular job market or a particular educational context and the effects of learning that particular literacy will be dependent on those particular contexts (2003, pp.77-78).

As noted above, understandings from education and ethnography provide complementary viewpoints to appreciate specific literacies that explain diverse needs, resources and experiences from readers into their contextual circumstances. Therefore, several studies relate reading with

writing practices in connection with the social environment (Besnier and Street, 1994; Maybin 1994, 2009).

2.7 Literacy as a broader conceptualisation to rethink diverse reading practices

Literacy is a concept commonly regarded as an extension of orality but with a higher rank of cognitive demand (Goody, 1977; Astington, Harris and Olson, 1988; Ong, 1999, 2002; OECD, 2016). Throughout history and different study areas, literacy has been defined in similar, differing, and even opposing terms. However, despite the diverse positions about it, many theorists agree on two essential points. First, literacy comprises a full spectrum of intertwined elements making it difficult to define as a separated skill (Street, 1984; Kaplan and Palmer, 1991; Graff, 1993; Cook-Gumperz, 2006). Second, literacy is essentially a social practice as "it epitomises the role of culture in human exchange and condenses into the channels of reading and writing some of the most crucial of our joint enterprises" (Brandt, 1990, p. 1). Consequently, in contrast to unitary reasoning, literacy researchers draw on embracing views that clearly show the human capacity to get meaning through different resources.

As a shared social value over time and across cultures, literacy has been a core research subject. Thus, there is a wide range of theoretical foundations to conceptualise literacy. From such alternatives, two forking positions outstand. On the one hand, the regulatory approaches that conceive literacy as a skill progressively acquired. These contributions mostly regard literacy as a standard cognitive capacity and as an individual attribute that reflects "intellectual competence that would otherwise go largely underdeveloped" (Hildyard and Olson, 1978, p.44). On the other hand, the collectively grounded orientations that define the practice based on the context. This second approach substantiates the understanding of literacy from the observation of vernacular reading and writing practices. Assumptions come from the basis that literacy practices do not necessarily correspond with each other. This approach focuses on the "specific characteristics or consequences likely to be associated with orality and literacy" (Finnegan, 1981, p. 12). Notwithstanding, while each of these two positions does not inevitably rule out the other, their primary tenets establish distinctive standpoints in the way of prioritising the literacy components.

Among the most consistent and highly articulated voices that have provided the theoretical foundation to discuss literacy, the contribution of Brian Street excels (1984). His analysis derives from a dichotomous literacy category between normative criteria that determine international standards (cf. OECD, 2016) and contrasting standpoints with challenging and debunking practices that compel us to temper some categorical assertions (Street, 1984). Hence, in literacy research,

we can identify two major areas of research: those studies that concentrate the analysis on standards that allow people to develop literacy in the way they are taught and those studies that prioritise the specific communication needs that lead people to adapt literacy from their own resources.

2.7.1 Autonomous models of literacy: a normative perspective

Autonomous models of literacy focus on the acquisition and use of reading and writing as a result of their teaching, as found in most curricular programmes (Street, 1984; Graff, 1994; Cook-Gumperz, 2006). Therefore, most assumptions in autonomous models of literacy are based on normative criteria. A clear example of the theoretical orientation from this type of approaches towards literacy is the one extensively quoted by the recognised educational researcher John Ogbu, who defined it "as the ability to read, write and compute in the form taught and expected in formal education" (1990, p. 532). From this type of considerations arises equating the literacy rates of a community's population with the grade of development of its educational system in the first place and with its sociocultural progress as a conclusive valuation afterwards (Cook-Gumperz, 2006).

In autonomous models, besides connecting literacy with other socially praised achievements like educational background, individual liberty and social mobility, the point of departure is how acquisition impacts unequivocally and in a one-way direction the cognitive processes of any individual. This explains why the quality of being literate under normative criteria is also related to other more subjective attributes, such as "'empathy', 'abstract context free thought', 'rationality', 'critical thought', 'post-operative thought' (in Piaget's usage), 'detachment' and the kinds of lexical processes exemplified by syllogisms, formal language, and elaborate code" (Street, 1984, p. 2).

In other words, autonomous models of literacy implicitly assume that a primary thought must be modified by acquiring conventions represented in terms of cognitive skills. Consequently, learners who follow mainstream norms acquire such symbolic significance of critical thinking development (Street, 1984; Gee, 1994; Cook-Gumperz, 2006). Along with the idea that literacy is an ensuring path to improve the cognitive capacity of any individual, these models relate conventional literacy processes to group progress and civilisation, even if such assumption is not scientifically proven (Kaplan and Palmer, 1991; Graff, 1994; Gee 2008). The origin of this belief is found in the historical ideology of modernity when, for the first time, being literate became broadly valued in societies and regarded even as a moral virtue (Graff, 1994). Since then, the capacity to read and

write as expected becomes a precondition to gain a stronger position in society (Cook-Gumperz, 2006).

This approach assumes the construction of a single meaning while sets aside the "[s]emiotic resources embedded in social and physical environments, aligning with contextual features" (Canagarajah, 2013a, p. 229). In this sense, given the considerable variety of ways to express and understand a message, some literacy theorists have underlined the necessity of disputing hegemonic patterns to comprehend vernacular practices as well as to provide new orientations on literacy (Street, 1984; Hymes, 1994; Makoni and Pennycook, 2007; Pennycook, 2010; Canagarajah, 2013a). After analysing some claims found in autonomous models of literacy, a trend of specialists has challenged overstated claims about the impact of reading and writing. This questioning is especially revealing when ethnocentric views establish values about how literacy is developed by diverse communities (Street, 1984). One of the most important reasons for this ethnographic rethinking is that Western educationalists and psychologists have set regulatory frameworks within the context of their own experience. Thus, self-referential postulates of literacy and their comparison with other social and cultural conditions may distort the appreciation of alternative practices and their actual implications (Griswold et al., 1987; Gee, 1994).

Notwithstanding the problematic issues of validating the literacy procedures, at this point, it is worth noting that the prevalence of autonomous models of literacy is explained for two main pragmatic reasons related to multicultural communication. First, literacy standards facilitate interchange among people who do not share languages or contexts (Grabe, 2009). Second, political, technical, and economic factors make some social groups seek admission to organisms of international cooperation. Then, it implies meeting literacy standards for a position of acceptance and inclusion for cross-cultural endorsements. This pursuit explains the widespread acceptance and use of regulatory criteria as those established by the Council of Europe in the Common European Framework of Reference for Languages (2020).

Although in recent times, an increasing number of studies have shown the advantages of considering new and challenging ways to understand literacy (Prinsloo, 2012; Canagarajah, 2013, Zavala, 2018), standards keep a much higher weight and still influence as the prevalent positioning in current international policies (Baker and Street, 1994). This situation is illustrated in global reports on literacy, which despite recognising the importance of considering the varying contexts and the appreciation of different literacies or multiliteracies, quantitative markers of

literacy represent critical indicators of the countries' level of development (cf. UNESCO 2006, 2015; OCDE, 2016).

In literacy research, identifying some critical shortcomings in its understanding has prompted challenging proposals to analyse a complex cognitive and sociocultural process. Broadening the analysis to diverse literacy practices encourages considering power and ideology into prevalent assumptions; thus, it promotes listening to other voices as counterweights. These alternative perspectives better explain what literacy deeply entails and how it is "constitutive of identity and personhood" (Street, 1995, p. 140).

The questioning of the legitimacy of a dominant literacy has given rise to ethnographic and sociolinguistics research trends that consider the normative a variety among many others. Although the relevance of a single literacy is more easily explained by geopolitical and economic conditions, there is an increasing acceptance that some literacy conventions are actively negotiated and transformed by other realities and practices. These considerations allow us to identify some theoretical frameworks that need to be adapted to changing literacy conditions, such as REAP by language users in unconventional settings.

2.7.2 Conceptual correspondences between REAP and autonomous models of literacy

As discussed above, while in language education, REAP mainly focuses on the cognitive processes a reader develops to get meaning from the written text, literacy widens the scope of observation and incorporates other abilities on an equal footing to the analysis of how reading is developed. Although such distinction may seem subtle, the advantage of embracing the rationale of literacy to study REAP gives the possibility of drawing on multidisciplinary views to show how reading comprises many other resources besides the cognitive processes (Maybin, 1994, 2009).

Despite the possibilities of broadening the understanding of REAP by the concept of literacy, the prevailing position of the autonomous models concurs prioritising standardised processes and normative criteria. On this issue, it is worth going back to the idea that autonomous models of literacy privilege the language proficiency; so, the written discourse is generally conceived as a learnt model based on the "surface features of language such as formal spelling rules, punctuation, pronunciation, etc." (Street, 2002, p.13). In this way, the most influential underpinnings of autonomous models of literacy and REAP assumptions establish values derived from conventional readers, texts and contexts. This explains why under the rationale of the autonomous models of literacy "experts and planners have made prior assumptions about the needs and desires of beneficiaries. They remain concerned with 'effectiveness' often measured

through statistics on skill outcomes, attendance, etc., and justified through correlations with important development indices" (Street, 2002, pp. 1-2).

Considering the central correspondences between the autonomous models of literacy and REAP, it is possible to identify two principal views that influence the general understanding of reading in English on academic grounds. On the one hand, if achievements fulfil the requirements, people who possess such knowledge are linked to "adequate schooling, economic development, growth progress and social mobility" (Cook-Gumperz, 1987, p. 1). On the other hand, if the established outcomes are not accomplished, the individual and collective thinking skills are considered to be at stake since it "takes on a symbolic significance, reflecting any disappointment, not only on the workings of the education system, but with society as a whole" (Cook-Gumperz, 1987, p. 1). Therefore, because REAP and autonomous models of literacy are not aimed at promoting understanding of those practices considered non-mainstream, it becomes necessary to draw upon more inclusive approaches. In the case of vernacular practices of REAP, other literacy research trends show a definite step forward concerning cross-cultural and contextual determinants.

2.8 Summary

This chapter has presented the essential characteristics of reading as a human capacity. Because of its nature, instead of providing an all-purpose definition of reading, specialists have chosen to analyse its components separately. These specificities are based on the idea that the human mind follows collective cognitive paths to gain, store, and evaluate written information. Generally identified as universals of reading, comprehension processes are organised into text- and reader-based orders. These constructs serve as the theoretical underpinnings for reading, which establish two central reading objectives: for literary experiences and to acquire and use information. As this thesis is focused on analysing a reading practice related to the second modality, potential processes to meet this objective were particularly discussed.

In REAP, the intricacy of the comprehension processes is more clearly revealed when carried out in another language than the native by no language learners. To contextualise differences among practices, some central assumptions of REAP were also discussed. The discussion emphasises how language-centred prevailing frameworks are not enough to fully appreciate when reading in English is developed outside the language learning grounds. Moreover, the chapter presented some critical questioning to this field of study and the proposal of incorporating more comprehensive understandings to embrace vernacular reading practices.

As a linguistic issue, the way language teaching addresses REAP is of utmost importance. It is predominantly situated as an extension of EAP. This theoretical and empirical lineage causes REAP to favour the linguistic system as a means to get meaning. Therefore, in REAP, learning the English language and practising gradual reading strategies are part and parcel of the English language class. However, to understand REAP outside the language classroom, it becomes necessary to draw upon a complementary rationale that facilitates understanding alternative forms to acquire information in English. As a first step, the concept of literacy allows us to observe the reading skill in cooperation with other abilities not necessarily related to language learning. In this way, empirical evidence is not constrained to language classroom environments or reading instruction.

Notwithstanding the possibilities of a more comprehensive observation by literacy research, autonomous models also show a strong tendency for establishing standards to value the 'technology of the mind' (Goody, 1977). Questioning this issue, other disciplines, such as ethnography and education, have adopted other views for enriching understanding. It explains why literacy is also regarded as a canopy term that enables the study of varied forms to gain meaning from written texts. Hence, it becomes a research challenge to achieve a comprehensive appreciation of the current dynamic nature of English despite normative criteria.

Considering the above, the objective of this chapter is to show how dominant assumptions of reading in English are centred on principles mainly related to conventional practices. Moreover, due to its social recognition, regulatory components influence many academic scenarios outside the language learning domains. Language knowledge as a precondition to read in English is profoundly internalised among readers even if they are not language learners. However, it is a fact that such positions on reading no longer explain adequately actual reading processes in communities where English is used differently; for example, academic readers who are not English learners but use it as a means to access information. To understand what is currently happening with REAP, it is necessary to differentiate between learning English for a purpose and using English for a purpose, which is another key area for research.

In the next chapter, non-regulatory approaches to analyse literacy are discussed. Building on educational and ethnographic studies, reading in English practices unrelated to language thresholds and reading instruction will be examined. This thesis will benefit from analysing how those studies develop theoretical frameworks, carry out empirical observation and conduct research methods. The academic literacy this thesis studies goes along with such complementary positions. Consequently, investigation of the key elements of studies on vernacular academic literacies provides the grounds of both the research method selection and the analysis of evidence.

Chapter 3 Academic literacies in English

3.1 Introduction

Literacy synthesises the different forms in which people develop communication through the written text. As discussed in the previous chapter, from the diverse practices on literacy, some of them have received more recognition than others. While the causes for such a distinction can be multiple, those practices considered as autonomous from their context and based on standards have been historically reputed to be of a higher value (Street, 1984). As a result, in literacy research and the social sphere, normative criteria pervade the understanding, and those who develop it differently are somewhat related to an illiterate condition.

Challenging some entrenched assumptions from prevailing models of literacy, other research trends have advocated widening the understanding from two starting points. First, the conventional valuation of certain forms of developing literacy at the expense of underestimating others has been unfruitful. This polarisation puts aside enlightening forms of getting the meaning of written texts (Street, 1984). Second, literacy is better understood not only as an individual skill but also as a collective construction derived from idiosyncratic features. Therefore, once particulars explain the nature of different literacy practices, reified and decontextualised assertions on reading and writing are subject to more cautious considerations (Gee, 2000).

In this sense, ethnographic approaches to literacy have shown the advantages of rethinking some vernacular practices that, though scarcely studied, are very meaningful for those who experience them (Kalman and Street, 2013). This orientation reveals that literacy cannot be explained only by standards. Literacy relies on diverse oral and written modes, patterns of social interaction, evolving relationships between the individual and the social group as well as ideologies which, as a whole, shape its functioning based on the contextual realities (Griswold et al., 1987). While a regulatory conception of literacy serves as an instrument that powers and disempowers people, some vernacular literacies keep their functioning regardless of the norm (Barton, 2013). Therefore, cross-cultural studies clearly illustrate that multiple forms of developing literacy have been performed and endured behind conventional patterns and situations.

Among the alternative approaches to literacy, those investigations that focus on vernacular practices are widely known as New Literacy Studies (NLS). Mostly attached to the ideological model of literacy (Street, 1984), NLS provide socially grounded accounts of written interaction not necessarily comparable or corresponding with other literacies (cf. Street, 1984; Maybin, 1994;

Gee, 1999; Barton and Hamilton 2012; Canagarajah, 2013a). Consequently, in NLS, literacy is understood as a social phenomenon that intersects with the conventional dual paradigm between the literate and the illiterate and occurs in both established and not institutionalised settings (Parlindungan, 2017).

This chapter expounds on the notion of diversity and the tenets of the ideological model as key components to comprehend an academic literacy that includes reading in English outside the REAP criteria. From this complementary perspective, the chapter also analyses the proposals of important NLS that organise evidence into the observable units of information called events and the people's interpretative accounts about literacy defined as practices. This form of organising the analysis gives the possibility of underlining that due to the recent changes in global communication, different uses of English in non-English speaking communities worldwide run parallel with regulatory frameworks (Canagarajah, 2013).

Delving into the ideological model of literacy and NLS, the study of an academic literacy that includes reading in English outside conventional standards leads us to identify some REAP gaps. For instance, the logic of some personal and collective practices, which are not based on the individual cognitive processes; the distinctive forms of carrying out academic tasks and group working when reading in English; and the varying values and attitudes towards using languages. In this context, we can highlight two problematic issues in the way applied linguistics has studied REAP. First, empirical research and theoretical underpinnings concentrate on the conventional scenario: a language learner developing reading strategies in line with the level of language proficiency. There is a clear lack of studies of literacy practices of this type of English use outside the language classroom. Second, the prevailing understanding of autonomous models of literacy influences the REAP rationale. Because these models establish parameters derived from a single valid practice, unconventional English users, vernacular forms of acquiring and using information and specific academic purposes are easily confused. Then, the analysis takes some guidelines that constrain a corresponding understanding.

Finally, this chapter substantiates that actual demands on the use of English compel us to recognise diverse communication needs and language uses. For this thesis, the investigation addresses an academic literacy that includes REAP without the purpose of learning the language and developed through self-agency procedures. This is a common practice found in some non-English speaking academic circles, which training tasks involve acquiring and using information in English.

3.2 The ideological model of literacy

As counterpart but not in complete opposition to autonomous models of literacy, Street (1984) brought together and fully developed some critical ideas that challenge the adequacy of separating the practice from the context and the validity of a single literacy (cf. Scribner and Cole, 1981; Heath, 1983). Then, providing an in-depth understanding, he came up with the ideological model from the assumption that:

> Literacy is not just a set of uniform 'technical skills' to be imparted to those lacking them - the 'autonomous' model- but rather that there are multiple literacies in communities and that literacy practices are socially embedded (Street, 2002, p. 2).

In this sense, as Street argues, literacy is more than an ability to be taught. It is a complex system entrenched in political, economic and local matters that explain how literacy practices are "inextricably linked to cultural and power structures in a given society" (Street, 1988, p. 59). The reason for defining this model as ideological (instead of cultural or pragmatic) is highlighting that it is necessary to recognise some hidden elements standardising criteria do not allude to. Therefore, to comprehend literacy, the analysis must relate reading and writing practices within the social sphere in space and time (Street, 1994).

On the basis that literacies are constitutive of cultural identities of individuals and communities, the ideological model moves away from the "idealised generalisation about the nature of language and literacy towards a more concrete understanding of practices and events in 'real' social contexts" (Street, 1995, p. 3). Therefore, when ideological dynamics are involved, it turns clearer why literacy is developed differently depending on the sociocultural grounds (Street, 1988; Barton and Hamilton, 2012; Canagarajah, 2013a; Kalman and Street, 2013).

After reconsidering some ethnocentric assumptions in literacy, specialists have expanded the observation field appreciating other forms of getting meaning. These approaches differ from the antagonist and conventional view between oral/written, literate/illiterate, normative/subvert, and literacy/literacies (cf. Goody, 1986; Olson, 1988; Ong, 1999). Accordingly, under the ideological paradigm, there are two challenging viewpoints about reading and writing. First, the conventional conception of literacy is regarded as a variant among many other ways of carrying it out. Second, alternative forms of developing literacy are no longer seen as inferior or flaw. Their valuation derives from the adaptive capacity to fulfil specific communication needs.

Because the ideological model of literacy attempts to embrace diverse practices rather than exclude them, the approach incorporates the analysis of both the general cognitive processes

with which the human mind achieves meaning (see 2.2 and 2.2.1) and the particular needs and resources that explain distinctions (see 2.2.2). Thus, one of the most valuable aspects of the ideological model is that it envisages literacy as an assembly of varied and fluctuating elements used for the people's interests (Barton and Hamilton, 2012). In this sense, the ideological model of literacy focuses on appreciating how literacy (like a pliant physical material) engages in a mosaic of activities that involve interchange through written communication.

To fully understand the different ideologies in literacy, it is necessary to identify people's beliefs, attitudes, norms, behaviours, and role models. From this standpoint, it is possible to distinguish how the literacy interpretation "varies from one culture or sub-group to another and its users are embedded in relations of power and struggle over resources" (Street, 1984, p. 28). Thus, the deficit perspective of what to expect from literacy is not the issue. As Street claims, "what counts as 'effective' cannot, then, be prejudged, hence the attempt to understand 'what's going on' before pronouncing on how to improve it" (Street, 202, p. 2). Thereupon, the variety of determinants considered in the ideological model of literacy calls into question straightforward conclusions derived from categorical valuations.

Consequently, the foundation of the ideological model of literacy provides the proper theoretical support to analyse a non-prevailing form of developing REAP. Three characteristics of the studied academic literacy can be looked at from a different perspective. First, REAP involves several literacies that cannot be appreciated if the analysis focuses on reading as a separate skill. Second, when academic readers from non-English speaking communities need to acquire information in this language as part of broader activities, its use involves social interaction. The way readers organise academic activities shows actual reading purposes. Third, in non-English speaking communities, the teaching of this language is not necessarily a subject matter and having this knowledge may represent a privilege of the few. Under these circumstances, REAP is accompanied by ideological issues that shape how the activity is oriented among the different community members.

3.3 New Literacy Studies

Attached to most theoretical implications of the ideological model (Street, 1984), a new trend of research on literacy emerged. Not in terms of time but of challenge and response to conventional approaches, these investigations were called New Literacy Studies (NLS). This strand of research expanded understanding of literacy through cross-cultural frameworks. Instead of focusing on the "cognitive or psychological as a set of abilities or skills residing inside people's heads" (Gee, 2008, p. 1), NLS opened up an interdisciplinary panorama by concentrating on the idiosyncratic

components that characterise reading and writing practices (Gee, 1991; Maybin, 1994; Cook-Gumperz, 2006; Barton and Hamilton, 2012; Kalman, 2013).

Under the premise that there is no a "uniquely 'right' way to describe and explicate the workings of language in society" (Gee, 2008, p. 5), NLS contribute to rethink not only the richness and diversity found in literacy, but also the role of power relations underlying it. Like any other complex social phenomenon, in literacy practices, "some people are empowered to know and decide, others to implement the decisions, yet others not to speak, or to be heard if they do" (Street, 1993, p. 16). This approach makes evident that literacy involves other spheres of a social nature. Thus, far from framing literacy in isolation, NLS conceive it as a cultural property that interweaves with broader social struggles that structure the lives of individuals and communities, both publicly and privately (Scribner and Cole 1981; Heath, 1983; Graff, 1993; Barton, Hamilton and Ivanič, 2000; Cook-Gumperz 1986; Gee, 2008; Barton and Hamilton, 2012).

While some studies derive their positioning from assumptions of what Street developed as ideological (1984), others do not. Nevertheless, through time, literacy studies that prioritise the particulars have been related to this model. Notwithstanding the subsuming categorisation of the literacy approach, there is a critical issue that Street points out. In NLS, some practitioners picture literacy as a continuum. This consideration then illustrates how the overstatement of literacy in comparison with orality persists (Street, 1993). That is to say, by conceiving literacy as a progression, it implies two endpoints that recall the traditional divide between the oral and the literate. As it goes from a starting point towards an end, the structure of power pervades. While the orality receives the lower status surreptitiously, the written ensures its primacy (Street, 2011).

Traditionally, the oral has been underestimated for being context-dependent and rated as less elaborated. Meanwhile, the written language has been awarded higher-level attributes by autonomous models of literacy (cf. Goody, 1975, 1977; Ogbu, 1990; Ong, 2002). Regarding this deep-seated idea, Besnier (1988) observes that negotiation of meaning does not always respond to such a claim. By comparing "the structural characteristics of 'typical spoken' texts and 'typical written' texts" (Besnier, 1988, p. 707), she shows that norms vary in both modes and are attached to sociocultural determinants. Hence, the cognitive demands of language are not directly related to the form of communication.

Besides questioning the privileged position of the written in comparison with the oral, NLS also examine the alleged neutral (autonomous) character of literacy. These studies highlight the ideological tension that operates when establishing communication codes (cf. Prinsloo, 2012; Zavala, 2018). The struggle of power resides between the authority that dictates what counts as

"effective and appropriate" (Street, 2002, p. 4), relating such standards with status and worth in society versus the resistance and alternative processes outside the rule. In this way, NLS put at stake the alleged apolitical and unattached character of literacy "making visible the complexity of local, everyday, community literacy practices and challenging dominant stereotypes and myopia" (Street, 202, p.7).

Because in literacy “conflicts are real and cannot simply be wished away” (Gee, 2008, p. 4), NLS examine this complexity from the direct observation and experiences of the stakeholders. The diverse NLS are mainly focused on providing rationale about the following three issues. First, the way people conceive their own use of literacy. So, there is no room for a single conceptualisation. Each interpretation is valid as long as it explains the actual functioning. Second, the adaptive responses people develop to deal with the communication needs. Literacy is construed as a social negotiation system; so, understanding comes from how it is rooted in culture. What matters and makes literacy valuable is how it adjusts itself to meet particular needs. Third, the role that literacy keeps on people. NLS favour observation of how literacy, as a social creation, imbues organically other aspects of human interaction. Instead of explaining literacy as an unaffected activity, people’s changing emotions, behaviours, and perceptions give real understandings of its meaning.

Considering this comprehensive rationale, NLS pay special attention to how literacy is embedded in people’s daily lives. So, evidence from reading and writing practices includes institutionalised environments of education as well as non-conventional settings (Blommaert, Street and Turner, 2008). As the research expands empirical observation, NLS foray into untapped literacy practices. NLS have revealed that literacy is more than an acquired knowledge that allows a person to interact as expected. On the contrary, these studies turn the tables on who sets the rules. Therefore, those who use literacy are the ones with the authority to determine if it satisfies the specific circumstances (Street, 1997).

A clear example to illustrate the approach of NLS is the way Kalman (2013) studied how a fishing community on the Mexican coast developed a specific literacy. Her investigation is twofold. Firstly, to analyse how six fishermen incorporated electronic devices to their traditional lobster fishing techniques, skills and cultural knowledge as part of a vernacular literacy. Secondly, to relate the fishers’ method to take full advantage of the whole activity and later transmit it to almost half of the town’s fishermen as a way to fulfil a collective concern. The type of literacy she studied resulted from an intermittently three-year stay of a group of marine scientists who arrived at the community area to study the location’s benthic grass. Without the intention of instructing the locals, these scientists brought together the complementary parts. For the

biologists' research, they used GPS (geographical positioning systems) and satellite-generated maps. They also engaged some local fishers for data collection activities.

Through observation and social interaction, the 'illiterate' fishermen learnt how to use digital devices without being taught and identified the potential uses they could provide for the benefit of their fishing technique, two elements that were not part of the scientific research. The informal cooperation between scientists and fishers was the primary source of enquiry to clarify meaning from the written information. Because visits from scientists were not steady, locals systematised and mediated the process to deal with language and technological issues. In doing so, the first group of fishermen shared this knowledge with other peers of the town. The situated practice allowed people to broaden their aims. Later, this literacy was enriched with "direct experience, knowledge from years of fishing, familiarity to local procedures ... that served to solve hands-on situations" (Kalman, 2013, p. 77), such as selling properties or solving land disputes.

In her study, Kalman underlines that this literacy involves observable components and other elements open to interpretation. For instance, the noticeable actions were learning to read the screens, registering data and reconfiguring scientific and everyday knowledge. The elements for interpretation derived from how technological devices turned into cultural artefacts that entailed different views and responses. The appropriation of this literacy meant a "tug of war" (Kalman, 2013, p. 76) among the community members. The reconfiguration in the way of fishing was not a smooth process. While some fishermen took the lead, others resisted to a new order and authority from those who had acquired the knowledge and skills. Thus, to understand the practice, it was necessary to get deeper into the ideology that surrounded the practice.

The example above brings to light two critical points of NLS. One refers to the constraints of resorting to conventional concepts of being literate or illiterate, since such assumptions do not explain how reading and writing imbue cognitive and cultural paths. If standard criteria were used to evaluate these people's literate condition, their ability to make sense of the written language, apply information, and adapt it to their social needs would be null and void. The second point comprises the challenges of conceptualising literacy as an evolving activity. This literacy would be overlooked if the diverse happenings around it were analysed in a cross-cutting way (Lillis and Scott, 2007). This social asset acquired different meanings not only among members of the community but also over time.

3.3.1 Events and practices as the framework to understand situated literacies

The ideological model of literacy and NLS involve organising the exploration of literacies through two core components: events and practices. Although each element encloses different features, events and practices provide meaning to each other on a reciprocal basis. Both events and practices give detailed accounts of how people experience interaction through written language, which construe a particular literacy (Prinsloo, 2012). An in-depth analysis of these two components brings out the ideology behind the observable procedures (Barton, 2013). Consequently, events and practices turn out to be the traceable links that literacy keeps with other spheres of human life.

To articulate these two concepts in literacy, Street (1988, 2002) resorted to some seminal studies that allowed him to substantiate the theoretical basis of the ideological model. Because they are explained through a collection of forms to get meaning from particular conditions, the central framework comes from the idea that the cognitive universality of the human mind is the capacity to adapt literacy to specific needs and requirements, instead of listing corresponding procedures. This last point implies that events and practices are understood in direct relation to the social environment where the literacy is situated (Street, 1993; Barton, Hamilton and Ivanič, 2000; Gee, 2004, 2008; Knobel and Lankshear, 2006).

3.3.1.1 Literacy events: implementation of social arrangements

As a linguistic anthropologist and literacy scholar, Street (1984, 1995, 2000, 2004) has developed insightful guiding principles to undertake literacy research under the ideological approach. For observation and analysis of data, he used the term 'literacy events' that Teale, Estrada and Anderson (1981) and Heath (1983) had already employed to investigate literacy and expanded upon the key components that enable appreciation of diverse sociocultural forms to get meaning from the written language. Initially, Teale, Estrada and Anderson defined literacy events as those observable episodes in which people "make sense or attempt to make sense of graphic signs" (1981, p. 258).

Later, Heath (1983) emphasised the importance of situating the analysis into its own context and including the oral component on equal terms than the written one. Hence, she defined a literacy event as "any occasion in which a piece of writing is integral to the nature of the participants' interactions and their interpretative processes" (Heath, 1983, p. 93). From Heath's definition, Street elaborated the ideological understanding of this concept with the central idea that patterns of literacy stem from social conventions established by institutions and other authority figures. So, although the written text is a core component in events, it is not studied in isolation but as a

cultural instrument with direct connections to specific participants, routines, and environments (Street, 1984).

Literacy events constitute recognisable situations that show how people construe meanings from a written text via its socialisation in situ. To understand events, the researcher analyses literacy as an activity that comprises both orality and sociocultural elements, such as leading roles, use of language(s), and space and time conditions. The combination of the written and the spoken language found in events refers mainly to "what people do with literacy in their everyday lives, instead of what literacy does for them" (Barton and Hamilton, 2012, p. 7). Consequently, the most meaningful aspect of an event is the analysis of the mediation among members of a social group to adapt literacy, rather than the linguistic properties of the written itself.

To set the essentials of an event, the researcher needs to highlight the visible pieces of information that make up an episode of literacy. These activities must be recurrent and carried out in diverse domains of life. For instance, a literacy primarily situated into an institutionalised setting, its completion needs to be also observed in other subsidiary domains. In the case of a literacy undertaken in a school environment, other observations settings should include literacy events at home, outside the classroom. Likewise, the analysis should consider the use of specific resources and incidental interactants. The inventory of varied literacy events explains the way people integrate literacy in the community (Heath, 1983; Barton and Hamilton, 2012).

It is worth mentioning that the integration of events in diverse circumstances not only gives a better account not only of the characteristics that distinguish a literacy, but also lays the basis for establishing the semiotic system that imbues the ideology. For this reason, events are the noticeable accounts or outer layers that involve underlying issues analysed by the literacy practices. Although NLS do not follow a sequential order, the exploration of literacy events can serve as the initial step for the analysis (Street, 2000).

3.3.1.2 Literacy practices: the unseen but felt

The systematic documentation of recurrent literacy episodes; and so, the profiling of events offers a detailed account of the contextual situation of how literacy is carried out. Nevertheless, establishing the distinctive proceedings does not provide the necessary understanding of how the members of a community experience it introspectively. To address this matter, Street (1984, 2002) substantiates the need for incorporating the explanation of the ideology behind the events as it gives a broader sense to them. For this purpose, he developed the notion of practices, which

"attempt both to handle events and patterns around literacy and to *link* them to something broader of a social and cultural kind" (Street, 2002, p. 11).

In the ideological model, the concept of practices refers to how literacy is ideologically constructed. Not in terms of doing, literacy practices represent those "ideas and constructions that people have of what is happening when they are involved in it.- e.g., what people think reading is, and what counts for them as reading" (Herbert and Robinson, 2002, p. 122). In NLS, the objective of analysing practices is to highlight the diversity in "concepts, social models regarding what the nature of the event is, that make it work and give it meaning" (Street, 2002, p. 11). Therefore, literacy practices characterise the different forms of conceptualising literacy events beyond a consented and unique understanding.

Due to the interpretative nature of literacy practices, they are not visible pieces of information but "like other uses of language, entail social identities" (Bartlett and Holland, 2002, p. 5). Their analysis requires deciphering the implicit connection between how individuals perceive literacy and the cultural uses they give to the written texts. These central points of investigation arise from how people conceive literacy, from the rules or conventions social groups follow to pursue communication at individual and collective levels, and its impact on daily interaction into a specific community. Because practices capture the individual viewpoints of diverse members in a group, such interpretations reflect the ideologies that shape literacy (Street, 2000).

Clarification of practices reveals that literacy comprises a series of ideologies around values, attitudes, beliefs and feelings encapsulated in cultural modes. In this sense, while events reflect networks among observable components when reading and writing, it is through the analysis of practices that those same literacy events disclose deeper meanings that were not visible to the naked eye. Thus, practices in the ideological model of literacy are "'folk models' of those events and the ideological preconceptions that underpin them" (Street, 1993, pp. 12-13).

Literacy practices explain the deep meaning of the different forms of developing literacy depending on the idiosyncratic characteristics. Because literacy is conceived like a hub made of different evolving practices, it is not related to a single construct. As a result, literacy practices do not refer to repetition, but to the diverse ways of experiencing literacy. This explains why Barton and Hamilton underline that using the term 'practices' "is not just the superficial choice of a word but the possibilities that this perspective offers for new theoretical understanding about literacy" (2012, p. 7).

Whilst literacy events maintain regular patterns, practices vary among communities, among members of the same community, and even within the same person. Ideological orientations that

contribute to change in the literacy practices range from variations in needs, sources, social roles, political issues, and concerns (Gee, 2013). Therefore, the constant reshaping of literacy practices calls into question a supposed single and neutral understanding of literacy, as assumed by autonomous models. The exploration of practices allows us to recognise that diverse literacies (in plural) live together and provide mutual feedback, even if the latter ones are not considered or accredited.

The mutual bond between events and practices demonstrates that literacy is a sociocultural construction (Street, 1984, 2000). Reading and writing are embedded in particular social functions that result from the characteristics of the individual and the community in a cultural context (Barton, Hamilton and Ivanič, 2000; Barton and Hamilton, 2012). To fully grasp the essentials of literacy, it is necessary to explore the different roles of the written word into people's lives. In this way, the most insightful elements of analysis are who and what for literacy is used. Later, how literacy is adapted in sociocultural terms to meet those particulars. By examining events and practices, the study of literacy compels us to broaden the research panorama beyond the precise situations and activities where it is developed. It explains why the more varied and comprehensive the integration of events and practices, the more reliable the literacy explanation.

It is worth mentioning that reciprocity between events and practices in literacy is not a causality dilemma of which comes first. Both components influence each other in a kind of spiral. Literacy procedures are explained by the way people understand them and the other way around. Following Street, events and practices complement each other because "you can photograph literacy events but cannot photograph literacy practices" (2000, p. 22). It is the examination of what happens before our eyes and introspectively what truly reveals what literacy contains.

By challenging conventional assumptions, NLS help to understand an academic literacy that includes a non-prevailing form of REAP from a different perspective. The investigation of the literacy events allows us to contextualise how readers adapt literacy to their communication needs and resources to fulfil vocational activities. Considering what happens around reading in English, the activity makes sense since it is not valued from unconnected reading comprehension activities or the observation of a reader as isolated from the social group. Furthermore, the examination of the literacy practices let us identify the ideology that underlies about using English in contexts that do not have anything to do with the language classroom but which highly impact the way of experiencing literacy.

3.4 Different ways to access information and use of languages: challenges to comprehend the concept of literacies

Because the primary function of literacy is to operate as a means for interaction into broader social activities, literacy events and practices provide substantive information about different ways to access information and use languages (Barton, 1994; Barton, Hamilton and Ivanič, 2000). The inclusion of vernacular literacies to the research gives a deeper understanding of their multifaceted nature. Although diverse literacy events and practices seemed to have very little in common, NLS have shown that the adaptive capacity of getting meaning is what prevails. Besides making the activity purposeful, such understanding supports the key foundation of the ideological model that defines literacy context dependant (Gee, 2008).

While the diversity of events and practices is part of literacy, contemporary communication resources have transformed the rules of linkages and partnerships among people worldwide. This condition makes some linguistic anthropologists relate the actual heterogeneous ways of developing literacy with the concept of 'superdiversity' (Vertovec, 2007; Blommaert and Rampton, 2011; Blommaert, 2015). Superdiversity in reading and writing is mainly explained by the expanded access to digital technologies and media, which has generated the consolidation of interaction networks globally in the last decades. Therefore, this type of social interaction has disrupted, even more deeply, two conventional components of literacy. First, membership or belongingness to a community is not a singular and permanent referent. Ingroup and outgroup identifications are in a constant state of evolution to meet particular and fluctuating pursuits. People from different locations, ethnics or sociocultural backgrounds may share more specific information than those side-by-side (Pennycook, 2007). Second, the use of languages is no longer circumscribed to structures assignable to named languages, ethnicities or geopolitical borders as initially conceived (Pennycook, 2007; Blommaert and Rampton, 2011; Canagarajah, 2013a, 2013c). Nowadays, to fulfil information needs globally, the conventional use of languages shows to be narrow in scope.

In contrast to the concept of community in direct relation with a concrete social grouping and spatial context as established by nation-state formations, nowadays, these referents have evolved (Blommaert, 2015). Conceptual categories of community in terms of geographical boundaries or ethnic legacies and sociocultural identities have been gradually reshaped to meet new engagement methods (Pennycook, 2006). Consequently, interactants in literacy are no longer identified univocally. Digital communication expands exchanging of information, which leads to recognising other sorts of literacies besides the conventional composition (Pennycook, 2000, 2006; Canagarajah, 2013).

As the access to information widens, other elements of literacy are modified as well. In reading and writing at a global level, variations in the use of languages represent an inherent characteristic of cross cultural-communities-languages interaction. Therefore, fixed notions of native, second or foreign language speakers take "different linguistic forms as they align and disaffiliate with different groups and different moments and stages" (Blommaert and Rampton, 2011, p.5). Variations in the use of languages increase the need for investigating current ways of developing literacy and their influence in social constructs and hierarchies. In this vein, Martin-Jones underlines two transformations in multilingualism at present:

> Sociolinguistic research on multilingualism has been transformed. Two broad processes of change have been at work: firstly, there has been a broad epistemological shift to a critical and ethnographic approach, one that has reflected and contributed to the wider turn, across the social sciences, towards critical and poststructuralist perspectives on social life. Secondly, over the last ten years or so, there has been an intense focus on the social, cultural and linguistic changes ushered in by globalisation and the advent of new communication technologies. These changes have had major implications for the ways in which we conceptualise the relationship between language and society and the multilingual realities of the contemporary era. A new sociolinguistics of multilingualism is now being forged: one that takes account of the new communicative order and the particular cultural conditions of our times, while retaining a central concern with the process involved in the construction of social difference and social inequity (2001, p. 1).

Considering the shifting conditions in global communication as highlighted by Martin-Jones, some essential questions arise regarding the use of English since this issue implies two types of sociological tensions at different levels. Firstly, while English speakers are direct holders of this social good, speakers of other languages must learn it due to a communication need. Secondly, unlike language learners, the understanding and attitude towards using English by readers whose only purpose is accessing information not to learn the language are different. Such distinctions imply ideological tensions that get higher relevance when the social dynamics require to negotiate communication. Therefore, among NLS critical issues, non-prevailing uses of languages stand out.

3.4.1 The use of English in translingual communication

Despite the wide diversity in literacy practices, some elements of communication make global interchange possible. An instrumental point of convergence, as seen in chapter 2, is the use of English. Nevertheless, non-prevailing forms of using this language imply decentring positions that generate conflicting views in the conceptualisation of both literacy and language(s). The present status of English have made some scholars, such as Leung and Street to identify the defiant

challenge for researchers on NLS when analysing alternative forms of using English to develop literacy cross-culturally:

> [W]hat counts as 'English' will vary with context, than it would be from a more formal standard or autonomous language viewpoint, which focuses on the features of language itself, particularly syntax, lexis and phonology, and generalizes what is 'proper' language use from descriptions of these features. From that view, English can be described in terms of a set of stable features. In the field of literacy studies, for instance, the models of literacy as a single unified standard, 'autonomous' of social context, have been distinguished from models of literacies, in the plural, as social practices, where what counts as literacy in a given context is already heavily laden with ideological meaning (Leung and Street, 2012, p. XII).

To demonstrate the existing conglomerate of variants found in the term 'English', some specialists in language policies underscore the effects of fostering a standard language model (Canagarajah, 2007, 2013c; Hamel, 2007; Blommaert and Rampton, 2011; Pennycook, 2013). While specific uses and their users are extolled, the recognition of alternative practices becomes somewhat unacceptable. Consequently, when analysing not endorsed variants, traditional categories of English speakers do not provide real understanding. Instead, it upholds ideological slants regarding who and how to use the language. In this sense, categorisations regarding the level of appropriation of the languages, although sensible in specific environments, may no longer refer to discrete and separate individuals whose use of languages do not follow expected patterns (Hornberger, 2004; Pennycook, 2007, 2010, 2013).

Access to digital media is the turning point that has impacted social interaction on a global scale. What a multilingual environment previously meant, now it has become much more complex in the wake of this type of communication. Conventional representations regarding levels of legitimacy based on cultural, linguistic and ethnic criteria are challenged. Translingual use of English causes that language proficiency, dialectal differences or an estimated number of speakers do not tell with certainty the actual presence of English in communication (Canagarajah, 2001, 2013a, 2013b). Therefore, definite distinctions in the use of English do not always provide a compelling account of its users, the ways they make use of it, and how these practices are understood.

To contrast the idea of a well-bounded structuring concerning the use of English and to give a more concrete understanding, other approaches represent such diversity under the notion of "ecology-of-language" (Phillipson and Skutnabb-Kangas, 1996, p. 429). This simile emphasises that the current use of English entails hybrid and translingual practices. In this line, Canagarajah (2013a) underlines that contemporary forms of global communication make more visible alternative uses where different languages coexist. Then, this appreciation allows considering "all

acts of communication and literacy as involving a shuttling between languages and a negotiation of diverse linguistic resources for situated construction of meaning" (Canagarajah, 2013a, p. 1).

Because communication goes beyond the regular use of language(s), different forms of using them reveal the actual scope of literacy. By establishing connections among alternative uses of English, two central points of the ideological model of literacy are pinpointed. First, languages are cultural artefacts that are invented, dis-invented or reconstructed to cope with particular communication needs (Makoni and Pennycook, 2007). Second, although variations in the use of languages are commonly "perceived as instances of deterioration of standards" (Pennycook, 2013, p. 9), these dynamics have proved themselves as viable means for interaction among diverse social groups, individuals, identities and ideologies (Blommaert and Rampton, 2011; Canagarajah, 2013a; Pennycook, 2013). Thus, far from downplaying languages, translingual use of English can be understood as a "transformative capacity to mesh resources for creative new forms and meanings" (Canagarajah, 2013a, p.2).

3.4.2 Communities of practice

The detailed study of the different forms in which people acquire knowledge and skills has provided an extensive discussion about learning. Empirical observation of different learning processes has shown that besides the clear elements with which we identify this activity such as the classroom environment where a teacher imparts the knowledge, other processes not easily identified also represent a body of acquired competencies. Therefore, besides the formal relationship between knowledge transmission and assimilation, learning is obtained through other apprenticeship practices (Wenger, 2010).

In order to facilitate the understanding of some social practices in which people get training and support without the declared intention of being taught, Lave and Wenger developed the notion of 'communities of practice' (1991). A central feature of communities of practice is that, through the interaction among members of a particular social group, the sharing of knowledge and expertise results from the need for addressing "real-life problems or hot topics" that concern them directly (Wenger et al., 2002). Thus, communities of practice involve diverse activities from which learning derives through an evolving participation "between newcomers and old-timers in the context of a changing shared practice" (Lave and Wenger, 1991, p. 49). In this regard, Lave and Wenger highlight that unlike educational forms that provide a context for learning, a community of practice:

> [I]s not itself and educational form, much less a pedagogical strategy or teaching technique. It is an analytical viewpoint on learning, a way of understanding learning. Therefore, participation takes place no matter which educational form provides a context for learning, or whether there is any intentional educational form at all (Lave and Wenger, 1991, p. 40).

Therefore, communities of practice start from two central points. First, learning is a means to develop and strengthen social practices that shape cultures and mutual engagement; thus, learning is an instrument that builds community. It impacts and transforms the person and the social environment as a whole. By acquiring learning into the social context, individuals and social groups turn more competent. Those apprentices who grow in mastery gain group recognition considering that such idiosyncratic practices serve to meet day-to-day needs in the community. Second, for the community members, learning makes more sense when the process and the result are equally shared and valued. So, the practice of such learning is considered as "a set of frameworks, ideas, tools, information, styles, languages, stories, and documents acquired only in the doing" (Wenger et al., 2002, p.72).

When learning is situated outside conventional settings and incorporates a full range of knowledge, competences and experiences, it turns problematic to encompass practices into a single conceptualisation. Thus, taking into account that literacy is a social phenomenon beyond institutionalised scenarios, the rationale of communities of practice favours the recognition of academic literacies developed through self-agency procedures, the sharing of different knowledge and competencies, and team working to undertake an information need.

3.4.3 Why literacies instead of Literacy?

In light of the ideological model of literacy, distinctive practices among cultures, contexts, needs, and resources have been highlighted. Diversity in reading and writing demonstrate the constraints of defining literacy through ethnocentric positions. Nevertheless, recognising such variety does not reflect the many abilities a person develops to obtain meaning through the written texts. This consideration leads us to identify that literacy is not a single skill, but "multiple abilities to 'read' texts of certain types in certain ways or to certain levels" (Gee, 2008, p. 44). For this reason, challenging NLS instead of using "Literacy as though it were a single thing, -with a big 'L' and a single 'y'- as though "Literacy" means the same in all contexts and societies" (Street, 1993, p. 2), they instead use the plural to emphasise that literacy is an ensemble of literacies that operate as an encompassing system (Szwed, 1991; Street, 1993; Gee, 1994; Cope and Kalantzis, 2009; Knobel and Lankshear, 2014).

Cultures, scenarios or circumstances refer to shared characteristics that facilitate socio-cultural recognition. However, because people use literacy to meet specific needs from their own

resources, it "is not a single entity but a complex of communicative language practices and historically influenced attitudes to these practices that unite or divide a community" (Cook-Gumperz, 2006, p.17). As previously noted, current communication possibilities strengthen the diversity of interaction, which modifies conventional communication capabilities. On this matter, to emphasise that literacy is not a steady and one-piece entity, Szwed has elaborated on this by stating:

> [O]ne might hypothesize the existence of *literacy-cycles*, or individual variations in abilities and activities that are conditioned by one's stage and position in life. What I would expect to discover, then, is not a single level of literacy, on a single continuum from reader to non-reader, but a variety of *configurations* of literacy, a *plurality of literacies* (1991, p. 423).

Through a complex interplay, literacies receive and provide feedback with each other. For example, when reading in different languages, covering specialised themes and using digital modes, a reader draws on a range of abilities and knowledge related to diverse literacies. Altogether, these literacies shape a particular form of developing literacy. Therefore, for certain reading purposes, recognising the literacies that participate in making sense of the written language is crucial. It explains why standard valuations and statistics on literacy among readers who deploy different literacies "tell us nothing about the variety of functions that reading and writing can serve" (Szwed, 1991, p. 424).

The use of different literacies is part of all reading and writing processes. However, into some domains, the use of specific literacies is greatly enhanced, as it is the case of REAP. Therefore, the analysis of the role that literacy in English plays in diverse academic communities and the interaction of literacies those social groups use validates the need to widen the conceptualisation about reading in English when it is not related neither to the language acquisition, nor to the reading instruction.

3.5 Academic literacies as a mirror of social negotiation

One does not learn to read texts of type X in a way Y unless one has had experience in settings where texts of type X are read in way Y (James Paul Gee)

Reading and writing in academia are commonly perceived as skill-based conditions and neutral acculturation to adequately socialise under the norms of a particular discipline (cf.Swales, 1990). However, as evidenced by NLS, their scope cannot be sufficiently explained from codes and conventions established by institutions, which subsequently, academic members adopt to overcome shortcomings (Lea and Street, 2006). The necessity of widening the panorama to understand the complexity of academic literacies becomes clearer when they are developed in

communities which required abilities are multifarious and their interpretation contested among members of the social group. According to Blommaert, Street and Turner, academic literacies involve:

> Far from different type of texts, different models of assessment, like the lab report, the learning diary, the essay, and also different disciplinary discourses, … [academic literacies] instead fit with a more general view of literacy and social practice embedded in institutionalised practices. It is about 'power and authority', then is how institutions require 'certain ways of representing, certain discourses, certain epistemological framings, certain kinds of stance'. It is not about 'academic socialisation' from the perspective of 'skills, normative, or deficit/ pathological viewpoint' (2008, p. 138).

Consequently, under the ideological model, academic literacies are not, in the first instance, studied in terms of activities or tasks that equip learners with the required skills to have access to educational institutions and qualifications. Instead, the analysis of the interaction among idiosyncratic proceedings, power relations, ways of conceptualising literacy and values involved for communication and social composition of academic groups provides the understanding of their actual functioning. Therefore, academic literacies refer to patterns of academic socialisation rather than to skills. In this vein, Lillis and Scott (2007) pinpoint that in academic literacies, the central foundation is the social practice. They describe this approach as follows:

> Offers a way of linking language with what individuals, as socially situated actors, do, at the level of 'context of culture' (Malinowski, [1923] 1994) in three specific ways. Firstly, an emphasis on practice signals that specific instances of language use – spoken and written *texts* – do not exist in isolation but are bound up with what people do – *practices* – in the material, social world. Secondly, that ways of doing things with texts, become part of everyday, implicit life routines both of the individual, *habitus* in Bourdieu's (1991) terms, and of social institutions. Specific instances of language use involve drawing on available – and in institutional contexts – legitimised *representational resources* (Kress, 1996: 18). Here, language might best be understood as *practice-resource*. For, by engaging in an existing practice we are maintaining a particular type of representational resource; by drawing on a particular type of representational resource, we are maintainig a particular type of social practice (Lillis and Scott, 2007, p. 11-12).

Therefore, under the ideological model, the relationship between individuals and the social structures in which they develop academic literacy shows that academic literacies are better described as transformative rather than normative. In this respect, it is worth mentioning that in applied linguistics, reading in English is mostly assumed as an established model that characterises disciplinary norms. However, the prevailing academic conditions call into question several of those criteria among communities. Academic literacies are transformed continuously in response to evolving patterns of communication. These shifts cause that norms and disciplinary procedures turn different depending on the academic group, the communication methods and the resources by which each member deals with such mechanics.

At present, academic literacies imply a process of continuous adaptation "to new ways of understanding, interpreting and organising knowledge" (Lea and Street, 2006, p. 158). It explains why Street refers to this type of literacies as a "craft that can only be learned by doing and is not just a matter of knowledge… it requires a lot of constant negotiation" (2003, p. 76). In sum, the selection of academic literacies results from the particular needs, interests and priorities of social interchange of academic groups and individuals around the world.

3.5.1 Academic needs, reading in English, translingual practices: the interplay of literacies

Academic literacies align with the changing modes of information transmission (Blommaert, Street and Turner, 2008). Among the most significant adaptations found in academic literacies, the use of English excels as the language mostly used for cross-cultural interaction. Notwithstanding its extensive presence, it is through the written communication that English has widened its influence in almost all disciplines, settings and social groups. Therefore, nowadays, REAP is an everyday activity in training and professional development in many parts of the world, either by choice or necessity (Pennycook, 2001).

The diverse practices in which English is used, besides revealing its importance, also reflect that it cannot be standardised. As previously seen, different social groups and actual communication possibilities modify the use of languages to mediate between specific needs and resources (Blommaert and Rampton, 2011). In this regard, Leung and Street distinguish:

> In the discussion of data from different classrooms, 'English' is something different in different school settings, depending on the situated resources and intentions of social actors. Effective policy-making, then, should be based on a closer understanding of how language is practised, rather than relying on projections of romanticised and essentialised notions of language-culture (Leung and Street, 2012, p. XV).

Reading in English, therefore takes different paths. In some scenarios, approaches towards the gradual acquisition of the skill and the academic acculturation are relevant. For example, in additional/second/foreign language environments, REAP teaching provides formalised learning models. This type of teaching approach focuses on determined literacy events, usually found in classroom contexts. Nevertheless, in other settings where English is used for specific academic activities not related to the language acquisition, REAP falls more properly into the competence of a translingual appropriation of the information. Into this type of academic sphere, the analysis of academic literacies in which the use of English is carried out unconventionally, the insight provided by the ideological model of literacy and NLS becomes entirely suitable.

3.6 Summary

In this chapter, the need for incorporating non-conventional forms of REAP into the applied linguistics research has been discussed. While prevailing approaches focus on the skill-based condition and the discourse standards for academic acculturation, alternative understandings have not been sufficiently developed. Prevalent criteria arise from empirical evidence and theoretical perspectives concerning conventional scenarios of language learning. Nevertheless, current demands to access information in English cause many non-English speaking academic communities to develop REAP unattached to conventional guidelines, and applied linguistics has not adequately explored this social phenomenon.

Despite the lack of studies regarding non-prevailing practices of REAP, linguistic anthropology has developed a trend of research that analyses different literacies into academic domains. These studies, known as academic literacies, support key assumptions from both the ideological model of literacy and NLS. Through cross-cultural empirical investigations, they demonstrate that literacy is better understood as the synthesis of many literacies. So, into academic domains, several literacies interplay to meet actual information needs.

In opposition to a required listing of skills and knowledge to socialise appropriately, academic literacies refer to the plurality of forms particular communities communicate through the written mainly in higher education. To fully understand academic literacies, besides analysing the observable episodes on their functioning, it is also necessary to explore the ideology that explains such practices. Thus, perspectives from those directly involved define the essentials of the academic literacies and its transformative nature.

At present, due to digital communication, the diversity of academic literacies is even broader. Although global interaction impacts many fields of communication, the written word outstands. In this sense, English is at the forefront playing a double role. On the one hand, it has become part and parcel of cross-cultural communication. Its presence has reached an unprecedented international level. In many academic communities where this language is not spoken, it is widely read. As a result, English has acquired a social value beyond the use of a linguistic system. On the other hand, the cross-cultural use of English has also embraced translingual patterns. Developing literacy in English varies according to the academic members' needs and resources regardless of normative standards. Thus, under the ideological model and NLS rationale, literacy is understood as transformative social practice instead of normative.

Given the above, the insight of academic literacies explains why most regulatory assumptions of REAP as developed by ESP cannot fill a research gap when the practice is developed outside the

English classroom. As an applied linguistics issue, both the ideological model of literacy and NLS offer strong potentials to widen research in theoretical and methodological terms. For the purpose of this thesis, to investigate an academic literacy that includes REAP outside the language classroom.

Chapter 4 Methodology

4.1 Introduction

As seen in the literature review, mainstream assumptions regarding REAP concentrate on language acquisition and reading instruction. While applied linguistics has provided significant progress in REAP as a derivative of EAP, other practices outside the language classroom have been scarcely studied and valued so little or misconstrued. To contribute to the literacy research and in particular, to gain insight from a non-prevailing form of acquiring and using the information in English as part of broader academic activities, I conducted an empirical study.

In response to the observation of vernacular practices, educational and ethnographic specialists have developed a stimulating empirical research trend of NLS. They offer the potential of incorporating to the reading in English understanding**;** a more comprehensive perspective of academic literacy that, in the first instance, opens two promising venues for this research. First, the substantiation that REAP is not a monolithic concept (Norton and Toohey, 2004; Benesch, 2009). Therefore, the more heterogeneous forms of academic literacies are included in the analysis, the more accurate the knowledge of what is actually happening outside the English language classroom is. Second, the tempering of some categorical considerations on reading in English enhances the recognition of other forms of making sense of the written language and unconventional readers (Pennycook, 2010; Canagarajah, 2013). If other literacy practices do not follow conventional criteria, it does not mean that they fall short in meeting communication needs.

From NLS, some revealing findings explain how idiosyncratic conditions imbue the way reading is practised and conceptualised among individuals and communities. These investigations on vernacular practices situate literacy into their own context to focus on the adaptive and intricate ways people experience them. In doing so, NLS have revealed that, although multiple literacies have been around for a long time, it is only until recently that their significance is just beginning to be recognised. For this reason, empirical observation of these proposals mostly relies on the theoretical framework of the ideological model of literacy and ethnographic approaches.

Considering the above, this research focuses on the events and practices that shape an academic literacy carried out by a sample of members of a particular community that requires acquiring and using information in English for their professional training. It particularly draws on those NLS that

focus on academic literacies, develop literacy through self-agency procedures, and use English outside normative criteria. Attached to the qualitative paradigm, this is a longitudinal collective case study with an ethnographic approach that explores a variant of REAP by language users who had received no English language instruction or had attended English classes sporadically and sparingly in their previous educational stages. In this sense, it is necessary to highlight that the proposal of including this type of academic literacy in REAP research, far from confusing the concept of REAP, provides evidence of what the task entails in communities where English is not part of the curricular programmes but widely used.

In this chapter, I will discuss that due to the nature of academic literacies and qualitative research, the central feature of the study was its iterative development. Evidence led me to reconsider two crucial points. First, imbued by the REAP framework and as a language teacher, it was challenging to understand the essentials from the ideological model of literacy to explore a non-standard practice. Even though what unfolded before my eyes did not match mainstream REAP assumptions, it took a long time for me to tell the difference. Then, I had to reformulate the theoretical approach and look for empirical evidence that sustained the appreciation of an unconventional form of making sense of the written language. Second, as the methodological phase progressed, I became more sensitive to identify the data that provided valuable information to recognise the importance of a non-deficit perspective in an academic activity strongly influenced by normative criteria.

4.2 Context of the study

This research was set at a state, non-profit university in Mexico City. In 2016, when the study was carried out, the campus attended more than 20,000 undergraduate students. The vast majority of the population is of national origin and characterised by a high percentage of students from different parts of the country who move to the capital city to get tertiary studies. It means that many of these students come from urban, suburban and rural areas. Because foreign language teaching varies on a national scale depending on sociocultural, economic and political factors, members of this academic community have different levels of knowledge and experiences concerning the use of English.

It is useful to underline that foreign languages are not included as part of the curricular programmes in this university. However, as a compulsory requirement for the Bachelor of Arts degree, students must prove that they get a global reading comprehension level in another language (English, French, Italian or German). As an internal certification, the Department of Foreign Languages of the same university applies reading comprehension tests with instructions

and questions in Spanish while the reading materials are in the target language. Texts cover academic topics related to the study area of the student who presents the test. Additionally, optional reading comprehension workshops in different languages are offered to meet the certification requirements with no credit value.

Although some disciplines require more extensive use of English than others, there is a gradual and general increase in the use of academic texts in this language. Hence, the actual status of English is regarded as a problematic issue among many community members. Paradoxically to the constrained official inclusion of English, some everyday activities reflect a different reality. For example, there is a wide availability of scientific publications in English in the library catalogues, and their consultation figures indicate a continuous demand.

From the different academic sub-groups of the university, this study explored how the Biological and Pharmaceutical Chemistry (BPCH) community develops an academic literacy that includes reading in English. In concordance with the idea of Kalman that "reading and writing are social practices bounded ideologically to institutional contexts, historical processes, and power relations that reach beyond the immediacy of situated reading and writing" (2013, p. 71), the research covers literacy episodes the community members carry out when using English, the way readers organise themselves to deal with information in English and the ideology related to the use of this language.

In this community, the language of communication is exclusively Spanish. Rarely a non-Spanish speaker belongs to the group; then, academic interaction and daily life are in this language. The use of English is due to the fact that influential scientific publications of some essential BPCH topics are mostly published in this language, and not all consultation materials regarding those issues are available in Spanish translations. Therefore, the use of English responds exclusively to reading while the teachers' instruction, teamwork and writing assignments are in the native language.

Talking about REAP by undergraduate students with no previous English teaching is a fact that, in the first instance, commonly causes squinting or frowning. However, REAP for the BPCH community is incidental. These students read in English to solve practical problems for their academic goals. This vernacular reading practice takes us back to the idea of Makoni and Pennycook that sustains that languages are not immutable systems based on cultural, linguistic and ethnic criteria; instead, languages are cultural artefacts people invent, dis-invent and reconstruct to meet diverse communication needs (Makoni and Pennycook, 2006). Therefore, the condition of acquiring information in English and using it in Spanish for the vocational training

requires “a shuttling between languages and a negotiation of diverse linguistic resources for situated construction of meaning” (Canagarajah, 2013a, p. 1). As discussed in the literature review, the difficulty in understanding vernacular practices of reading in English is mainly due to two interrelated assumptions.

First, most REAP research considers language learners, language thresholds and reading instruction as requirements to acquire and use information from specialised texts (*see* 2.5). Because unconventional reading practices have not been appropriately covered by applied linguistics, those variants are not part of the reading in English research. Second, normative criteria of autonomous models of literacy influence the valuation of practices by those who observe them from outside and even by those own community members imbued by standards. As a result, stakeholders are directly and indirectly biased by the theoretical guidelines of REAP.

Notwithstanding the little research and limited familiarity with non-prevailing practices of REAP, the use of English is increasingly common among academic communities through vernacular forms. These practices do not necessarily match with conventional categories such as second language, foreign language or multilingualism. In this case study, participants acquire specialised information in English and socialise it in Spanish to consolidate learning. Since some BPCH terms have no translation or are clearly recognisable in English, they mix languages and get used to these linguistic adaptations among peers. Consequently, English is used by their own means to reach mutual understanding.

In this context, participants juggle with two conditions. On the one hand, they are undergraduate students who interact in academic environments. The primary purpose of reading in English is to acquire and use specialised and challenging information. Hence, the texts they consult are BPCH scientific and technical publications such as journals, handbooks or textbooks. On the other hand, because BPCH students are not language learners but language users, they develop literacy outside expected parameters. No skilled reader guides them, the English language is not the focus of attention, and its use responds to well-bounded objectives. Therefore, through a situated and socially based practice, these readers meet the information needs.

4.3 Research questions and sub-questions

Informed by the ideological model of literacy and following some NLS that analyse academic literacies outside normative criteria, this thesis focuses on the particulars that shape REAP as part of the training activities the BPCH community undertakes. Data situate the activity in its context and explain the elements that enable participants to acquire and use scientific and technological information in English as part of the vocational activities. To meet this objective, I retake the

research questions stated in the first chapter; explain what I seek to gather through empirical observation and include their corresponding sub-questions relating them with the selection of research tools.

1. **What practices allow the participants to acquire and use information in English?**

Through the participants and informants' accounts and direct observation, the data is intended to clarify the way REAP is adapted to access information from scientific and technical texts in English as part of the BPCH activities carried out in Spanish. It also seeks to explain how participants draw upon specific resources and expertise to develop academic literacy. Such data seeks to distinguish this variant of REAP from conventional frameworks that relate reading in English with language acquisition and a classroom environment, as commonly found in theoretical and empirical research. Therefore, this information clarifies two central elements of this academic literacy: a) how participants combine and regulate complementary academic literacies to acquire specialised information in English; and b) how participants adapt the use of languages to incorporate the information in English in the rest of the vocational training which is in Spanish.

Sub-questions for data collection	**Methods of research**
Why do participants read the way they do?	Interviews with participants and informants Think alouds and stimulated recalls to participants
How do they acquire the information in English?	Interviews with participants and informants Think alouds and stimulated recalls to participants Photographs
How do they use the information in English in the rest of the vocational training activities?	Interviews with participants and informants Think alouds and stimulated recalls to participants Photographs

2. **How do participants engage in knowledge-sharing and collective learning?**

Moving away from approaches that favour the analysis of reading as the cognitive process from a single reader, the answer to this question intends to explain this academic literacy as a socially-based activity. Because this type of literacy is developed outside the language classroom and through self-agency procedures, no content or language teacher is involved. Therefore, this data will be interrogated to understand the relationship between the participants' shared concerns

with their capacity to negotiate membership into the social group. The way they divide responsibilities and social roles, besides explaining the group organisation, also tells us how participants consolidate knowledge.

Sub-questions for data collection	Methods of research
What shared concerns and social membership allow participants to organise themselves to meet their information needs?	Interviews with participants and informants
How do participants consolidate learning?	Interviews with participants and informants Photographs

3. **How do participants conceptualise the role of English in their vocational studies?**

As widely discussed by NLS, the conceptualisation of literacy practices is the synthesis of a collection of individual and collective values, feelings and attitudes that interplay to develop a particular form of making sense from the written texts. Moreover, because literacies are not neutral or standard skills, the way members of a social group understand them provides its essentials. Shaping the ideological orientation clarifies how this academic literacy is understood and provides the basis to challenge some categorical assumptions that define reading unattached to the readers' contexts.

Sub-questions for data collection	Methods of research
What are the participants' perspectives and opinions regarding the variant of REAP they develop?	Interviews with participants and informants Think alouds and stimulated recalls to participants
What are the key ideological characteristics of this academic literacy?	Interviews with participants and informants

4.4 Changes throughout the research

Changes throughout this research derived mainly from the closer observation of the participants' literacy experiences. At the beginning of the project, I attempted to define REAP, a sensible step since participants were undergraduate students reading BPCH texts in English. To develop the theoretical framework, I first consulted seminal postulates to the area, such as models of reading. The main assumptions from the bottom-up, top-down and interactive models led me to investigate theories of reading in L1 and L2. Being an English teacher, such understanding resulted

as expected: a privileged position of the cognitive processes to decode the linguistic system, learn reading strategies gradually and a language teaching environment taken for granted.

As I examined some empirical investigations of REAP, I made a list of the most important issues that define reading to acquire and use information in English, which would be observed with the participants of this research. At that moment, it was clear that participants were not language learners, and most of them had not received any language teaching. However, I did not have the clarity and full awareness to distinguish that the influential framework that had been consulted did not match what would be observed. Until I became more familiar with what participants did and directly listened to them, I realised that I had to change the theoretical approach.

The participants' feedback was the guideline to identify that reading should not be observed as an isolated activity. Reading in English was not the purpose itself; the real aim was to obtain information to use it in broader activities as part of their BPCH training. That is how the concept of literacy arose. This change helped to elucidate that, into the theoretical assumptions of REAP, autonomous models of literacy strongly influence criteria to label both reading and readers. The absence of studies on academic reading in English outside the language classroom proves the need for widening the research panorama of academic literacies that occur along with mainstream practices.

The contribution of the anthropologist Brian Street to linguistic ethnography proved to be a breaking point to this research. Besides developing the theoretical underpinnings of the ideological model of literacy and NLS, he had also conducted some empirical studies on academic literacies at the tertiary level (cf. Street, 1995, 2002; Lea and Street, 2006). Therefore, the guiding principles of the ideological model of literacy and NLS were drawn upon to reformulate the literature review and methodological elements of data collection and analysis.

Although several enlightening NLS analyse academic literacies, I did not find any study that covered the type of literacy in English being observed. Then, as I began coding of evidence, the support of *The Discovery of the Grounded Theory* (Glaser and Strauss, 1967) provided the necessary orientation to improve the analysis from an inductive perspective. As I got imbued with the academic literacy the BPCH community develops, I could identify more clearly other literacies participants brought together. As stated by the ideological model of literacy, the key issues of this practice were the interaction among community members and its direct relation with specific BPCH activities. That is to say, the true meaning of this academic literacy was how participants adapted their knowledge and skills to acquire the information in English and how they used it in their training. Consequently, it was better explained by the participants' accounts and based on

their literacy particulars. That is how evidence led me to distinguish that this academic literacy is a social and situated practice that involves reading in English, among other literacies.

In the course of the investigation, some critical assumptions regarding reading, the use of English and academic purposes were productively disrupted. Changing the lens to explore how participants developed academic literacy and how reading conventions impinged on the BPCH community members became the decisive literacy components that defined the theoretical and methodological referents. Hence, the theoretical background of the ideological model of literacy and the retrieved evidence worked as the missing pieces that allowed me to understand the social phenomenon from a more comprehensive perspective.

4.5 The qualitative tradition

Qualitative research aims to study social relations assuming that they embody the concept of "pluralization of life worlds" (Flick, 2009, p. 11). Diversity of experiences, behaviours, perspectives and feelings from individuals and social groups provide insight on introspective issues. Therefore, when conducting empirical observation, differences among people's meanings and practices call into question the validity of the big narratives and theories (Denzin and Lincoln, 2000). That is how the local, temporal, and situational appropriateness of social realities is what qualitative research interprets (Creswell, 2007).

In qualitative research, the natural occurring scenarios frame the observation. Most settings are not arranged for investigation purposes and belong to the people's contexts. Hence, this research tradition adopts an inductive approach to explore, describe, and explain social practices, instead of starting analysis from deductive claims to be tested (Dörnyei, 2007; Flick, 2007). In this sense, data collection and analysis are not linear or tuned for the investigation intentions. They require recursive and sometimes overlapping trails that obey what evidence dictates (Creswell, 2007).

Another defining feature of qualitative research is that the contextualization of social phenomena comes from different information sources. The fundamental research strategy for analysis is triangulating evidence (Denzin and Lincoln, 2000; Kamberelis and Dimitriadis, 2005). Data, methods, perspectives, theories, and even researchers are brought together to produce either converging or conflicting interpretations. Consequently, the advocacy of different observations and realities challenge one-sided understandings. It explains why, under the qualitative paradigm, rather than asserting a claim or prescribing it, most practitioners base the analysis on the assumption that a single phenomenon may be comprehended from different perspectives.

Because this thesis aims to investigate an academic literacy that involves reading in English outside mainstream parameters, it dovetails with the foundations of the qualitative tradition. Three ultimate tenets of this tradition base the epistemological and methodological orientation of the study: a) Literacies mirror particular needs and concerns. They cannot be categorically established or fully transferred; b) Languages are cultural artefacts. Standard use of English explains some of the many uses it plays in communication; c) Evidence guides the roadmaps of the research. In this sense, the inquiry must be tailored according to the sociocultural particulars of the community that develops literacy.

4.5.1 Longitudinal research

As seen above, qualitative research investigates social phenomena by analysing diverse experiences, behaviours, perspectives and feelings. While cross-sectional views may portray the "pluralization of life worlds" (Flick, 2009, p. 11), the relationship between the underlying personal motivations to such changes derives from inferences, and their interpretation does not explain the dynamics of the particularities directly. For this reason, as stated by Dörnyei, longitudinal research helps us to understand "how people move through time and craft the transition processes" (2007, p. 80). Furthermore, longitudinal research associates a series of ongoing examinations that go beyond the analysis over time. Likewise, this type of research "refers to a family of methods that share one thing in common: information is gathered about the target of the research (which can include a wide range of units such as people, household, institutions, nations, or conceptual issues)" (Dörnyei, 2007, p. 79).

In line with the aim of the longitudinal research and the main assumptions of the ideological model of literacy, while a precise moment may capture a cross-cutting experience on reading and writing, a series of episodes and situations with different observational methods and points in time documents comprehensively two core elements. On the one hand, it accounts for the causal factors that connect and make sense to a particular form of adapting literacy. On the other hand, it expounds on the intricacies of its nature over organic practices and interpretations. As a whole, a longitudinal analysis of literacy better explains "the interplay of the temporal and cultural dimensions of social life, offering a bottom-up understanding" (Dörnyei, 2007, p.80). Consequently, the central value of longitudinal literacy research is that "it is not only the assumption of a single standard that we must question, but also the assumption of a single, proper progression" (Szwed, 1991, p. 426). In this sense, the longitudinal research fosters the understanding that literacy is not a linear process but a spiral process which development cannot be explained solely by steady indicators.

In NLS, analysing longitudinally literacy reveals how people make sense of the written language and its adaptive capacity depending on changing circumstances. In particular, it explains the way literacy is incorporated to meet particular needs and communication interests. Such distinction shows that the way of experiencing literacy varies among individuals and communities. Hence, if adaptations to literacy are the ones that provide a meaningful understanding, then single interpretations fall short for an appropriate analysis of vernacular practices.

Considering the benefits of a longitudinal investigation on literacy, the period dedicated to the empirical observation in this study comprised three academic terms that implied about ten months (from January 2016 to November 2016). Over that period, I was able to access most of the natural occurring scenarios and insightful literacy episodes in which this academic reading was undertaken. In view of the foregoing characteristics of the academic literacy, the potential applications of longitudinal research allowed the research to achieve cumulative data from the following issues:

- In terms of time: The analysis focused on describing patterns of change in carrying out literacy, adjusting social relations with fellow students to deal with the need for using English, and the individual and group understandings of the academic literacy.
- In terms of people: The sample of purposeful BPCH community members was selected due to the participants' gradual feedback regarding the situated practice. Eventually, most of them became informants in the research. The variety of positions and perspectives opened up the possibility of comparing viewpoints towards the academic literacy.
- In terms of triangulation of data: The study allowed the gradual incorporation of four complementary research tools. In addition to the iterative conduction, it was possible to alternate the research tools to achieve meaningful and dynamic interpretations of the academic literacy. For example, between think-aloud and stimulated recall rounds, the participants were able to be interviewed and familiarity was achieved with the occurring scenarios.

4.5.2 The case study

The case study is a research method focused on exploring the particularities and complexities of "a single entity with clearly defined boundaries" (Dörnyei, 2007, p. 151). The central point for analysis comes from the people's interpretations and contextual descriptions of the elements that constitute the studied phenomenon. Therefore, instead of testing a hypothesis or offering

explanations, it provides in-depth and heuristic approaches for its understanding. This explains why the case study is mostly attached to the qualitative paradigm (Merriam, 2001; Duff, 2008).

Purposes of a case study vary depending on many factors, such as how much is known on the subject, the previous empirical research, conditions to carry it out or even the own perspective of the researcher. Thus, there is a wide range of possibilities for conduction. For this reason, the case study is a versatile method of investigation that conciliates and draws upon diverse traditions, criteria and methods for data collection. This capacity to customise research promotes that the observed issue "is not explored through one lens, but rather a variety of lenses which allow for multiple facets of the phenomenon to be revealed and understood" (Baxter and Jack, 2008, p. 544).

The case study is especially useful when connections between the social being or studied object and its context are diffuse. According to Yin, it is "the preferred strategy when 'how' or 'why' questions are posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context" (2003, p. 1). Although some methods and terms differ among leading scholars (cf. Stake, 1995; Yin, 2003), they concur with the assumption that the case study is a very appropriate selection to understand a concrete phenomenon in its natural occurring scenario (Stake, 1995; Merriam, 2001; Yin, 2003; Duff, 2008; Flyvberg, 2006, 2011; Simons 2014).

Since the case study does not have "clear beginnings or ending points" (Creswell, 2007, p. 76), empirical observation is commonly conducted longitudinally. Full understanding of a "single entity, phenomenon, or social unit" (Merriam, 2001, p. 16) requires the representation and analysis of the complex interrelationships of the human experience, which is better comprehended as an evolving process. Ambivalent, contested or fluctuating retrievals are the raw material with which the researcher builds the case gradually. Therefore, the examination in a case study functions like assembling a jigsaw puzzle with which one can interpret data at different times, perspectives, experiences and sources.

Longitudinal case studies imply some challenges that hinder the implementation. For example, maintaining empirical observation from a case or cases over long periods is a demand not always attainable for the researcher. It is a problematic component when social processes fluctuate, and access to people varies; so, the inquiry has to be adapted. Also, this method is characterised for generating large amounts of data. It requires high levels of organisation and expertise for its proper management. To capture the complexity of a social phenomenon, it is necessary to gather a wide range of information. As the study progresses, some evidence turns enlightening while

other results irrelevant. Therefore, it is essential to rely on large quantities of data to discriminate its actual value.

Attrition is another significant drawback to be considered in the case study method. It can be very frustrating to conduct a longitudinal study and, at one point, not to have further opportunity to conclude the required observation (Dörnyei, 2007; Duff, 2007; Baxter and Jack, 2008). Notwithstanding the challenges and constraints of a longitudinal case study, it is the most reliable form of identifying changes or development of an evolving entity and delving into some components not observable at first sight (Stake, 2005; Merriam, 2001; Merriam and Tisdell, 2016).

An important variant among case studies is that it can be conducted either on single or multiple cases. Empirical observation of a case offers greater detail about the observed phenomenon, and such individuality is studied for its intrinsic value. The collective case study functions as an effective strategy to explore a social phenomenon or general condition from different perspectives by representative or purposeful units of analysis and through cross-case procedures (Creswell, 2007). The hurdle of the multiple case study is that it is highly time-consuming. However, examining different cases or units of analysis, patterns, variations, or complementarities produces comprehensive findings (Cassell and Symon, 2004; Simons, 2014).

Like any other method of research, the case study presents strengths and weaknesses. Among the disadvantages, two characteristics from its nature are necessary to remark. First, evidence of a case study cannot be generalised to other populations; so, it does not draw conclusions. Second, although all methods keep a certain level of subjectivity, this approach involves a more personal influence on the researcher's data collection and interpretation. These points cause the validity or usefulness of the case study to be sometimes put into question. Notwithstanding, the value of the case study is widely recognised as it gives the possibility to gather in-depth details from a bounded system. Moreover, the close interaction between the case(s) and the researcher favours observation of unplanned elements of the studied social unit other research methods do not have the opportunity.

Based on the contribution that influential case studies have provided in qualitative and quantitative research, this method has substantiated much understanding in different research areas. Findings achieved by robust case studies have proved their capacity to reveal new perspectives on people's experiences. While the analysis is centred on particular persons or situations, findings derived from case studies have been the basis to produce hypotheses when conducting other types of inquiries, cases or even theoretical principles. Consequently, the case study can open new areas for investigation and widen knowledge. That is to say, although this inquiry method examines particular situations, it may aid in the maturation of general issues.

In reading research, there are many case studies that have built up relevant areas of investigation about this skill. Because most case studies about reading in English are of the quantitative type, they mostly focus on analysing English language acquisition and reading strategies. Nonetheless, case studies with qualitative and mixed methodologies have helped to retrieve introspective accounts. The major achievement of these case studies is that they have shown that reading in English implies cognitive, sociocultural, and metacognitive issues that go beyond the standard.

More specifically, qualitative case studies on reading in English in higher education have substantiated that reading, readers, academic texts and academic settings are diverse. Such variety is consistent with current changes such as the use of technologies and globalised communication. Then, variations in the practice of REAP become kinds of mirrors of contemporary realities. In this way, qualitative case studies on these issues have broadened knowledge about the particulars of communicating through the written texts in an array of academic realms. This research possibility sheds light to develop better approaches to explore non-prevailing practices of REAP.

A thought-provoking example of a case study on reading in English is “Second language reading as a case study of reading scholarship in the twentieth century” (Bernhardt, 2000). This investigation focuses on the historical and sociocultural understanding of reading in English as a foreign language depending on the combination of factors this single entity evokes. The most interesting point of this case study is that the author joins a series of theoretical assumptions from practitioners and academics to explore how they use this concept from different perspectives. The study shows the way these specialists relate this concept based on the sociocultural referents they had from teachers and students. That is to say, in this qualitative case study, participants are the specialists of reading in English and the studied object of this bounded system is the conceptualisation of the phrase ‘second language reading’.

In this example of a case study, Bernhardt identifies that participants support their assumptions on three different referents. While some of them emphasise reading as a vehicle for learning; others situate the English language at the heart of the activity; others stress the geopolitical dimension among cultures and languages. The findings of this case study serve to track how reading in English as a foreign language was construed epistemologically and methodologically in the last century. While this investigation has the disadvantage of not incorporating varied sources as expected for a complete approach, it is a very good example of the versatile nature of the method and the creative possibilities of shaping a multiple case study.

For the design of this thesis, two case studies on literacy in which English is used outside conventional procedures were useful examples. First, “L2 literacy and the design of the self: A case study of a teenager writing on the internet” (Wan, 2000). Second, “Re-mediating literacy: culture, difference, and learning for students from nondominant communities” (Gutiérrez, Morales and Martínez, 2009). Both case studies move away from deficit-oriented perspectives when analysing idiosyncratic forms of using English. Although they explore writing exclusively, they expound on the way students develop literacy without instruction. Empirical observation focuses on social interaction as the guiding principle to make meaning from the written texts. Besides, through ethnographic approaches, these case studies exemplify how the analysis of social activities and the participants’ understanding of such actions give deep meaning to introspective issues, such as identity and power relations.

Concerning academic literacies, Lea and Street (2006) conducted a decisive case study that provided the epistemological framing of this concept. Following criteria of the ideological model of literacy and NLS, this case study focuses on identifying the social practices different academic communities carry out on writing assignments. In their findings, they reveal that context, culture and genre influence the way of developing literacy. Such distinction serves to substantiate that literacy, besides being a study skill and a means for discipline socialisation or acculturation, also involves ideological components that impact social practices among both different communities and members of the same academic group. Studying literacy through the ideological perspective gave rise to the investigation of academic literacies henceforth.

The contribution of Lea and Street’s case study to the conceptualisation of academic literacies in contemporary higher education environments is threefold: a) It shows the limitations of standardising academic populations, assuming stability in disciplines and perpetuating a kind of unidirectionality between the teacher-student relation; b) It emphasises that to develop literacy at higher education, a range of different literacies interplay. Hence, it provides the rationale for using this phrase in the plural; c) It advocates for the benefits of making visible the ideology that involves the development of literacy. Subsequently, drawing on the epistemological approach from this case study, a series of other studies has developed a sound framework regarding academic literacies around different traditions, fields and settings.

For this thesis, besides Lea and Street’s case study, two recent case study collections provided significant insight. *Working with Academic Literacies: Case Studies Towards Transformative Practice* (2015, edited by Lillis et al.) is an anthology of 31 case studies and six critical commentaries on this literacy type. Besides providing a varied methodological sampling of the scopes and limits of the case study as a method for qualitative research, the book gives the

foundation of the benefits of moving away from the common deficit approach when analysing alternative forms of developing literacy. Instead of focusing on what students should do**,** do not or cannot, the academic literacies approach demonstrates that it is more profitable to observe the particulars that characterise the meaning-making processes for the social group. These studies share the point of furthering emic descriptions about academic literacies. As a whole, they confirm how the social phenomenon represents a contested space of knowledge construction that normative approaches fail to provide.

As a posthumous tribute to Brian Street, *Re-theorizing Literacy Practices. Complex Social and Cultural Contexts* (2018, edited by Bloome et al.) is a compilation of conversations, essays and case studies whose authors kept personal and academic links with him. Based on the assumption that literacy practices are not steady, the collection of case studies incorporates new educational and sociocultural contexts. Besides, they revisit, question and include newer debates and issues around contemporary academic literacies. Although the academic literacies included in the book do not refer to similar contexts like the one explored in this thesis, approaches, debates and ways of addressing the case studies were of great help.

Because this thesis investigates a vernacular form of REAP by no language learners as part of their BPCH training, the research possibilities of the case study provide the most appropriate theoretical and methodological support. The following characteristics of the inquiry support the selection of a longitudinal collective case study:

- The research aim: until it has been documented; no previous empirical research has covered REAP outside conventional environments. Hence, a case study helps to understand inductively how this activity has become part of the academic literacy developed by the BPCH community. In this sense, no hypothesis or explanations are required. On the contrary, this study considers academic literacy a social phenomenon that responds to a specific need for information and its understanding cannot be entirely transferable. That is to say, while many BPCH communities globally consult the same specialised texts in English for comparable academic purposes, literacy practices differ due to the readers' particular resources and communication interests. Therefore, the research potential of the case study is specifically suitable to gather data that shows the need for going outside the language classroom to comprehend more broadly what is currently happening regarding REAP.
- The research questions: The three guiding questions of this research focus on evolving processes. The way of adapting REAP as part of the participants' ongoing training

activities, how they organise themselves to access information in English, and the ideology that underlies their understanding of the literacy they develop refer to shifting conditions. In this sense, a collective case study allows building a detailed analysis of why and how participants incorporate REAP into the academic literacies by their own means on an individual and group basis and how they understand their social position in the community due to their use of English.

- Triangulation of data: Literacy events and practices vary depending on who lives them, when and how they are interpreted, and from what perspective and situation they are analysed. For this reason, the data include participants and informants who represent purposeful members of the BPCH community and four different research tools conducted iteratively. This collection of viewpoints, situations, and methods for gathering data allows us to show how the BPCH community gradually incorporates English to develop academic literacy as a social and situated practice.

4.5.3 The ethnographic approach

Ethnography is a concept that takes different meanings in terms of epistemic and methodological orientations (Hammersley, 2018). Being a contribution of anthropology that found new avenues for investigation in the social sciences and education, the influx of ethnography in qualitative research has proved potential possibilities to understand learning from diverse and even divergent viewpoints. According to recognised researchers in education (Richards, 2003; Nunan, 2006), two central features define ethnographic research despite these differences. First, following Richards, "it seeks to describe and understand the behaviours of a particular social or cultural group. In order to do this, researchers try to see things from the perspective of members of the group" (2003, p. 15). Therefore, Nunan pinpoints that, in ethnography, "the context in which behaviour occurs has significant influence on that behaviour" (2006, p. 53). The second distinguishing element, as established by Dörnyei, is that ethnography provides a "'thick description' of the target culture, that is, a narrative that describes richly in great detail the daily life of the community. For this purpose, ethnography uses an eclectic range of data collection techniques, including participant and nonparticipant observation" (Dörnyei, 2007, p. 130). In this way, the fieldwork demands a prolonged engagement with people in natural settings.

Particularly in recent decades, a range of NLS has demonstrated that to truly understand literacy, explaining the ability to read and write through approaches that centre attention on separate skills is not enough. These studies advocate for precisely investigating how people experience and adapt literacy practices directly to their own characteristics and in connection with their social realities. Hence, in studies of literacy as a social and situated practice, ethnography significantly influences

the observation of how people get meaning from written texts based on social systems cross-culturally (Blommaert and Dong, 2010). In this regard, Scribner and Cole (1981), Heat (1983), and Street (1984) developed ground-breaking ethnographies that not only laid the theoretical foundation of literacy as a mirror of sociocultural practices**,** but have also served as model examples to explore the ideological stance of literacy methodologically. Nowadays, these ethnographies are essential references for many literacy studies covering various contexts, communities and cultures.

The diversity of literacy practices and research objectives has promoted that other investigation strategies, such as the case study, employ ethnographic tools. In this way, according to Barton, "many of these studies of literacy are narrower and more focused, and they can be described as drawing upon ethnographic approaches without being full ethnographies" (2013, p. 2). About this issue, it is necessary to note that qualitative researchers such as Yin (2003) and Duff (2007) warn us not "to confuse case studies with ethnographies" (Yin, 2003, p. 12). They underline that this flaw is found in some case studies "because ethnographies represent a particular kind of anthropological case study—where the case is a defined group or community—" (Duff, 2007, p. 34). Notwithstanding this methodological challenge, a collection of case studies uses meaningfully ethnographic approaches "as a way of bringing broader cultural and structural aspects into a specific situation, and linking literacy practices to issues of power" (Barton, 2013, p. 1).

Ethnographic approaches focused on investigating literacy have explained the nature of plural forms of adapting reading and writing among communities and even among community members of the same social group. The variety of behaviours, feelings and interpretations demonstrate~~s~~ that literacy, rather than an autonomous skill, is embedded in different life domains. More importantly, it is the sociocultural value of literacy that truly gives sense to the practice. In this vein, anthropologic linguists Leung and Street elaborate:

> We have to start talking to people, listening to them and linking their immediate experience to other things that they do as well. That is why it is often meaningless to just ask people about literacy as if it held the same meaning for everyone, as has been done in recent surveys (National Centre for Social Research, 1997; OECD, 1995) (2012, p. 8-9).

In this way, the value of revealing the ideology in literacy is now observed in diverse social contexts through the eyes of the insiders, "not by experts, but by ordinary people in ordinary activities" (Szwed, 1991, p. 422). Then, according to Florio-Ruane and McVee, "detailed descriptions of literacy from the perspective of a cultural tool and a cultural practice" (2000, p. 158) provide a new understanding of current forms of literacy as well as the observation of a phenomenon in continuous transformation. Accordingly, Street (1995, 2002) and Barton (2013) agree that ethnographic approaches provide comprehensive data to particularise literacy and what can be

validly measured cross-culturally. To this end, data collection methods and analysis require concentrating on the details that shape convergences and divergences. In this connection, Barton suggests integrating "a variety of methods including observation, interviews, the analysis of texts, the use of photography, and more" (2013, p. 3). In reviewing case studies, it is possible to appreciate that ethnographic approaches have widened the understanding of literacy in two main spheres. On the one hand, following Barton, ethnographic approaches allow us to identify "the importance of other people in a person's literacy practices" (2013, p. 2). On the other hand, as pinpointed by Bernhardt, literacy engages non-standard procedures to build "socially acquired frames of reference, value systems, the socio-political history of the writer, as well as idiosyncratic knowledge and beliefs held between the writer and the implied reader" (1991, p.10).

Concerning academic literacies and translingual use of languages, a clear example of a case study with an ethnographic approach is "Ideological battles over Quechua literacy in Perú: From the authority of experts to the innovation of youth" (Zavala, 2018). This investigation explores the power relations two groups of urban students experience using their native language (Quechua) at a school where academic, and daily life is in the official language (Spanish). The empirical observation focuses on the literacy practices participants develop using Quechua and Spanish in writing tasks as part of their school activities during a year. Besides analysing issues on resistance and dominance in the participants' perspectives, the inquiry also covers the ideology surrounding the concept of a virus when using languages translingually. On methodology, this case study also sheds light concerning inquiry methods. Zavala describes how, during the gathering of data and its concurrent analysis, the evidence retrieved from semi-structured interviews and think alouds modified the research path.

As can be noted from the ethnographic examples presented above, theoretical and methodological positions of Street (2001), Barton and Hamilton (2005), Blommaert and Rampton (2011), Canagarajah (2013), among other literacy researchers, provide critical support to investigate the academic literacy of this thesis. These researchers seem to read the thoughts of those, like me, engaged in academic settings where REAP is part of a vernacular literacy. Because of the nature of the literacy practice the BPCH community develops, this inquiry demands a database to document REAP episodes, practices, spaces, artefacts, timing, goal, and emotions. This information allows us to understand what it is like to be an academic reader of BPCH texts in English with no language instruction in a community where this language is confined to specific tasks but socially prized as a gateway for adequate vocational training and professional development.

This thesis investigates how participants experience and understand the practice based on the following two principles with an ethnographic perspective. First, literacy assumptions are not taken

for granted. The aim is to explore and inductively explain the essentials of this vernacular academic literacy. The participants' accounts are the most valuable data to avoid generalising valuations from the English language use and literacy deficits as commonly found in studies attached to autonomous models. To this end, four different research tools were conducted repeatedly: individual and group interviews, photographs, think alouds and stimulated recalls. Second, the dynamics of social praxis shapes the ideology that frames this academic literacy. Such understanding cannot be defined from single perspectives or in previously established circumstances. The participants' accounts gradually guided the observation of the occurring settings. Besides, the prolonged and close contact with participants allowed me to go beyond those bounded areas concerning the REAP episodes. Knowing first-hand diverse contextual elements of the practice explains why literacy impacts many other facets of the participants' academic and personal lives.

4.6 Methodological contextualisation

This longitudinal multiple case study with an ethnographic approach investigates how an academic community practises and understands a vernacular literacy that includes reading specialised texts in English outside the language classroom. Therefore, inquiry attempts to relate the practice based on what Szwed recognises as defining in literacy, which is "the community's needs and wishes, on the school's knowledge of these needs and wishes, and on community's resources" (Szwed, 1991, p. 429). In this vein, evidence covers significant interrelated occurrences from purposeful members of the BPCH community whose perspectives portray the converging and diverging dynamics of the social network.

Concerning the literacy environment, the observation was focused on the contextual features of the literacy episodes in which REAP was part of the BPCH activities (Duff, 2008). Most of the literacy events were at the library or other places at the university, where participants consulted English texts and used the information. Individual interviews with participants and informants were conducted in a private cubicle by appointment. For their part, think alouds and stimulated recalls were carried out according to the participants' needs for reading in English. To complement the contextual background, photographs of significant events were taken to portray scenarios, artefacts and social environments. Also, participants were asked to take photographs of those experiences they considered reading BPCH texts in English played an important role in their training. Settings cover everyday situations that impacted partnerships, reading in teams, working

at the laboratory, interacting at the BPCH classroom, and giving presentations in academic meetings.

Regarding my role as a researcher, I work as a language teacher in the university of this BPCH community. As already mentioned, although curricular programmes do not include language teaching, my primary job is elaborating reading comprehension tests. So, I am not part of the BPCH community or have close contact with a particular sub-group in the university. In this sense, my role as a researcher was that of an outsider. Nonetheless, working at the same campus made data collection easier in two key points. First, the fact that language instruction is not included is a shared characteristic among the different undergraduate programmes. Most academic communities in this university carry out reading in English similarly. Thus, the way REAP is commonly experienced was somehow familiar to me. Second, access to purposeful community members was not problematic because I keep administrative links with some BPCH staff. Consequently, establishing communication for recruiting participants was relatively straightforward.

4.7 Participants

Participants in this research are Spanish speakers who belong to an academic community in which English is not part of the curricular programme but widely used in training tasks. In the participants' social milieu, few community members speak English fluently or have studied it consistently in previous school stages. The vast majority of the undergraduates start university, facing the need of using English for the first time and abruptly. Therefore, with no other option, these readers develop a vernacular academic literacy that includes acquiring and using English information in their field of study. Specifically, participants were attending the third year of the BPCH programme at the time. They belonged to the largest subgroup whose first encounters with academic texts in English were part of the assigned readings for pharmacology tasks. Consequently, due to the challenges that REAP implied, participants regarded such demand as one of the most daunting vocational tasks and an obstacle to professional development.

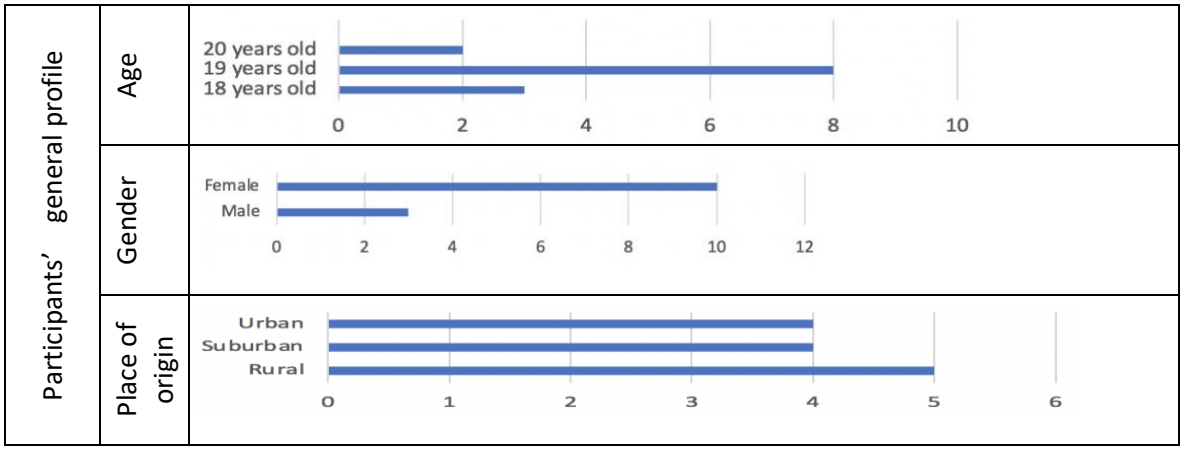
As part of the daily activities, participants read texts of their study area in Spanish and English. While some well-known handbooks and textbooks with different editions may have earlier issues in Spanish, almost all the latest versions were in English. Thus, irrespectively of the language in which the information was available, students had to use it. To illustrate this, the university's library records where the investigation was conducted reported an ongoing bibliography consultation in English by BPCH students from all the programme courses. Although reading in

English was a regular activity, there was no precise moment when students began to do it. It fluctuated depending on the contents, teaching methods and teachers' preferences.

After receiving the ethical approval from Ethics and Research Governance Online (ERGO) from the University of Southampton, I contacted the BPCH academic coordinator for the participants' recruitment. I explained to her the type of study, as were the main objective and length, the ethical considerations, and the type of inquiry that would be carried out in general terms. This coordinator was the gatekeeper to get in touch with prospective participants since she gave me access to the academic community's social media. Then, online, those BPCH students registered in the 8th quarter who had not studied English previously could be invited to participate in the project.

I met those BPCH students who replied individually. I explained to them all necessary information about the research, such as what the study was about, the procedures and methods we would apply, the approximate time for the conduction of each session and how privacy or confidentiality would be ensured. Because the students' participation was entirely voluntary, I made clear to prospective participants they could withdraw at any point. The participants' incentive to engage in the research was that reading materials for the inquiry methods would be the required texts for their BPCH courses, which they would bring at will. I also specified that my role was not that of an English teacher. No English or reading strategies would be taught or tested.

Figure 4 - 1 Participants' general profile

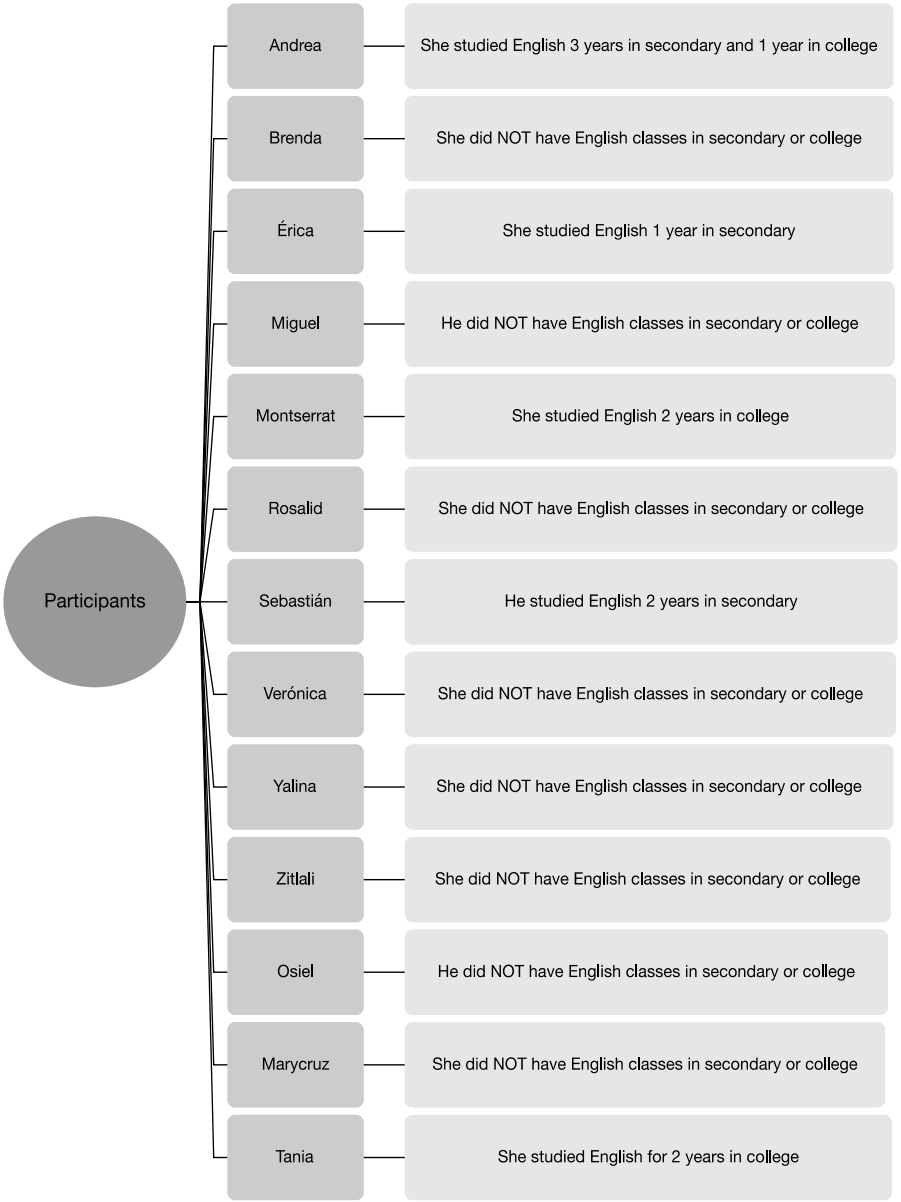


Because a central feature of this literacy is the social interaction, and readers sometimes lacked an interlocutor, they might have felt that joining in the project could be somehow useful. I assume this because 13 out of the 15 students who attended the briefing session agreed to participate. They signed an informed consent that authorised me to record all sessions on video and use the retrieved data for the research (*see* Consent form ERGO in Appendix A). I refer to these students

as participants since I kept close contact with them for ten months and had the opportunity to observe them around 16 times individually (Duff, 2008).

Participants belonged to the community since the first BPCH course and knew each other. In fact, they had been classmates in many of the seven previous terms. All of them kept a regular status as undergraduates, which means they had consistently accomplished the previous stages of general education and the first two years of university studies. Because participants had not studied English in the previous school stages or had studied it for a short time, some characteristics of their profiles were alike. However, there were slight differences concerning the participants' use of English that, later on, would reveal some components of the ideological intricacies found in the academic literacy this thesis investigates.

Figure 4 - 2 Time of English teaching participants had received in previous school stages



The above figure illustrates the type of previous English instruction participants had received if any (*see* Figure 4-2). As can be observed, some students had taken some English courses. However, it is worthy of clarification to note that participants said they were interested in engaging in the project since they rated themselves as completely novice in the use of English. Regarding this issue, participants provided enlightening data that is referred to in the next chapter.

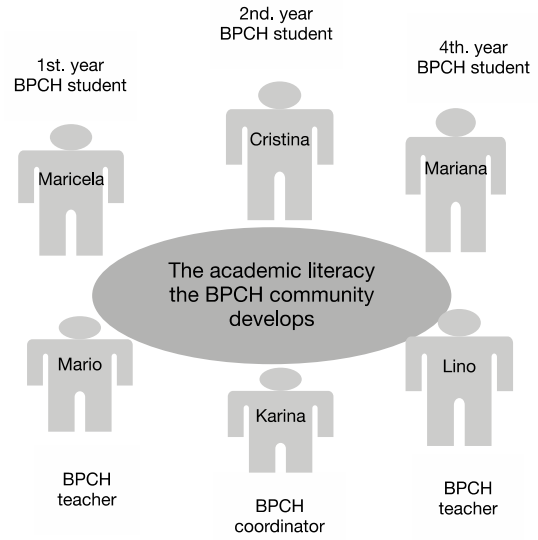
Reasonably, the accomplishment of the research was no within the participants' priorities. I had to be very flexible in terms of time, schedule and missed appointments. Participants had a heavy workload because of the laboratory demands, where most academic activities took place for this community. For example, if they prepared a chemical compound at the laboratory that did not progress as expected, they had to repeat the process to verify and amend it. Consequently, participants very frequently did not attend our appointments on the agreed day and time. This situation was a challenging issue for data collection. However, as I was working at university all day, it was possible to adapt the empirical observation to the participants' needs and agenda.

4.8 Informants

This research also brings together accounts and perceptions from other purposeful community members to put the academic literacy in a broader perspective. Additional informants were students attending the other years of the BPCH programme (1st, 2nd and 4th), two content teachers and the academic coordinator. They complementarily portrayed the environment, needs and resources that shape how the community deals with using English. Meaningful experiences and viewpoints of these other BPCH community members are also included. Their contribution helped to explain better the ideology that underlies this social and situated practice. The informants' data were gradually included as participants made references to other academic activities and BPCH members.

Following Flyvbjerg, the informants' purposeful selection served "to generalise for specifically selected sub-groups within the population" (2006, p. 230). Informants provided non-randomised information to build some corresponding contextual framework of this practice in situ (Merriam and Tisdell, 2016). The informants' perspectives concerning reading BPCH texts in English enriched the picture of what the participants experienced and enhanced the understanding of how the community envisaged the academic literacy. Figure 4-3 represents the informants' general profile.

Figure 4 - 3 Informants as a sample of the BPCH community



4.9 Background of the university and the community

A central feature of the university where this case study was carried out is that it receives a high number of students from diverse walks of life and geographies at the national level. This component is reflected in their demographic origins. For example, of the 13 participants, four came from rural regions, three from suburban areas and three from urban towns. Almost all of them had left the family home, stayed in a dorm near the university, and some of them even maintained a close friendship.

Although most school programmes at middle school and high school include English classes at the national level, it is not always accomplished, as had happened in the participants' experience. Of the 13 participants who started the project, eight of them reported not having had English classes. In the case of three of these participants, their school programmes did not include English classes. The other five students said that although their curricular programmes included this subject, they had not received it for different reasons. Four participants said that they had taken English classes from one to two years total, averaging 4-5 hours per week as a curriculum subject. In the case of two of these participants, the English teaching method had been through video cassettes. All of them underlined that while they had taken classes, it had been long ago. They regarded themselves as completely novice in using English, which explained why they had joined the project. Finally, one participant said that she had studied English for four years (three years in middle school and a year in high school). This student frequently mentioned that though she had

studied English for four years, she had done it intermittently and felt like she had not studied it that long.

After interviewing additional informants, it was found that the participants' experiences with English teaching were a common situation for most of the university population. Nevertheless, they also mentioned that among the BPCH community members, there were peers whose English knowledge was entirely different. Some classmates had attended bilingual schools during middle school or high school. Even some other classmates had studied abroad in English-speaking communities. Therefore, once they had reached university, students in the same class had uneven skills and viewpoints towards using English, which became a problematic issue.

4.10 Data collection

Data were collected from January 2016 to November 2016 covering three BPCH quarterly courses from the third year of the programme: 8th, 9th and 10th. Following the essential qualitative foundation of triangulating evidence through the best available and relevant perspectives, different methods were applied to explore this academic literacy (Kress, 1997; Merriam, 2001, 2015; Yin, 2003; Creswell, 2014). Record of research methods and the number of rounds retrieved by participants and informants are shown in Appendix B.

At the beginning of the investigation, there were 13 participants. However, during the first months, three of them dropped out of the project. A student in the third month had the opportunity to move abroad for an academic year to study in a Colombian university. We tried to continue meeting online, but it was not possible. The second participant gave up because she began working and did not attend any more sessions from the second month of the project. The third participant got pregnant and was granted temporary leave. The rest of the participants collaborated during the total span of the research. This is why participants are referred to as a sample of ten BPCH undergraduate students.

As mentioned before, participants had been classmates since the first courses of the BPCH programme. In the participants' generation, there were four groups in the morning shift and two in the evening. So, although not always together in the seven previous courses, they knew each other before participating in the project. Moreover, they had already read in English and experienced this literacy from the beginning of their undergraduate studies. On this point, it is useful to underline that because they shared a concern about using English, many of them had exchanged beliefs and emotions that later narrated jointly. Additional informants were recruited

in the course of the research. As participants mentioned aspects of the academic literacy that involved other BPCH community members, some of those who could enrich the social understanding were gradually contacted.

4.11 Tools for data collection

The research tools employed in this thesis promote exploring emic retrievals regarding acquiring and using information in English. The aim was to delve into how participants shaped this academic literacy as part of the BPCH training with the characteristic that they were English users, not language learners. Therefore, attached to the ideological model of literacy, the central analysis from this academic literacy was the social interaction instead of the linguistic features or the discipline's acculturation.

Inquiry explored literacy events and the ideology when REAP was a part of the participants' daily activities. Regarding the literacy episodes, empirical observation included natural occurring scenarios such as reading individually in a private cubicle, team working at the library and the laboratory, as well as other areas frequently used. To answer the research questions posed in the thesis, think alouds, stimulated recalls, individual and group semi-structured interviews and photographs were conducted (Cassell and Symon, 2004; Dörnyei, 2007; Lazaraton, 2013). In the following sections, a general account of each chosen tool of inquiry is presented. As no method escapes from limitations, besides referring to the pitfalls, the value of the information each one yields, the type of data expected to retrieve, and the way I managed to use it are also included.

4.11.1 Semi-structured interviews

In recent times, modern society has been called the 'interview' or the 'confessional' society (Atkinson and Silverman, 1997). Information exchange between someone who asks and another who answers the question is a widespread form of social interaction nowadays. Therefore, this way of sharing the private makes the interview a common inquiry technique for many people in today's societies (Hammersley and Gomm, 2008).

The interview is a flexible research method. Depending on the degree of structuring, interviews range from a fixed form to other modalities in which procedures are adaptive and open (Alshenqeeti, 2014). In a spectrum of variants, at one end, the structured interview uses standardised mechanisms on order, way of asking and content. Thus, when a structured interview is conducted with many interviewees, procedures are the same and differences in collected data are explained by the informants' responses (Kendall, 2010). At the other end, the unstructured interview is closest to a conversational session where themes, rather than specific questions, do

not follow a plan. Its conduction derives from what the interviewee and interviewer contribute on the go. This approach is mostly used for exploratory purposes or background information (Talmy, 2011).

Between the structured and unstructured interviewing techniques, there is a blended type that follows a partially planned conduction. Termed as semi-structured, it covers a specific topic and adheres to some guiding lines through predetermined open-ended questions, where the researcher is free to ask for clarification. Although the purpose of the interview is clear for the interviewer and the interviewee, there is the possibility of exploring issues that arise spontaneously (Denzin and Lincoln, 2000).

Regardless of the type of structuring of the interview, it can be conducted individually or in a group. The suitability of the characteristics of the interview depends on the kind of data being sought. On the one hand, the individual interview offers a friendly atmosphere to disclose sensitive or personal items, delve into details, and pay more attention to verbal and nonverbal behaviours. On the other hand, the group interview is a useful technique when interviewees share characteristics or when the topic to be addressed is ambiguous and needs to be concerted through different perspectives. Brainstorming of opinions, feelings and experiences on specific issues contribute to elaborate ideas dynamically (Guest et al., 2017).

Another variant in the conduction of interviews is that they can be undertaken face-to-face or virtually. While technologies have vastly expanded the possibilities for application, interviewing in person is still the most preferred (Guest et al., 2017). It enables a closer interaction; thus, the rapport between researcher and interviewee is more feasible to establish. Sharing a physical area and time for a session promotes a smoother flow of information (Talmy, 2011). The virtual interview implies using technological means such as telephone calls, video conferencing or electronic messages either in real-time or asynchronously. While some people may perform lower through virtual communication because of the lack of an interpersonal encounter and demands mutual technological know-how and device availability, this modality may be convenient for those who feel more comfortable with non-direct interaction (Cassell and Symon, 2004). Besides, due to its flexibility, virtual communication facilitates access to people who otherwise could not be interviewed (Stake, 2005; Kendall, 2010).

The selection of the type of interview depends on the research purposes and access to respondents. Notwithstanding, when the research aims to cover introspective information, face-to-face semi-structured and unstructured interviews are considered fundamental tools for qualitative inquiry (Hoft, 2004; Alshenqeeti, 2014; Brinkmann, 2014). While the researcher

commonly raises the topics, the interviewee ultimately calls the shots and thereby addresses discussion. In other words, in a semi-structured interview, there is mutual interaction between the interviewee and the interviewer. However, the focus of the dialogue revolves around the insights revealed by the former (Dörnyei, 2007). In this vein, Stake refers to the qualitative interview as "the main road to multiple realities" (1995, p.64).

According to Dörnyei (2007), to get valuable information from qualitative interviews, the researcher must develop sensitivity and listening skills as well as technical expertise for proper conduction. Consequently, good qualitative interviews may take full advantage of the different components of the information a superficial observation fails to reach. Because the richness of this technique resides on delving into the particular, the researcher's craftsmanship involves identifying those golden nuggets that emerge underneath the interviewee's words.

The characteristics from semi-structured interviews above underlined can be considered strengths. However, there are some weaknesses associated with this approach to interviewing. First, it retrieves data that is difficult to analyse, as it has not been produced using systematic methods. In particular, it is a challenge to identify connections among participants' responses. Second, the freedom of incorporating other issues into the interview comes with the risk of getting off track, so the original focus or hypothesis may be undermined (Dörnyei, 2007; Alshenqeeti, 2014).

In this thesis, two main reasons justify the selection of semi-structured interviews. First, these interviews allow retrieving particular accounts about the common components of the different literacies that participants employ, which are not always easy to observe. Nonetheless, semi-structured interviews are flexible enough to adapt the inquiry as unplanned situations or topics arise. Second, as studies were not found on this variant of REAP, it was necessary to expound on those elements that explained its nature. Delving into the particulars of literacy was the way some underlying information could be discerned. The information obtained with this technique could cover background information of the needs and procedures of the literacies and their interpretative stance. Such accounts gathered the key components of the practice that would be triangulated with evidence collected from the other research methods.

To explore the literacy components aforementioned, a set of six individual interviews per participant were conducted for around 30 minutes each (62 total), as well as a group interview that lasted 90 minutes. In a broad sense, interviews were semi-structured. There were some general themes about the academic literacy that would be explored from different perspectives. These topics were: how the BPCH community members carried out and conceptualised REAP; the type of English teaching they had received, if any; how they dealt with this academic demand; and

their self-perception as readers in English. To meet this end, following Merriam (2001), an interview protocol was designed (*see* Appendix C). The issue-oriented questions were organised in the following categories: a) a general introduction to focus on the main topic(s) and the interview's objective; b) some content questions: c) a final or closing question to bring up overall comments (Talmy, 2011). This protocol focused on the participants' background information and central issues of the research questions. Thus, in that general sense, interviews were prepared initially as semi-structured. Notwithstanding, because interviews were conducted interspersed with think alouds and stimulated recalls, I had the possibility of addressing individual and unplanned aspects that emerged as we progressed through the other sessions. Emerging evidence and my involvement with participants made the interviews organically adapted to the research paths.

The iterative conduction of interviews was appropriate as recurrent rounds gave the opportunity of revisiting data. Therefore, retrievals served to explore connections and emerging insights over an extended period of ten months. In collaboration with participants, this method also contributed to negotiating and co-creating definitions of what they did and how they understood the activity. Data progressively refined my comprehension of this academic literacy as a social and situated practice.

During the interviews' conduction, I kept in mind the importance of recovering valuable unintended information that helped explore underlying components not openly referred to or evident in literacy events (Richards, 2003). Following literacy practitioners such as Lea and Street (2006), Lillis and Scott (2007) and Blommaert, Street and Turner (2008), the inquiry explored the relationship between literacy events and practices where REAP was part of broader activities. The analysis of these elements was enriched because in the interview sessions, participants provided the photographs that had been asked of them to take. The explanation of the photographs' contents made it so that, besides the planned issues to be discussed, interviews became more open as inquiry followed different paths among participants.

In the course of the research, participants referred to specific aspects of the academic literacy that involved other BPCH community members. These BPCH students were the gatekeepers to get in touch with those other members who eventually became informants. These additional informants were gradually contacted and interviewed individually for about 45 minutes (six total). Topics were related mainly to their particular position in the BPCH community. In the case of the students attending the other years of the programme, I asked them about their initial experiences of REAP and beliefs about this need, some background information regarding the use of English,

and their expectations as professionals. With the BPCH teachers and coordinator, I explored reasons for incorporating English texts in their courses, how they dealt with this need, as well as their viewpoints about the academic literacy.

The semi-structured group interview was aimed at promoting mutual reflection concerning critical elements of the academic literacy. It was carried out once individual interviews had concluded and guiding questions were prepared about the topics previously addressed. It attempted to elaborate collective perspectives about how they read in English as part of the BPCH activities. This group interview favoured the discussion on those components of the academic literacy that created coinciding or divergent views, the shared experiences, and observing possible power relations among the social group.

Due to a lack of expertise, I made two mistakes when conducting interviews. In the first interview rounds with participants, I centralised the participants' insights into the protocol topics. In pursuing that information, I wasted valuable opportunities to get a more in-depth retrieval from literacy components not straightforwardly referred to, such as covenants among the community members or identity issues towards the translingual use of languages. Another flaw in the conduction was that I spoke a lot. Sometimes, I lost the point that though there is a flexible dialogue in semi-structured interviews, it is not a colloquial conversation. While worthy in terms of rapport, some data from some interviews became completely unrelated to the research aims. Fortunately, there were six rounds per participant over an academic year. Then, I could improve my role as a researcher to seize the opportunity of interviewing additional informants who were contacted in the last months of the empirical observation.

4.11.2 Think alouds

The think aloud is a qualitative investigative method that promptly elicits what is happening in an informant's mind while performing a specific task. It is commonly conducted individually. The researcher's role is mainly that of an observer who brings open-ended questions to nudge retrievals just when needed. Video recorded performance conforms to a verbal protocol, which later is analysed by the researcher (van Someren, Barnard and Sandberg, 1994). Given the impossibility of observing cognitive processes directly, this method focuses on the participants' frame of mind and working memory rather than on the long-term memory or through the researcher's shared exploration.

The objective of disrupting the thinking process is to get immediate introspective accounts without giving the due time to rationalise or explain actions and emotional or behavioural reactions (Kuncan and Beck, 1997). The concurrent verbalisation attempts to reveal the

particulars that build knowledge and awareness from the one who shares what is experiencing internally (van Someren, Barnard and Sandberg, 1994). Unlike other methods for data collection, the think aloud does not pursue well-structured retrievals. Its goal is to get insight into the in-progress happenings verbally. Since these procedures are performed automatically or not communicated to someone else, they are not usually expressed in complete and accurate forms.

Origins of the think aloud go back to the early 1970s to know some cognitive processes related to psychological and educational methods. In the beginning, the think aloud was conducted to identify the characteristics of some classroom assignments such as making equations, doing puzzles or comprehending written texts. However, over time its use has ventured into less well-known human mind procedures as managing digital technologies or certain creative and artistic proceedings. Some engaging examples show the way think alouds have been applied in diverse cognitive tasks. For example, Hamel conducted think alouds to explore how a group of architects made decisions when designing a building (cited by van Someren, Barnard and Sandberg, 1994, pp. 1-8). Cotton and Gresty (2006) carried out this technique to distinguish different forms of using e-resources among native and non-native undergraduate students. Meanwhile, Hyun-hee et al. (2007) conducted think alouds to investigate how spectators develop feelings and emotions when attending art exhibitions.

The type of information retrieved by the think aloud has generated considerable discussion about the actual possibilities of getting insight into what happens in the brain while thinking and the sociocultural influence by performing the same activity (Goodman, 1976, 2005; Smith, 1994). The questioning mainly lies in the fact that all verbalised narratives about cognitive endeavours are to some degree of retrospective nature. There is a gap between what is happening and what is being said that needs to be tailored for their expression through words. Hence, the validity of this type of information as a fair reflection of the thinking process gives rise to controversy.

In terms of methodological procedures, there are some critical concerns on the reliability of the think aloud in its attempt to map out the human mind. First, verbal protocols should be considered merely as a way of expressing identifiable procedures and emotions. They “cannot reveal deeper thought processes in their true complexity because they have to be simplified into words before anyone, even thinkers themselves cannot really know them” (Charters, 2003, p. 70). Second, significant cognitive processes are carried out unnoticed since informants “are used to *do* their job, not to *explain* it” (van Someren, Barnard and Sandberg, 1994, p. 1). It is troublesome for participants to identify what is going on and thinking as well as reporting simultaneously (Moore and Zabrucky, 1989). Third, the mere presence of an observer or the

impact of knowing that the participant is being observed may modify real thinking (van Someren, Barnard and Sandberg, 1994). Considering these drawbacks, what researchers warn is that think alouds provide reconstructed interpretations from memory or what informants think they should do.

Despite the compelling reasons that question the reliability of the think aloud, the information it provides still being acknowledged as the closest and most intimate achievable accounts of what subjects do and think while in progress. Today, some important cognitive theories related to problem-solving and decision-making procedures base their assumptions on evidence collected from think alouds (Newell and Simon, 1972; Anderson, 1982; Kucan and Beck, 1997). An undisputable contribution of this research tool is demonstrating how the human mind does not follow single paths. The analysis of coincidences and differences among people through think alouds provides a meaningful picture of the complexity from human lines of thought that empirical evidence from other methods can hardly yield (van Someren, Barnard and Sandberg, 1994).

There are some specific advantages practitioners of the think-aloud underscore. For Hosenfeld (1977), since some informants find it problematic to analyse and give accounts about introspective issues, providing direct reports may be a more feasible and effective way to make known what they experience. Kucan and Beck (1997) emphasise another valuable asset of the think aloud. It is that findings come directly from the participants' voices. Assuming that qualitative information entails a subjective analysis either by the participant and the researcher, what both of them disclose has the same validity. By their part, van Someren, Barnard and Sandberg (1994) highlight that the understanding of cognitive processes cannot be achieved only by analysing products. Observable actions and behaviours are results of cognitive processes but do not refer to the causes that prompted them. Thus, interpretative retrievals of what is being felt, thought and done makes the think aloud a useful strategy to get an in-depth insight into cognitive procedures.

Moreover, on reading, the think aloud offers the possibility to move away from conventional forms of exploring the text-driven processes that enable comprehension and the reader-driven processes that impact individual procedures. While most standard approaches to reading base their analysis on quantifiable outcomes as comprehension tests, it has been shown that reading involves varied processes beyond parameters (Gough, 1972; Goodman, 1976, 2005). By exploring reading outside traditional practices, analysing what readers do and think when reading results of utmost importance. For this investigation, the think aloud is a very suitable tool to get a more reliable picture of two critical components of literacy. On the one hand, we get a trustworthy

glimpse of the paths that participants follow to acquire and use information from texts in English. On the other hand, we can also see how these participants adapt literacy for the accomplishment of BPCH activities.

In this thesis, the conduction of think alouds consisted of about seven video-recorded sessions per participant with a duration of around one hour each (*see* below table 4-1). Individual appointments were scheduled monthly and according to the participants' needs for reading in English. Because all BPCH students were attending the same courses (8th, 9th and 10th quarters), texts in English read in think alouds were very similar or even the same. Meetings were carried out at a private cubicle equipped with a tablet to be used at the participants' will, printed texts and internet access. There was also the necessary equipment for video-recording the sessions.

Table 4 - 1 Record of think-aloud rounds per participant

PARTICIPANT	NUMBER OF THINK ALOUDS
ANDREA	7
BRENDA	7
ÉRICA	7
MARYCRUZ	1
MIGUEL	7
MONTSERRAT	6
OSSIEL	3
ROSALID	7
SEBASTIÁN	7
TANIA	3
VERÓNICA	7
YALINA	7
ZITLALI	7
TOTAL	76

Most of the bibliographic consultation was from handbooks which information is commonly used at the laboratory in handling chemical preparations such as medicines, cosmetics or food additives (a sample of a consulted text is included in Appendix D). As a researcher, I sat at some distance to avoid disrupting the participant but with the possibility of observing her/him in order to prompt information just at significant times when retrieval was not provided (for contextualisation of the think-aloud conduction, *see* Appendix E).

After reviewing some experiences in the conduction of the think aloud concerning reading, some challenges, adaptations and forms of using the tool were considered. Because participants did not know the technique, it was appropriate to clarify the objective, methodological procedures, the role of the researcher, and the characteristics of introspective accounts. As a starting point, I gathered all participants. In a group meeting, I explained the key points of the research method, the texts we should use and the way we would meet. To aid the explanation, we watched a

YouTube video to model its conduction[2]. Because the videos are in English, I paused them in the instructive scenes and explained and contextualised the information.

In the first rounds, participants mostly described text-driven processes and far less reader-driven processes. I observed that it was challenging for them to address introspective issues. To avoid directing or pushing information, easily identifiable banners with written questions were used to prompt what they were thinking when reading, such as *What is coming to my mind? What is helping me to get meaning? Can I relate the information with something else? What do I feel?*

4.11.3 Stimulated recalls

The stimulated recall is a qualitative research tool aimed to analyse in detail decisions, actions, and perspectives laid behind when an informant was performing an activity or facing a situation (Calderhead, 1981; Gass and Mackey, 2000; Lyle, 2003). Its conduction follows two phases. Initially, it involves audio or video-recording a person while in action. Then, the inquiry is carried out shortly after or, even better, immediately after completing a task undisturbedly. Retrieval is through an interview in which recorded evidence is played backwards to be analysed by informant and researcher. The stimulus is the recording, while the recall is the account of what was going on in the participant's mind. Consequently, verbalised information is mutually reconstructed through a dialogue with the researcher (Takako, 2008).

The stimulated recall and the think aloud share the aim of exploring the relationship between actions and thinking processes. Although strictly speaking, all cognitive retrieval is retrospective, the think aloud pursues concurrent accounts of what the informant is thinking and doing and the stimulated recall is characterised by highlighting the narrative that recreates what the informant was experiencing at that time. Accounts of a stimulated recall are built with the due time to express them in the terms the informant decides. Gathered data follows retelling patterns such as the necessary pauses to provide clear ideas and coherent representations of the performance (Paskins et al., 2017). In this sense, unlike the think aloud, the participant directs the interpretative discussion with the stimulated recall. It explains why Charters considers that through the use of this type of qualitative tool, "participants acquire a level of quasi-researchers" (2003, p.76).

The stimulated recall uses similar inquiry procedures to the semi-structured interview. Both techniques delve into the participant's perspectives, and their accounts lead the analysis. However, while semi-structured interviews mainly address procedures, concepts or perspectives in a general way, questions in the stimulated recall straightforwardly elicit information regarding a precise

[2] www.youtube.com/watch?v=PMFyWkTeUkE and https://www.youtube.com/watch?v=HJJL7hQDM8I

experience. Hence, the interview of the stimulated recall has two distinguishing characteristics. First, to particularise what the informant was doing and thinking, the researcher uses questions with past tense verbs and adverbial time markers to connect the analysis with the specific situation (Gass and Mackey, 2000). Second, this type of interview seizes subtle observable actions to clarify decision-making processes and interpretative approximations the informant went through (Dempsey, 2010). This procedure is because declarative knowledge is widely assumed as more affordable to recall than proceedings. For most people, thought processes are not easy to identify and define.

As with the think aloud, the stimulated recall was initially developed to meet psychological and educational goals. By investigating the thought processes from students attending lectures, Bloom began presenting participants different stimuli and asked them "to relive the original situation with vividness and accuracy" (1953, p. 161). Over time, Siegel et al. (1963) improved the stimulus by video recording the analysed event to facilitate recall. Nowadays, in addition to educational and psychological issues, the implementation of the stimulated recall is found in varied research areas.

To name a few resourceful examples in the use of stimulated recalls, Moreno and del Villar (2004) conducted this research method to explore how organisation, motivation and discipline influence making decisions by a group of hockey coaches when their teams compete in tournaments. In this investigation, the researchers identify the observable directions trainers perform due to their previous work with the team. Besides, they enquire participants about the subjective components related to the decisions they make while playing.

Dempsey (2010), in an ethnomusicological study, conducted stimulated recalls to explore the way some musicians communicate in an ensemble when playing the drums in jazz jam sessions. The researcher investigates how some signals players convey are the cause that interaction sometimes goes smoothly while other times breaks down completely. In this study, the author carries out stimulated recalls in two fashions. He first meets the musicians individually. Later, he gathers the band to generate a consensual analysis of the elements that prompt interaction among players and the type of responses they produce.

The stimulated recall has been criticised for some research implications especially related to memory and the real scope of representing the thinking process through words. Concerns about reliability and validity are mainly addressed in terms of retrieving actions or the interactive relations among processes and their selective report (Lyle, 2003). This questioning is based on the fact that by providing time to organise ideas, narrations may refer to what is generally expected to be performed, what informants would like to do and feel or the overall idea about the activity,

thus not necessarily what actually happened. Regarding its conduction, the method presents the practical challenge of conducting the two research phases, one after the other. Hence, the stimulated recall requires more time and access to the informant than the single session of the think aloud or the interview.

Despite the pitfalls, some valuable strengths of the stimulated recall justify its implementation thoroughly. First, because the method centralises attention on concrete tasks, information gives a rich insight into phases and procedures that characterise the activity and the individual differences to meet a single purpose (Dempsey, 2010). Second, by recreating the participant's performance through the recording, the research tool offers a guide to memory that eases the retrieval of issues qualitatively. Third, in contrast to the think aloud, the stimulated recall is less disruptive and does not need training. Based on these research possibilities, specialists consider it a valuable method to get complementary cognitive processes clues.

For this thesis, there were three main reasons for using the stimulated recall:

1. It provides detailed observations on how participants acquire information in English. For instance, the relationship between the strategies and resources participants deploy to get meaning and the decision-making processes.

2. Narrative accounts concerning a specific reading experience portray the activity as a sample. The information complements the characterisation of what this academic literacy represents for participants triangulating evidence from other research tools.

3. Narrative accounts may help participants to reflect on what they do and how they interpret the use of academic literacies.

Because participants had already taken part in some interviews and all think-aloud sessions, conduction of stimulated recalls capitalised on both experiences. On the one hand, think alouds facilitated focusing on the introspective issues about what they did to acquire the information, how they would use it, and how they understood the academic literacy. On the other hand, interviews were a kind of training for the narration and to build rapport between researcher and participant.

Stimulated recalls were conducted in a private cubicle. Each participant carried out three rounds (*see* table 4-2 below). The agreed time for reading was an average of 60 minutes per session. Reading materials were the assigned BPCH texts in English that students had to consult to use the information at the laboratory or class. In the first phase of each round, participants read in silence without interruptions while being video-recorded. Because I was present in the cubicle while

reading, I had the opportunity to make notes, identify key components, and time those moments. When the allotted time was over, or the participant finished, I immediately rewound the recording. We watched the video to draw upon fresh memories. Whenever we considered a significant point, I paused the recording to ask a question or to prompt an account of what was happening.

Following Ryan and Gass recommendations (2012), I made the necessary time arrangements to include both the recording and the account in a single session. The reason was twofold. First, because of the intricacies of the activity, substantial information is rapidly forgotten. As time goes by, information turns very general and vague. Second, participants were very frequently in a rush. Time had to be optimised for each session, as it was very difficult to have a second meeting for the retrospective description. If data was not gathered on the same day, the round would probably be wasted. Unfortunately, this meant that the reading time sometimes had to be stopped abruptly and reduce the inquiry (contextualisation of a stimulated-recall session is included in Appendix F).

Table 4 - 2 Record of stimulated-recall rounds per participant

PARTICIPANT	NUMBER OF STIMULATED RECALLS
ANDREA	2
BRENDA	3
ÉRICA	3
MIGUEL	3
MONTSERRAT	3
ROSALID	3
SEBASTIÁN	3
VERÓNICA	3
YALINA	3
ZITLALI	3
TOTAL	29

Admittedly, time was not capitalised sufficiently on the information participants could provide during their conduction. Management of subjective data involves recognising subtle and sometimes hidden components. Therefore, it demands a high level of sensitivity by the researcher to identify underlying clues and establish the appropriate rapport at the very time and with the right words to touch the emotions and thoughts of those who provide such intricate information.

4.11.4 Photographs

In qualitative research, the use of still photographs as a method for data collection has a well-established tradition derived from visual ethnography (Pink, 2012). While intensively used in anthropology and sociology, in more recent times, other areas have incorporated photographs as a source of analysis under the assumption that “expressing something verbally or visually makes a difference” (Kress and van Leeuwen, 2005, p. 2). The richness of photography creates a new

understanding by opening up alternative communication channels to express memories, meanings, and deep emotions that verbal and written data methods fall short (Pain, 2012). In this way, the analysis of photographs as data has added value to other qualitative research tools such as interviews or observations. It has also become a key support to the current state of diverse knowledge fields (Schwartz, 1989; Holm, 2014).

In addition to diversifying communication and imbuing more traditional data collection techniques, photography has challenged some methodological and theoretical assumptions of the qualitative tradition. Due to the increased availability of digital devices, the researcher is not the only one who takes, selects and interprets photographs; participants may play a more active role in research. Whether for producing or interpreting visual data, the relationship between researcher and participant changes. In this way, other layers and insights of analysis can be created. Moreover, despite the privileged position of the written, the insight provided by images makes that "text and photographs are equally important and interact and inform understanding of each other, as well as the relation between the two" (Holm, 2014, p. 397).

Leaving aside the aesthetics of photography, both visible and underlying components within an image have derived many methodologies from interpreting them. These approaches primarily focus on analysing contents, discourse and ethnography (Holm, 2014). For the exploration of photographs as artefacts, visual data is regarded as "a precise machine-made record of a scene or a subject" (Schwartz, 1989, p. 120). Photographs operate as material evidence to depict contextual episodes without being filtered. They become data to document places, times, and situations accurately. Moreover, as the analysis progresses, photographs provide the interpretative relationship between the verbal and non-verbal elements that constitute a social phenomenon (Blommaert and Dong, 2010). Data is used to meet the photographer's pursued message or to construe meaning for the spectator (Schwartz, 1989). These sources pave the way for the development of ethnography and discourse analyses.

Methodologies for the analysis of narrative, content and ethnographic issues based on photographs also consider authorship. Intentions, perspectives and understandings vary if they come from existing archival collections or were taken by the participants or by the researcher. For instance, photos to illustrate or document are commonly perceived as evidence or proof of historical events. Although they largely contextualise situations, their use for research purposes is limited, as most photographs of this type are anonymous. Thus, the photographer's intention or the context surrounding the scene cannot be explicitly stated (Pink, 2012).

The photographs taken by the participants, also called “participatory photography” (Holm, 2014, p. 385), is the source most frequently used (Schwartz, 1989). Because they allow participants to take a more active role in the research, advantages for implementation are threefold:

1. They directly indicate what is meaningful for participants.
2. They open up avenues of communication, especially for those who require alternative means of expression.
3. They contextualise accurately both the circumstances in which they were taken and the intentions that lead to their selection.

Despite the broad and valuable applications of photography, validity and reliability are two key components that raise questions about its use. Concerns on validity derive from the fact that though photographs can reproduce “the reality in front of the camera’s lens, yielding an unmediated and unbiased visual report” (Schwartz, 1989, p. 119), they also imply a subjective process. For Schwartz, both image-making and representation make this tool “subject to multiple perceptions and interpretations” (Schwartz, 1989, p. 121). Likewise, photography casts some doubts on reliability since portrayed components may be manipulated to meet particular purposes. Such disadvantages have led photography to play the role of a “complementary or marginal research tool” (Holm, 2014, p. 380).

Considering the role of photography to study literacy under the ideological approach, it is important to remark that its contribution has modified the way reading and writing are currently understood. If conventional images on literacy are observed, they can be identified as perpetuating stereotypes and ideologies about the practice. For example, most settings refer to mainstream reading situations as either a classroom mediated by a teacher or as a standardised procedure in line with the autonomous models of literacy. Nevertheless, when revising photographs included in NLS, visual ethnographies show that literacy is a conglomerate of literacies that need to be properly contextualised. In this vein, Barton and Hamilton (2012) offer a methodological guide to analysing the essential components of literacy as a social and situated practice through the use of photographs (*see* table 4-3).

An interesting example of the use of photography in NLS is *Local Literacies: Reading and Writing in One Community* by Barton and Hamilton (2012). In this book, photographs illustrate the evolution of different literacy events from people in Lancaster, England, for more than a century. The input of photographs provides an understanding of how people have adapted literacy for everyday activities such as cooking, betting in racehorses, or managing accounts. Data collected

from photographs of archival collections is triangulated with interviews, case studies, and surveys to members of that same community to achieve the research purpose.

Three general characteristics of photography justify its implementation in the thesis. First, visual data contextualises the phenomenon in situ. The objective is to capture some vernacular components that frame how the community carries it out. Second, through photography, participants represent what is reading in English from their perspective. They reflect ideological positions to be triangulated with information from other research tools. Third, photography is a complementary way of connecting with participants without the researcher's mediation. Moreover, the use of photographs commonly implies a "convention-bound process" (Schwartz, 1989, p. 121) between the one who takes the picture (participant) and the other who interprets it (researcher). However, in the interpretation process, photographs allow a third party to be included: the reader, who, as a referee, takes a position for the own conceptualisation of academic literacies. Then, this tool opens the analysis to exchange views among literacy practices.

Table 4 - 3 Elements for the analysis of literacy events and practices based on photographs

Elements visible within literacy events (These may be captured in photographs)	Non-visible constituents of literacy practices (These may be inferred from photographs)
Participants: the people who can be seen to be interacting with the written texts	The hidden participants –other people, or groups of people involved in the social relationships of producing, interpreting, circulating and otherwise regulating written texts
Settings: the immediate physical circumstances in which the interaction takes place	The domain of practice within which the event takes place and takes its sense and social purpose
Artefacts: the material tools and accessories that are involved in the interaction (including texts)	All the other resources brought to the literacy practice including non-material values, understandings, ways of thinking, feeling, skills and knowledge
Activities: the actions performed by participants in the literacy event	Structured routines and pathways that facilitate or regulate actions; rules of appropriacy and eligibility –who does/doesn't, can/can't engage in particular activities

(Taken from Barton and Hamilton, 2012, p. 16)

For the investigation of literacy episodes and ideology in this thesis, photographs illustrate two key components of the academic literacies the BPCH community develops. On the one hand, photographs of the literacy events contextualise reading in English for the BPCH community participants. They relate the way participants interact with texts in English as artefacts and the physical circumstances in which the academic literacy takes place. On the other hand, because participants mainly took the photographs, this tool provides insight into the interpretative stance they assign to the activity. Then, the participants' selection of photographs reflects part of the ideology towards the use of English, their positionings as academic readers, and how they identify themselves into the academic group.

The methodological planning to collect visual data was the following. From the beginning of the project, it was clarified that participants would be anonymised and signed the informed consent in those terms. For photographs, it was underlined that all faces and any element that could hint ownership would be blurred out to secure confidentiality. To collect photographs taken by participants, they were asked to take pictures of the ongoing individual or collective occurrences when reading in English and situations that represented a significant vocational training part. Also, they were asked to accompany photographs with short descriptions or captions to frame what they showed.

The number and usefulness of photographs provided by participants fluctuated. The photographs that were eventually included in the thesis respond to the fact that they provided a sense of being there (*see* Appendix G). Under the premise that the use of photographs requires triangulation, data were coded in the same way as the other research tools employed.

4.12 Summary

This chapter presented the research design conducted to explore an academic literacy that involves reading in English outside mainstream criteria. Because this practice does not adhere to conventional REAP assumptions as commonly developed by applied linguistics and the autonomous models of literacy, it was necessary to draw upon other approaches that move away from English command parameters and reading instruction. In this sense, the contribution of the ideological model of literacy and NLS allowed exploring the three key components of literacy inductively. First, the most significant events in which this academic literacy takes place. Second, the literacy practices that base the way the activity is ideologically framed. Finally, the way participants adapt literacy and thus how it is developed to meet the particular needs of using specialised information from BPCH texts in English.

This chapter presents the characteristics of the setting, the procedure of recruiting participants, the research questions and sub-questions, and the most important changes to the research in the course of its conduction. The information serves to establish the methodological selection favouring a better understanding of this academic literacy as a social and situated practice. Therefore, a longitudinal multiple case study with an ethnographic approach is the methodological design that comprehensively observes the social phenomenon.

Following Gee that “the focus of literacy studies or applied linguistics should not be language or literacy, but the social practices” (2008, p. 5), this case study focuses on understanding how

participants adapt REAP to meet their training needs. For this purpose, literacy events and practices in which participants incorporate reading in English as part of their training were central. Therefore, the methodological selection enabled encompassing data from diverse nature, giving sense to a vernacular academic literacy.

The systematisation of the information enables analysing three key points of this social and situated practice:

1. Literacy is a dynamic process that requires a longitudinal examination to identify intricacies from a complex activity and possible changes. Besides observing it throughout time, it requires to involve diverse experiences related to reading in English within a single participant and among different community members. Therefore, various research tools and the iterative observation provide a widen picture of what reading in English means for participants.

2. Besides exploring reading experiences, it is necessary to shape the ideology that sustains the way participants understand themselves as academic readers in English and this academic literacy into their social group. In this sense, the most significant retrievals can be triangulated with the perspective of purposeful informants. Instead of a neutral and steady activity, it is the different ways of understanding and experiencing literacy that truly explains social phenomena.

3. By observing literacy in situ, it is feasible to contextualise the elements that build literacy. The relationship between acquiring information in English and using it gives the real sense of this academic literacy.

In the next section, I explain the process I followed to analyse the different academic literacy components.

Chapter 5 Analysis of data

5.1 Introduction

This chapter aims to expound on the rationale I followed in "the process of making sense out of the data" (Merriam, 2001, p. 175-176). To this end, I provide an account of the way the information was organised and interpreted to construe evidence. The explanation is divided into three areas. First, I explain the mechanics I followed when dealing with qualitative data such as how I made the transition from evidence initially developed in Spanish to discuss it in English and the way I dealt with retrievals in digital formats. Second, I present the different coding cycles in which data was examined. Using retrieved excerpts of data, I exemplify how, derived from an inductive and verbatim coding, I gradually shaped the core components that explain a variant of REAP. Third, I analyse the information from two different and complementary perspectives: by research instruments and by cases.

The objective of discussing data by research instruments and by cases derives from the idea that by locally analysing the different forms of approaching to the practice, it is easier to contextualise this academic literacy. The analysis of how participants performed and conceptualised reading in English through separate instruments captures its complexity. Like any other social phenomenon, it is experienced differently depending on many variables that cannot be observed from one angle alone. Besides, by focusing the analysis on the individual components of the academic literacy in relation to the cases' biographies, it is possible to move away from general notions. This analysis allows us to comprehend the practice based on personal experiences. In this way, exemplary cases make known, first-hand, how a supposedly neutral and standard activity is experienced in many ways.

In this thesis, the inductive approach to investigate how participants acquired the information from BPCH texts in English was a fact that, as previously mentioned, led me to theoretical and methodological turnarounds. Although, in theory, I was aware of the importance of the recursive proceedings for qualitative research, empirical observations compelled me to disassociate the understanding from conventional REAP assumptions. Therefore, the analysis of the different coding cycles elucidates and clarifies how, in practice, what I observed guided me to ascribe the exploration of the academic literacy to the paradigm of the ideological model.

5.2 Encounters with data

The collection of data followed two parallel tracks. In the first stage, I concentrated on individual observation to participants. Because they had to consult texts in English for their vocational training as soon as the observation began, the first tool that was employed was the think aloud. In doing so, I interspersed with individual semi-structured interviews. In the second half of the observation, once participants had developed familiarity with giving accounts about their reading practices and being interviewed, I conducted the stimulated recalls. In addition, I asked participants to photograph what they considered represented their literacy experiences regarding REAP.

After building rapport with participants and identifying the main characteristics of the BPCH community and the academic literacy, I realised that incorporating the voices of some other purposeful members would enrich the understanding of the practice. For this purpose, I contacted additional informants one at a time. Their complementary perspectives helped me focus on key social and situated components of the academic literacy participants referred to. This second track of observation ended with a group semi-structured interview where all participants and some informants joined to share viewpoints for a consensual exploration of the practice.

5.3 Use of languages

Participants in this research were Spanish-speakers primarily; thus, elicitation and retrieval were in this language; however, the analysis of data and discussion of findings were in English. To facilitate data management and interpretation, the use of both languages was the following: because the evidence was in the format of video recordings, the first coding cycle was done in Spanish without an associated transcript. Afterwards, axial and selective coding cycles were developed in English for their discussion.

Following Richards, when working with different languages, translation procedures must be adapted to what “best serve the needs” (2003, p. 199). Therefore, in this research, translation of evidence into English was exclusively done from those excerpts that show, in a particular way, the essential elements of the academic literacy. Most quotations are presented in Spanish and immediately accompanied by their respective English translation.

5.4 Data organisation for analysis

As explained in the previous chapter, ten participants engaged in around 12 hours of video recordings each and informants in about 45 minutes of video recording each. Due to a large amount of data, it was of great support to use software to store and organise multimedia files and analyse them qualitatively (Merriam, 2001; Saldaña, 2009). To do so, two types of digital resources were employed: one to record videos of the sessions with participants and informants, and another to code and represent data. Although getting familiar with these computational resources was a defiant personal challenge that required considerable time, its employment was entirely worthwhile.

To record from a laptop, I-Movie was used; this is a video editing software programme specially designed to enhance stability, colour and sound and import video footage in different formats. All rounds from interviews, think alouds, and stimulated recalls were classified into a file naming system to ease tracking. Each file was saved separately and sequentially, referring to the participant's name, the research tool, the session number and the conduction date (i.e., Andrea_Think aloud_1_18_02_16). As soon as a separate round was stored, it was converted to a .mp4 file.

Gradually, separate files from I-Movie were imported to a single file in NVivo (version 12), in which still photographs were incorporated. Besides the possibility of managing a sizeable amount of information, the decision of using the software was due to other sounder reasons:

1. It would be possible to code video recordings without the need for direct transcripts.
2. Visual data could be coded in the same way as audio and written formats.
3. Information from memos could be linked to codes or categories as they operate similar to research journal entries.
4. Queries could be run either per research tool, per individual or collective cases, categories and themes, as well as in cross-sectional and longitudinal forms.

Although no computational tool supersedes the analytical process of relating, reflecting and giving sense to data by the researcher, the visual representation from codes, nodes, and categories provides a more direct and attainable organisation. In a collective and longitudinal case study like this, the software provided the necessary support to triangulate data from more than 120 hours of video recording. For this reason, it is a fact that computing resources impacted the analysis.

5.5 Development of codes

The qualitative analysis followed different stages. As an initial step, a quick look was given at each recorded session to have a general overview and reflect on the raw data before starting to code. This first approach to data presented the opportunity to identify some critical areas that further coding cycles would chart the analysis course. In the words of Jorgensen, this subsequent process is about:

> [B]reaking up, or disassembling of research materials into pieces, parts, elements, or units. With facts broken down into manageable pieces, the researcher sorts and sifts them, searching for types, classes, sequences, processes, patterns or wholes. The aim of this process is to assemble or reconstruct the data in a meaningful or comprehensive fashion (1989, p. 107).

While influential specialists on qualitative research sustain that there is no best way for analysis (Saldaña, 2009; Richards and Morse, 2012), they emphatically concur in elaborating a careful analysis of data to achieve validity and reliability in the study. By this token, codes are considered as base units for the interpretative act. They are words or short phrases that synthesise attributes to a passage of data. These basic units of analysis are afterwards decoded through consecutive cycles that eventually define relations, categories and themes and thus the grounding for a comprehensive understanding.

Codes evolve from “the interplay between researchers and data” (Strauss and Corbin, 1988, p. 13). At certain times, data lead coding from the participants’ words or actions, so analysis follows an inductive approach. Other times, the assignment of codes relies upon the researcher’s deciphering perspective; then, the analysis keeps deductive reasoning. According to Gibbs, these two contrasting logics may work in complementary construction since induction is based on “the accumulation of lots of particular but similar circumstances … and deductive explanation in that a particular situation is explained from a general statement” (2007, pp. 4-5).

When compromising approaches to data are maintained, the coding process is defined as abductive. The primary assumption of this dual approach is that inductive coding does not follow a clear-cut input, and deductive patterns influence interpretation even to a simple degree by the researcher’ positioning and vice versa. In this vein, Dey reckons that “we cannot analyse the data without ideas, but our ideas must be shaped and tested by the data we are analysing” (2005, p. 3).

5.6 The grounded theory and the research

In qualitative research, data analysis is a recursive process of making meaning (Merriam, 2001; Creswell, 2007). According to Silver and Lewis, collection, coding and analysis of data is a concurrent 'craft' of "comparisons to interrogate patterns and relations further refined allowing the possibility of generality or the production of formal theory" (2014, p. 28). Thereupon, this thesis attaches to the 'constant comparison method' developed by Glaser and Strauss (1967), founders of the grounded theory.

Reasons for ascribing the research to the grounded theory are threefold:

1. The investigated academic literacy has not been properly analysed since most research derives from claims of the autonomous models of literacy and REAP as mainly developed in applied linguistics. Therefore, it is situated prevailingly into an English class and through formal reading instruction. Two components this academic literacy does not affiliate to.

2. The case study is carried out in situ; hence, direct observation and participants' retrievals favour generating hypotheses on the particulars of the literacy.

3. The evidence is collected from diverse resources and perspectives, so triangulation of data includes literacy events and practices that shape the academic literacy from the different perspectives of those directly involved.

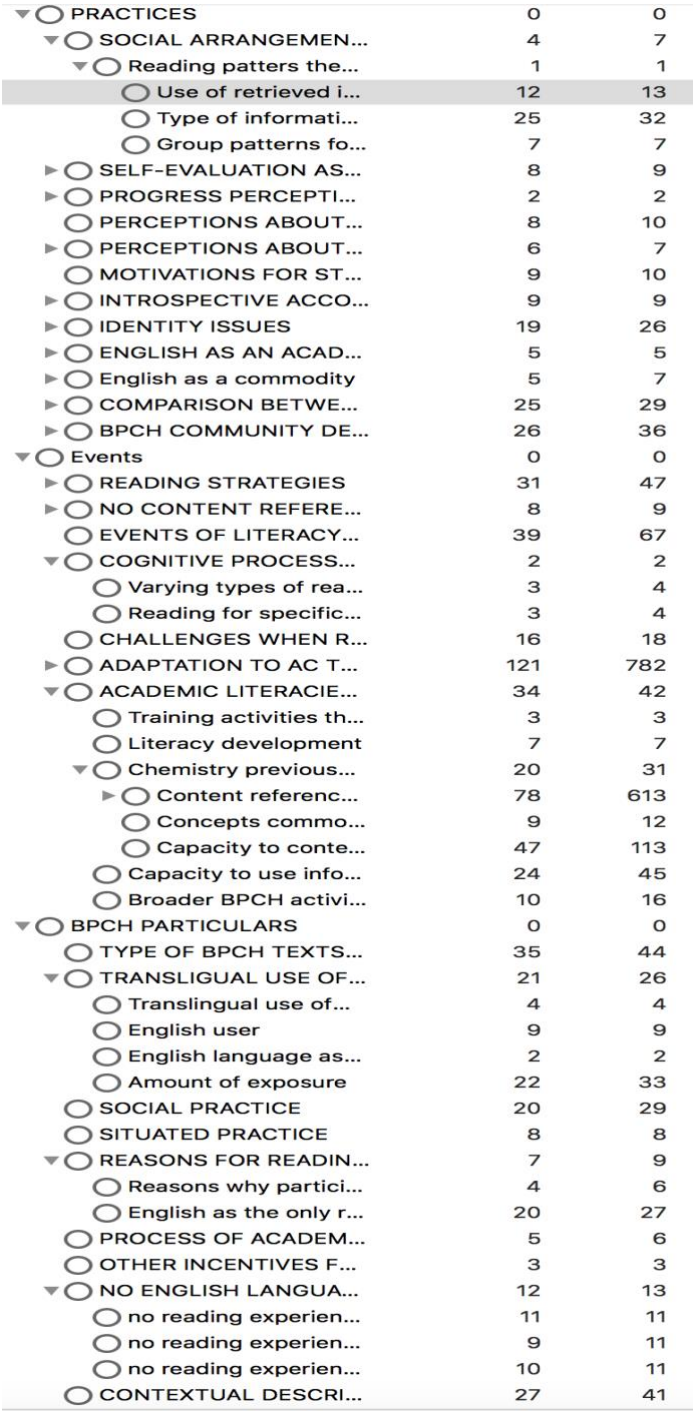
Analysis of data using the principle of the 'constant comparative method' of the grounded theory (Glaser and Strauss, 1967) let the present research construe evidence and concepts through different angles and cycles. In the following subsections, the open, axial and selective cycles of coding that were followed are discussed, as well as how the corresponding codes and categories were construed, and some examples taken from the evidence are provided. This presentation gives an account of the way data was analysed to sustain that the variant in which participants develop REAP is better understood as a social and situated practice.

5.6.1 The open coding

During the initial cycle of data analysis, the researcher identifies keywords or phrases from the informants' retrieval to fill in empty codes. This process consists of assigning a label from the participants' literal words (Saldaña, 2009). The inductive cycle gets input from the participants' concrete experiences, which generate many codes. Due to its verbatim nature, the opening coding is not considered part of the analysis itself. However, it creates the basis for further

interpreting cycles. In this thesis, from the open coding emerged 63 codes. They came from interviews, think alouds, stimulated recalls and photographs. The catalogue below shows the open codes and their occurrence:

Figure 5- 1 Catalogue of open codes and occurrence



PRACTICES	0	0
SOCIAL ARRANGEMEN...	4	7
Reading patters the...	1	1
Use of retrieved i...	12	13
Type of informati...	25	32
Group patterns fo...	7	7
SELF-EVALUATION AS...	8	9
PROGRESS PERCEPTI...	2	2
PERCEPTIONS ABOUT...	8	10
PERCEPTIONS ABOUT...	6	7
MOTIVATIONS FOR ST...	9	10
INTROSPECTIVE ACCO...	9	9
IDENTITY ISSUES	19	26
ENGLISH AS AN ACAD...	5	5
English as a commodity	5	7
COMPARISON BETWE...	25	29
BPCH COMMUNITY DE...	26	36
Events	0	0
READING STRATEGIES	31	47
NO CONTENT REFERE...	8	9
EVENTS OF LITERACY...	39	67
COGNITIVE PROCESS...	2	2
Varying types of rea...	3	4
Reading for specific...	3	4
CHALLENGES WHEN R...	16	18
ADAPTATION TO AC T...	121	782
ACADEMIC LITERACIE...	34	42
Training activities th...	3	3
Literacy development	7	7
Chemistry previous...	20	31
Content referenc...	78	613
Concepts commo...	9	12
Capacity to conte...	47	113
Capacity to use info...	24	45
Broader BPCH activi...	10	16
BPCH PARTICULARS	0	0
TYPE OF BPCH TEXTS...	35	44
TRANSLIGUAL USE OF...	21	26
Translingual use of...	4	4
English user	9	9
English language as...	2	2
Amount of exposure	22	33
SOCIAL PRACTICE	20	29
SITUATED PRACTICE	8	8
REASONS FOR READIN...	7	9
Reasons why partici...	4	6
English as the only r...	20	27
PROCESS OF ACADEM...	5	6
OTHER INCENTIVES F...	3	3
NO ENGLISH LANGUA...	12	13
no reading experien...	11	11
no reading experien...	9	11
no reading experien...	10	11
CONTEXTUAL DESCRI...	27	41

The following example is the formulation of an open code taken from the first interview to Montserrat, a participant. In this segment, she describes the amount and frequency of reading in English in her daily BPCH training. By bringing her words back, the label of the code is “All topics are in English”:

> Investigadora: ¿Lees frecuentemente en inglés?
> Montserrat: Sí, demasiado. De por sí en todos los trimestres tenemos que leer mucho… mucho en inglés... pero en este trimestre *todos los temas están en inglés*… Con suerte encuentras un texto en español (Monserrat, participante, entrevista, 4).

> Researcher: Do you read in English frequently?
> Montserrat: Yes, too much. In fact, in all quarters we have to read a lot… too much in English… but in this quarter *all topics are in English*. If lucky, you find a text in Spanish (Monserrat, participant, interview, 4).

5.6.2 The axial coding

Axial coding is the process of sifting, condensing or grouping codes into categories and subcategories to construct linkages in data as a way "to give coherence to emerging analysis" (Charmaz, 2006, p. 60). Consequently, it represents a more abstract process than the initial cycle. In contrast to verbatim coding, it requires reflecting on data to find out answers about "when, where, why, who, how, and with what consequences" (Strauss and Corbin, 1988, p. 125). This categorising cycle is about revisiting the open coding to pose the basis for the identification of similarities, differences, and patterns found in the investigated social phenomenon. In this way, the axial coding involves a deductive approach that challenges the researcher to make an active contribution. Besides the retrieval of words, events and actions, it requires the interpretation of abstract concepts such as feelings, consequences, silences, half measures or ambiguities (Strauss and Corbin, 1988).

To facilitate axial coding, the use of qualitative software offers the possibility of organising codes into categories and subcategories under the simile of sibling relationships: 'parent nodes' and 'child nodes'. This realignment enables to recode, filter or highlight components that document the generation of themes. Although axial coding stems from data, Haller and Kleine clarify that "patterns do not 'emerge'. They are pulled, manipulated, modified, and merged, but they do not emerge magically from the data" (2001, p. 201). At this stage of the data analysis, Merriam (2001) and Saldaña (2009) agree that axial coding is a critical time to re-examine if evidence harmonises with the conceptual framework of the study and the research questions previously posed. Accordingly, just as codes evolve, the objective and theoretical positioning may be realigned.

For this research, from the 63 open codes generated in the previous cycle, some recurrent elements allowed the data to be organised into nodes, which most of them eventually became axial codes. The criterion for the selection of the axial codes was that they covered evidence from most of the research tools. It means that associated codes (child codes) stem from what participants and informants had retrieved in different situations and at different times. The employed qualitative software generated a codebook to facilitate this objective. As shown in

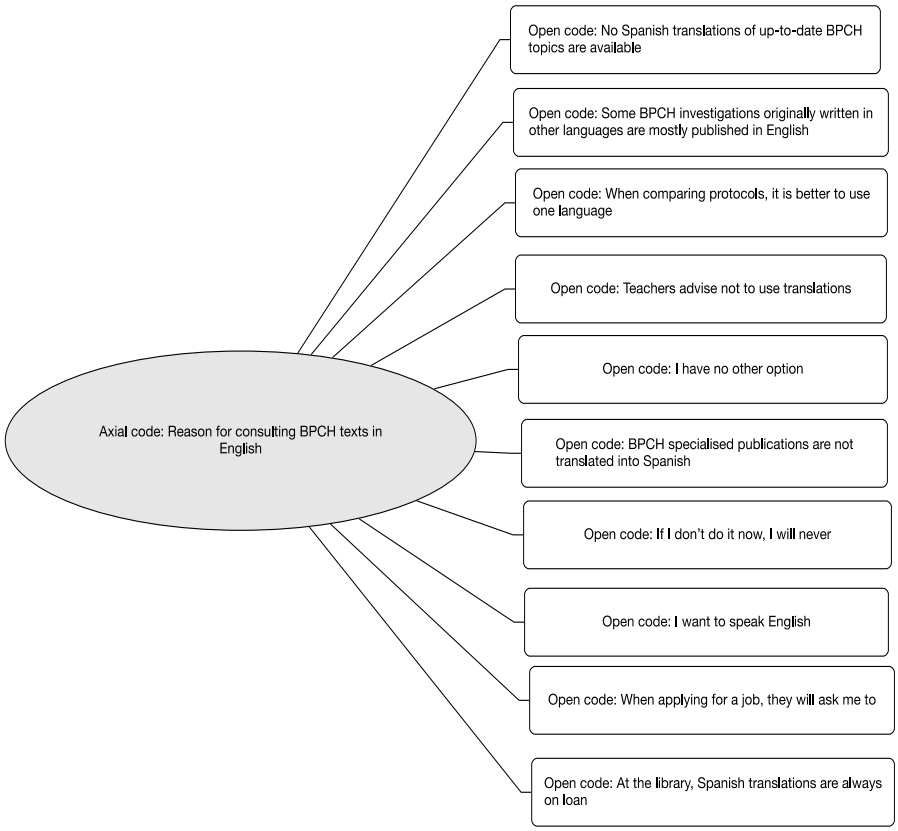
Table 5-1, the codebook categorises each axial code with its most recurrent sub-categories as well as the number of files in which each code appears and its recurrence.

Table 5 - 1 Codebook of axial codes

Categories and subcategories	Files	Referen
1. Academic literacies involved	34	42
Translingual use of English and Spanish	62	81
Use of digital devices for translation	58	76
2. Broader BPCH activities that involve reading in English	10	16
Use of information acquired from texts in English	18	37
3. Reasons that explain the use of academic texts in English	32	44
Type of BPCH texts in English the community consults	19	21
4. Identity issues	25	33
Negotiating positions in the group	21	46
Power relations among members of the community	5	6
5. Social arrangements to acquire and information in English	21	33
Group patterns for reading academic texts in English	37	63
6. Contextual description of literacy episodes	21	52
7. Adaptation to academic reading through time and experiences	47	63
Familiarisation to BPCH academic texts	61	87
8. Conceptualisation of academic reading in English as part of the training	12	12
Perceptions and expectations on academic reading in English	45	67
English as an academic challenge	27	39
Value to reading in English	10	19
Social value of reading in English	9	16
9. Comparison of the reading process in English and Spanish	19	21
10. Self-evaluation as academic readers in English	72	178
Opinions, perceptions, values and feelings after reading an academic text in English	82	137
Experiences after reading an academic text in English	24	76

To exemplify the integrative component of the second coding cycle, Figure 5-3 presents the axial code number three from the codebook. It comprises the most recurrent open codes related to the category of 'Reasons for consulting academic texts in English".

Figure 5- 2 Example of the integrative component of an axial code



As can be noted, open codes refer to different issues. Some of these codes are primarily of a practical order, such as consulting text only available in English or facilitating the comparison of data from BPCH protocols in a single language. This type of codes could be easily identified and thus were not subject to interpretation. However, other open codes were more complex in nature as they refer to individual and group expectations or beliefs. For example: 'When applying for a job, they will ask me to' or 'I want to speak English'. These open codes certainly referred to the same category, but require a further explanation. Their meaning reflects part of the ideology that accompanies the practice. In this sense, participants felt that using English was necessary not only to acquire the information. Reasons to consult texts in English also had a social value since this ability was associated with the possibility of having a better job situation in the future. Regarding the presentation of this axial code, it is worth clarifying that open codes were originally developed in Spanish. The open codes presented below were translated into English to provide an example.

However, to facilitate the discussion of the axial codes, they were developed in English since the beginning of this coding cycle analysis.

Another strategic element of axial coding was that evidence to analyse data could be revisited for a more research-oriented perspective. In this sense, it was realised that some codes were more useful to contextualise the participants' profile and background than the academic literacy itself. Therefore, some codes were realigned into attributes. That is to say, some codes were disengaged from axial codes and became pieces of information to portray participants, informants and the BPCH community environment.

5.6.3 The selective coding

In 'grounded theory', the third stage of coding enables elaborating on those core themes, concepts or relations derived from the axial coding to "relate to each other as hypotheses to be integrated into a theory" (Glaser, 1978, p. 72). This substantiation explains why specialists on the grounded theory assign to this cycle of coding an explanatory status. Therefore, the purpose of selective coding is to integrate data with theory. The condensing function of this cycle can be appraised by observing that while Glaser (1978) terms it as 'selective', Richards (2003) as 'core' and Charmaz (2006) as 'theoretical'.

Due to the abductive character of selective coding, Charmaz (2006) warns us about the risk of forcing data to assign intentions informants may not have held. Although selective codes "lend an aura of objectivity to an analysis" (Charmaz, 2006, p. 66), it is profitable to consider levels of uncertainty instead of imposing a framework. This explains why qualitative analysis of any social phenomenon implies a range of subjectivity that the researcher needs to cope with. Consequently, to a large extent, the complexity of the methodological and theoretical development of selective coding reflects the richness of qualitative analysis.

Following Saldaña (2009), to build the selective coding, those axial codes that explained meaningful elements of the academic literacy the BPCH community develops were identified. Some of the axial codes maintained a close link and hence could be aggregated. As a cluster of axial codes, they complemented each other and comprise a more general theme. To illustrate one of the first steps of selective coding, the following figure 5-4 shows how four axial codes explain in detail the way participants commonly acquired the required information in English for their vocational activities:

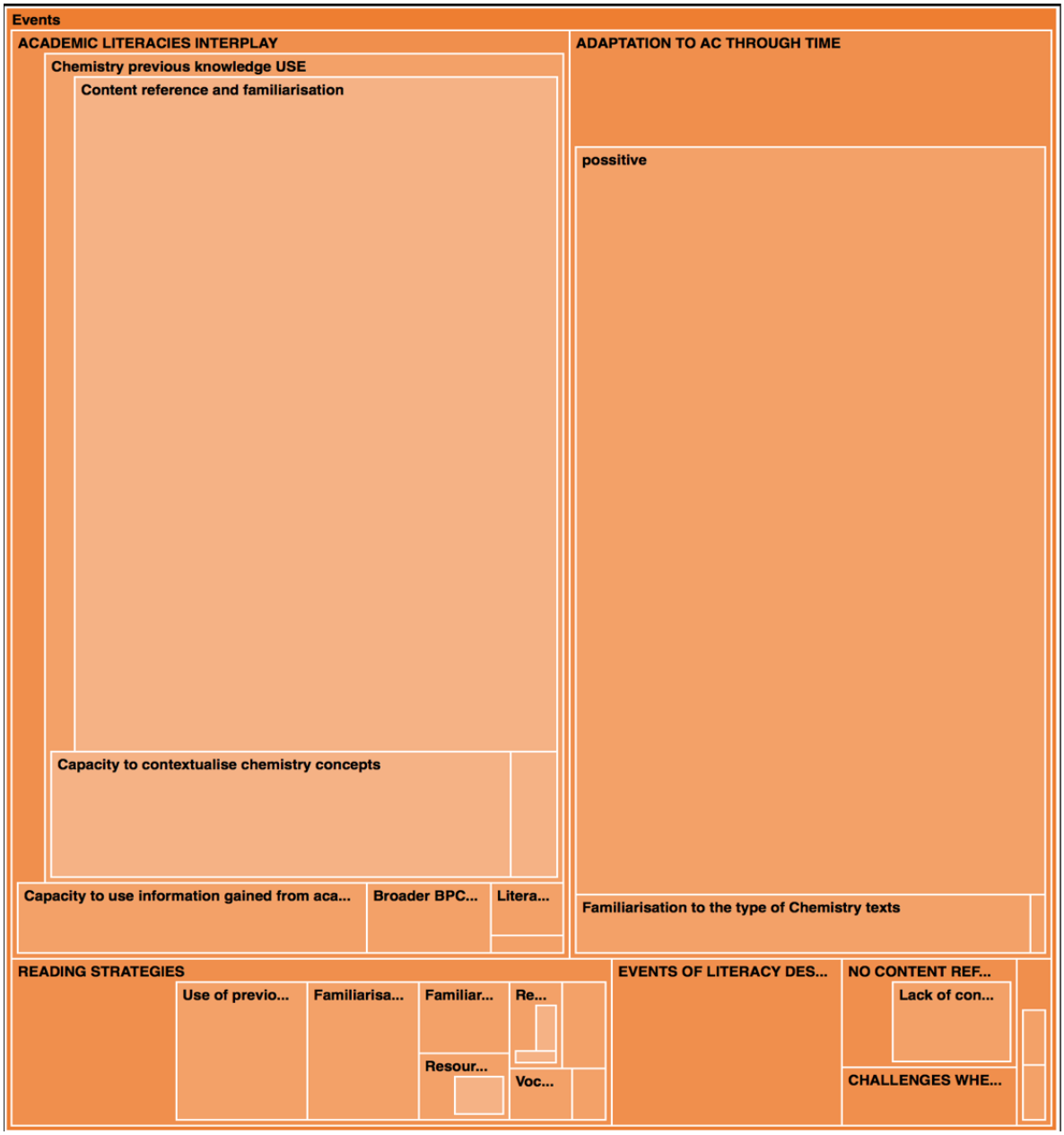
Figure 5- 3 A cluster of four axial codes to form a selective code

After regrouping the axial codes and taking advantage of the contribution of the ideological model of literacy and NLS (*see* 3.2 and 3.3), it became entirely sensible to organise codes in two key areas. On the one hand, codes related to observable elements regarding how participants carried out REAP. In this way, the combination of these codes contextualised the academic literacy as a situated practice. On the other hand, codes connected with the ideology explained how participants and informants understood the use of English and the academic literacy. That is to say, as evidence was rearranged, the rationale of the ideological model of literacy provided the proper support to understand an academic literacy that includes a variant of REAP away from normative criteria.

Regarding the axial codes that informed how participants adapted literacy to access information in English, they could be regrouped once again and be considered events as the ideological model of literacy calls the observable literacy components (*see* 3.3.1 and 3.3.1.1). Therefore, the selective code 'events' gives an account of the particulars that explain the academic literacy the BPCH community develops as a social and situated practice. As shown in Figure 5-5, axial codes that shape this selective code are about the interplay of academic literacies, such as chemistry knowledge, the capacity to relate new information and the gradual familiarisation with the commonly consulted texts and specialised and technical terms. Besides, this category included the

social patterns the BPCH community members followed, such as how students organised themselves to acquire and use information in English.

Figure 5- 4 Events: hierarchical organisation



The second core category comprises the axial codes concerned with personal insights and feelings that shape the ideology with which participants and informants synthesise their understanding of the academic literacy. In the ideological model of literacy, these components are called practices (*see* 3.3.1 and 3.3.1.2). Unlike literacy events, they refer to the individual or even contrasting viewpoints to explain the complexity of the social phenomenon. From data, literacy practices include the way participants and informants explained how they made use of English, conceived themselves as English users and interacted socially to come up with the need of using the

information in English in the BPCH training. Figure 5-6 shows that in contrast to literacy events (*see* figure 5-5), axial codes comprised a wider variety of perspectives in each sub-category.

Figure 5- 5 Practices: hierarchical organisation

In this thesis, the selective coding led to determining the elements that best characterise this type of academic literacy that involves REAP by no language learners and through self-agency procedures. Consequently, the selective coding served to find the most important relations between what data showed and the critical assertions of the ideological model of literacy and NLS

that sustain that literacy is not a neutral and transferable activity. The selective coding also confirmed the adequacy of the chosen methodology because if normative criteria had led the analysis, the participants' ability to adapt literacy would have been unnoticed and conclusions entirely predictable.

5.7 What research tools revealed

This section presents the findings of the conducted research tools. Because the information provided by the different instruments has particular characteristics based on its nature and intended purpose, the separate analysis of what think alouds, stimulated recalls, interviews and photographs gave distinctive explanations of a vernacular form of developing academic literacy in English. Consequently, this way of discussing findings endorsed recognising the particularities of a variant of REAP that a global overview of the data could not explain.

By presenting data per instruments, a valuable asset arose. It was possible to show that literacy is not a single phenomenon as most autonomous models suggest. There is a diversity of forms of experiencing communication through the written that do not respond to standard and neutral parameters. In this way, data from the different research tools showed how the academic literacy was carried out and conceptualised differently not only among members of the BPCH community but in a single participant under particular circumstances and at several points in time.

5.7.1 Think alouds: disclosing experiences on reading in English individually

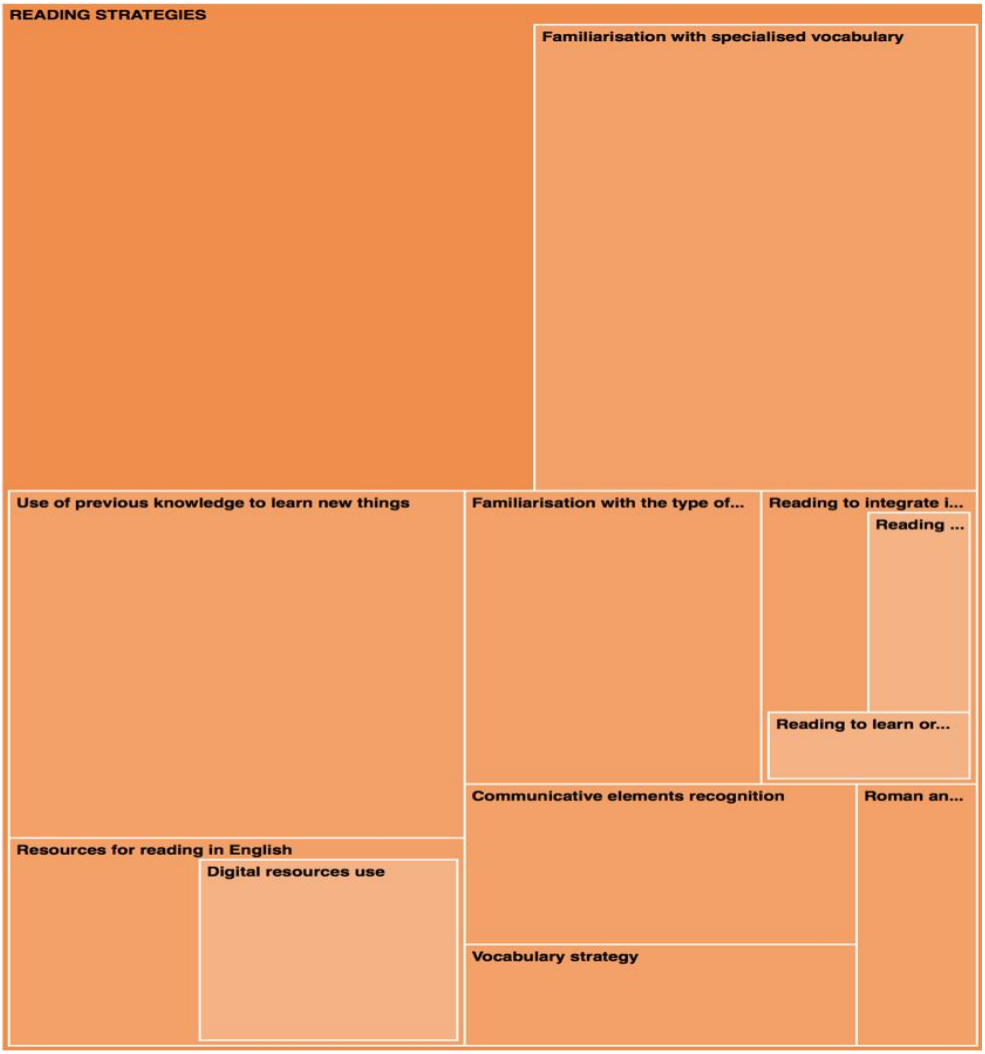
As mentioned in the methodology section (4.11.2), the think-aloud protocols pursued to get concurrent verbal reports when REAP. The observation focused on exploring reading patterns, behaviours and emotions while participants acquired information in English as part of the BPCH activities. Unlike stimulated recalls or interviews that get retrospective accounts, think alouds provided, to the possible extent, unmediated reports of what participants were thinking and feeling at the time of having concrete literacy experiences.

Despite the reservations about getting to know the actual occurrences in the participants' minds, some compelling reasons made that data obtained from this instrument were meaningful. Because the academic literacy this thesis explores has been insufficiently socialised and negatively affected by normative criteria, disclosures revealed some issues participants did not mention through the rest of the conducted instruments. The reason is that these literacy elements were somewhat uncharted for participants. For example, most of the time, participants focused on what they could not do or represented a serious challenge for them when using English. However,

as shown in Figure 5-7, data from think alouds served to identify those strategies that participants had developed even if they did not recognise them to fulfil their information needs.

From the hierarchical code representation, it was possible to recognise those categories that more clearly explained how participants acquired the information in English. These literacy elements revealed that participants had grown familiar with the type of specialised texts they commonly consulted at the time of the observation. Thus, participants knew with certainty where to look for information in specialised journals. Some scientific and technical jargon was fairly known for them. Besides, participants knew how to obtain support from BPCH websites to solve content and language doubts. Besides, other important data from think alouds were that participants were well aware of the impact of relating their previous BPCH knowledge to understand new information. This critical strategy made them pay more attention to the way they read in Spanish. Considering these findings, the following four specific components of the academic literacy were drawn.

Figure 5- 6 Literacy components coded in think alouds



5.7.1.1 From overarching concepts to distinctive features

The first contribution of think alouds was that they showed, first hand, the specific purposes of reading in English, how participants dealt with this need and the particular uses of the information in well-bounded BPCH activities. Although these issues were covered through direct questions in interviews, by following up authentic experiences on literacy, it was possible to go beyond broad-based concepts. With think alouds, it was clearer that participants developed a literacy of academic nature, but its distinctive characteristics could not be equated with some overarching notions commonly developed in REAP.

At the time of the observation, participants showed expertise with the type of BPCH texts they consulted regularly. In think alouds, they understood with relative ease tabular data, structural formulas and pharmacopoeia specifications. Indeed, they showed to be capable of comprehending efficiently certain specialised information such as synonyms, non-proprietary names depending on the origin of the consulted information, abbreviated working ranges, among others. Recognition of these elements was an important part of the academic literacies that participants had developed, which implied specialised knowledge, experience and expertise. Nevertheless, this capacity to get meaning from specialised academic texts was circumscribed to the texts and topics participants commonly consulted in their training. That is to say, they got meaning a reader with no BPCH training would hardly obtain but it did not mean they could deal with equivalent texts from other fields of study or when learning new things from which they lacked referents.

The activities involved to acquire and use information did not correspond to those commonly related to REAP. Learning activities were not graded nor guided. Their cognitive demand responded to different circumstances. For example, how participants felt physically or emotionally, the previous knowledge they had on topics, the type of personal responsibility in the task or even on the own features of the texts. The way participants performed responded to several variables that impacted how they experienced literacy in English. Therefore, reading in English was not an incremental skill. Instead, it was an activity that showed ups and downs, which explanations many times are not considered when analysing reading as an isolated process. In this regard, Sebastián, a participant, said in a think-aloud session:

> Mis ojos hacen como que estoy leyendo, pero la verdad estoy en otra cosa. Ya ni me acuerdo cuando empecé a pensar en otra cosa. Esto no me pasa siempre, pero tengo muchísima tarea y estoy muy cansado. Hoy no es mi día. Necesito leer este texto, pero ahorita no doy para eso. Perdón, pero ¿lo podemos hacer otro día? (Sebastián, participante, pensamiento en voz alta, 3).
>
> My eyes pretend I'm reading, but I'm in another thing. I don't even remember when I began thinking of something else. It doesn't happen to me always, but I've got lots of homework and

> I'm exhausted. Today is not my day. I need to read this text, but now I can't do it any further. Sorry, but can we leave it for another day? (Sebastián, participant, think aloud, 3).

Even though some distinctive features of the academic literacy were not gathered directly from the participants' retrievals, it was possible to identify them from the contextual components in which think alouds were carried out. Thus, the specificity of the information was a rich source to discover some elements participants had not reported. From the 76 think-aloud rounds, the following table compiles the contextual characteristics of the academic literacy from the observation of the researcher:

Table 5 - 2 General outline of the academic literacy obtained in think alouds

SPECIFIC PURPOSES OF READING	To get directions about the use of chemical compounds to prepare formulations at the laboratory. To consult protocol developments as part of the contents of the BPCH course.
REASONS FOR CONSULTING TEXTS IN ENGLISH	The information in the texts was precise. Participants read those texts because they had not found the required information in Spanish. Most of the time, they knew what they were looking for due to their background knowledge on the topic.
CHARACTERISTICS OF THE CONSULTED TEXTS	Five to twelve-page expository texts of pharmacology handbooks and 15 to 20-page BPCH protocol developments.
HOW THEY ACQUIRED THE INFORMATION	Participants used to get a general idea of the texts' structure by sampling easy to recognise parts and identifying some of the predictable information they required. Texts were similar in structure and format; so, participants had expertise in reading these types of specialised reading materials.
	Participants focused on specific information. They clarified meaning in detail to comprehend particular applications in formulations or technology, pharmacopoeia specifications, typical properties and incompatibilities and handling procedures.
	Participants gathered data from different texts about a single topic. They made decisions to reorganise and synthesise the information to use in further training activities.
LITERACIES INVOLVED	Participants used BPCH previous knowledge; they related the teachers' instruction as long as they got meaning from the texts; they clarified comprehension when facing problems with classmates before reporting to the group; they distinguished when to use digital apps.
RESOURCES PARTICIPANTS USED	Google translator to look up unfamiliar words, contextualise phrases or translate parts of the text participants did not understand. When the translator did not help, they highlighted the information they considered important to avoid reporting inaccurately. Not during think alouds,

	but participants reported they would consult BPCH forums or social media specially used for community support.
BPCH ACTIVITIES WHERE INFORMATION WOULD BE USED	While reading in English, participants took notes in Spanish of the key data they would need to work with chemical compounds at the lab or to prepare group presentations or written reports.

5.7.1.2 Disregarded but useful resources to overcome language shortages

Think alouds gave another rich source of insight about what participants did without being expressed. In interviews and stimulated recalls, most participants used to make constant references to their struggles dealing with English. In repeated times, participants rated themselves as poor readers and linked shortcomings straightforwardly with the lack of English. So, participants were prone to connect reading in English with unrewarding experiences in their academic life rather than with those of fulfilment or satisfaction. Nevertheless, in think alouds, it was possible to identify that they comprehended specialised BPCH information a layperson in the field would not do irrespectively of the language knowledge. Thus, participants were not fully aware of how they optimised the resources they had.

From think alouds, it became clearer that participants drew upon some supportive resources to acquire information. For example, in scientific and technical texts in English, a considerable number of keywords derive from Greek and Latin, which are cognates in Spanish. Although the participants' vocabulary in English was supposed to be limited, they recognised fluently such words to relate them with previous knowledge. Then, they could often contextualise information. Besides, since participants were attending the third of the four-year programme, they were already familiar with many BPCH terms and concepts in English (not necessarily transparent in Spanish), which gave them support when reading BPCH topics.

To illustrate this non-recognised strength, in one of the first think alouds, nine participants brought a text they had to consult to get information about an antimicrobial preservative they would use in the laboratory to prepare medications. Seven participants read the text without stopping and showed no concern about comprehension difficulties. The following excerpt of the text used in the protocol shows the cognate words in Spanish (shaded) and the BPCH terms that though no cognates or common, participants seemed to read smoothly (underlined).

> Bronopol is active against both Gram-positive and Gram-negative bacteria including *Pseudomonas aeruginosa*, with typical minimum inhibitory concentrations (MICs) between 10-50 µg/mL; [1-8] *see also* Table II. At room temperature, a 0.08% w/v aqueous solution may reduce the viability of culture collection strains of *Escherichia coli* and *Pseudomonas aeruginosa* by 100-fold or more in 15 minutes. Antimicrobial activity is not

> markedly influenced by pH in the range 5.0-8.0, nor by common anionic and nonionic surfactants, lecithin, or proteins. [2,5,6] Bronopol is less active against yeasts and molds, with typical MICs of 50-400 µg/mL or more, and has little or no useful activity against bacterial spores. *See also* Section 12. (Excerpt taken from Rowe, Sheskey and Quinn (2009).

While reading, participants took notes in Spanish to focus on specific information: for example, the properties of an excipient, the adequacy for a formula they would prepare, its correct use, storing and managing conditions, among others. Texts were around five to twelve pages long with a similar prevalence of cognates and recurring BPCH terms (for a sample of the texts used in think alouds similar to the one used in the previous excerpt, *see* Appendix D). As a researcher, I did not notice any gesture that implied that participants were not getting meaning, nor they voiced any concern that suggested a drawback for comprehension. On the contrary, all participants who read that text reported to be getting meaning with no problem.

If the academic literacy analysis had not considered data from think alouds, findings would have suggested that participants experienced reading in English mostly like an unaffordable endeavour. Although not openly expressed in the participants' words, it was possible to observe they developed this type of literacy due to continuous exposure to BPCH texts routinely consulted and the direct use of the information. Undeniably, participants indicated undergoing challenges to get meaning. Nonetheless, the previous knowledge of the field, the incidence of cognate words in academic texts, the familiarity with specialised expository texts and technical information, and the teamwork to acquire information helped participants meet their literacy demands very frequently.

5.7.1.3 Unmentioned reading strategies but done

The third contribution was that because think alouds were the lesser geared, it was possible to indirectly identify the mechanics of two critical characteristics of the academic literacy. Firstly, many times, participants smoothly carried out text and reader-driven processes to acquire precise information while reading in English. Participants showed they had developed strategies that implied many hours of practice. They did not use to read word for word nor from top to bottom, as might be expected from an unfamiliar reader dealing with specialised scientific information. They skipped parts of the texts and focused their attention on where they considered information would meet their needs. In those selections, they read thoughtfully and took notes in Spanish either as worded texts, diagrams or chemical formulas. That is to say, when required, they changed the reading patterns to confirm comprehension by looking up keywords at first with an

online translator and occasionally by consulting BPCH Web forums to which they had also become familiar.

The following retrieval provides an example of four essential components of the literacy in English a participant had acquired through practice. In this case, Miguel indicated recognising a regular form of presenting information in the texts he used to consult. Therefore, he could identify with ease information he frequently studied and use, organised information in a well-defined form, and identified the information he considered to be misinterpreting:

> Estoy escribiendo lo que voy leyendo. Claro, me fijo en lo que tengo que hacer. Aquí, sí escribo todo… Si me equivoco, van contra mí [refiriéndose a sus compañeros de equipo]. Esta tabla [señalando con su dedo], la estoy copiando tal cual. Soy muy desesperado. Siempre pienso, ahora sí voy a escribir todo… porque si no lo hago…luego tengo que volver a leer todo porque se me olvida. Con mi letra, a veces ni yo me entiendo [riéndose]. Para hacerlo más fácil… voy a hacer una tabla… Voy llenando lo que vamos a usar, cuánto y cómo… Esto no lo entiendo, les voy a preguntar [a alguien del equipo]. Esto sí debe estar muy claro. Estas partes [apuntando con su dedo] con que entienda más o menos, no hay problema (Miguel, participante, pensamiento en voz alta, 2).
>
> I'm writing what I'm reading. Of course, I pay attention to what I have to do. Here, I write everything… If I get wrong, they go against me [referring to his team mates]. This table [pointing with his finger], I'm copying it entirely. I'm very desperate. I always think, this time I'm going to write everything… because If I don't…then I have to reread everything because I forget. With my handwriting, sometimes, even me, I don't understand myself [smiling]. For easier, I'm going to make a table… I'm completing what we are going to use, how much, and how… I don't understand this, I'm going to ask someone [of the team]. This must be very clear. These parts [pointing with his finger] as long as I get it in general terms, no problem (Miguel, participant, think aloud, 2).

Another meaningful data from think alouds was when Érica was reading a text of a handbook about sorbitol, a sweetening agent. She had to use it to prepare a cough syrup. She mainly needed to know how to use it without affecting the properties of the component. It took her about an hour to read the whole text using different types of reading. In the first five sections, she just skimmed the text. Swiping her finger along, she immediately said: "It is an alcohol" (Érica, think aloud, 4), although, in the text, that word did not appear. When she reached a further section, she remained silent and began writing down. She was prompted for her thoughts, and in a reflexive tone, she said:

> Las soluciones orales necesitan más sorbitol. Por eso los jarabes para la tos sin azúcar son mucho más caros… pero no los chicles sin azúcar (Érica, participante, pensamiento en voz alta, 4).
>
> Oral solutions require a larger quantity of sorbitol. That is why cough syrups with no sugar are much more expensive… but not chewing gum with no sugar (Érica, participant, think aloud, 4).

As a researcher with no BPCH knowledge, it took me some time to contextualise her remark. It was until I realised that she was comparing mentally the different formulations listed in a table of the text that I could understand her observation. Érica was connecting the oral suspension she

was going to prepare with other solid formulations with the same sweetener. She had inferred that information since it was not mentioned in the text.

Érica showed in this think aloud that she was familiar with specialised information, the type of text she was reading, and the activities they commonly did at the laboratory. Although the content was challenging, she got what she required. She could identify what she was looking for to meet her information needs quickly. Besides, Érica was very capable of relating the acquired information to the use she would give to it. Despite her achievement, this kind of literacy experiences was not commonly reported in interviews. On the contrary, Érica used to convey her expectations to the fact that once she learnt English, she "would read BPCH texts in English with no problem" (Érica, interview 4).

5.7.1.4 Reading comprehension as a fluctuating ability

The fourth supportive disclosure from think alouds that enabled a better understanding of the academic literacy was that it should not be correlated with other literacies that follow step-by-step procedures. The longitudinal observation highlighted that a participant could read, maintain comprehension, and take notes efficiently in a think-aloud session. However, such experience with a very similar text and type of task was not necessarily echoed in a subsequent session. Figure 5-8 below shows a graphic representation of the fluctuations in comprehension participants experienced throughout the think-aloud rounds. References concerning rewarding and unsatisfactory literacy experiences covered direct mentions such as "I skip it because I don't get it" (Verónica, think aloud, 3) or "I write it down not to forget it" (Sebastián, think aloud, 5). Likewise, the record considers indirect references like nodding, whooshes, grimaces or rising and lowering shoulders interpreted either as fulfilment or kind of frustration.

Figure 5- 7 Fluctuation of references to comprehension when reading in think alouds

Think alouds showed that drawbacks in reading comprehension could not be blamed solely for unsuccessful text-driven processes. Elements that impacted the accomplishment of the tasks

were manifold. Some easily perceived circumstances such as fatigue, weather conditions, and tough days, among others, hindered participants focused on reading satisfactorily. However, at the same time, there were other sessions that participants underwent contrasting experiences for no apparent reason. From the approximately seven think alouds to each participant (76 total), it could be tracked that verbal disclosures from all participants indicated ups and downs in their comprehension. Yalina's appraisal of her performance can exemplify changes in achievements during think alouds:

> Hoy me siento mucho mejor. Digamos que entendí todo, un 90%. Cuando no entiendo… me siento [haciendo un sonido de cansancio]… De verdad, quiero correr. Ahora, no. La vez pasada ni terminé el texto ¿Cuánto me tardé? ¡Siento que fue rápido! (Yalina, participante, pensamiento en voz alta, 6).
>
> Today, I feel much better. Let's say I understood everything, about 90%. When I don't understand… I feel [whooshing]… Truly, I want to run away. Now, no. Last time I didn't even finish the text. How long did it take? I feel it was quick! (Yalina, participant, think aloud, 6).

Fluctuations in the ability to get meaning from reading in English demonstrate that literacy cannot be sufficiently explained through cross-sectional valuations or benchmarks. Quantifiable criteria provide important insight into some measurable components of the reading process but fall short in providing the whole picture of literacy into people's lives on a day-to-day basis. From another angle, think alouds helped confirm that literacy is not acquired through steady growth like any other complex ability. Such occurrences observed in concrete experiences on literacy allowed exploring the real entrails regarding the development of the academic literacy.

5.7.2 Semi-structured interviews: introspective reflections of the academic literacy

In the third month of the observation, individual semi-structured interviews with participants were conducted. As stated in the methodology section, the use of this type of interviews had two central and interrelated aims. The first objective was to know in detail the participants' biographies, their experiences about English and academic reading, their needs of reading in English as well as how they dealt with this demand as BPCH students. Inquiry of such issues set the route to build on the second objective. It was aimed at gaining awareness of the participants' ideology on both the topics specifically addressed in the interviews and the findings as they emerged with the other research instruments. As specific issues and situations of the academic literacy arose, participants led the way to contact other BPCH community members who became informants. The informants' incorporation gave the opportunity to address some literacy elements which had not been analysed sufficiently. In particular, the inquiry focused on the informants' understanding of the activity from their corresponding social position in the BPCH community.

For the above, semi-structured individual interviews allowed me to delve into the viewpoints and feelings of purposeful members of the BPCH community. In this way, the analysis of the available data in the interviews gave the foundation to negotiate individual meanings on the essential characteristics of the practice that define the academic literacy. As Figure 5.9 shows, interviews were an essential means to elaborate upon the core categories derived from the selective coding. On the one hand, data served to synthesise the literacy elements, explaining this academic literacy as a situated practice. The contribution of participants and informants worked like pieces of a puzzle to identify the relationship between how students acquired the needed information, for what and how they used it in BPCH activities. On the other hand, interviews allowed the recognition of the varied forms of understanding the academic literacy. Such distinction proved that the academic literacy the BPCH community develops is not a neutral activity. In contrast to the previous category, this type of data proved how a single social phenomenon could be understood differently depending on who and how experiences it.

5.7.2.1 Memories of reading in English

The inquiry about the academic literacy addressed in the opening round of interviews tried to get a general representation of how participants understood reading in English based on their personal experiences. Participants narrated their initial experiences with this activity. For all of them, REAP had begun when attending the 3rd and 4th BPCH courses. From the very beginning of the academic programme, participants knew they would have to deal with this demand. However, they narrated having done this activity from one day to the other as they had needed some information not available in Spanish for specific BPCH tasks. In their accounts, nearly all of them described those first experiences as disturbing and one of the most defiant training challenges. In this sense, Ossiel reminisced:

> Desde que elegí la carrera, yo sabía que tendría que leer en inglés. Lo sabía porque mi prima había estudiado farmacología aquí [refiriéndose a la universidad] y me lo advirtió. Yo sabía que lo tendría que hacer y se me hacía complicadísimo. De hecho, todavía es muy difícil [sonriendo]… pero aquí estoy (Ossiel, participante, entrevista, 1).

> Since I chose the programme, I knew I would have to read in English. I knew it because my cousin had studied pharmacology here [referring to the university] and warned me. I knew I would have to do it, and it seemed cumbersome to me. In fact, it is still very difficult [chuckling] … but here I am (Ossiel, participant, interview, 1).

Because the consulted texts in English covered specialised BPCH topics, they were not didactically prepared to use the language, and very frequently neither in the contents' difficulty. Therefore, what participants underlined was that the challenge of the task implied not only using a language they were not familiar with but also that they were novices in many of the subjects they were

learning. For example, Yalina recalled that as a BPCH student, one of the most troublesome points of the syllabus was to work with statistics, an essential part of organic chemistry. Although she could not explain the precise reasons for the lack of Spanish translations, she said all students had to learn that subject in English. Then, it was "like being with one foot in a room and one foot in another" (Yalina, participant, interview, 1). On this respect, she remembered:

> Yo empecé a leer en inglés en heterocíclica. No sabía nada de inglés … y de química orgánica, mucho menos… Ahora que lo pienso, no sé cómo le hice (Yalina, participante, entrevista, 1).
>
> I got my starts reading in English in heterocyclic. I knew nothing of English … and even less of organic chemistry… Now that I think about it, I don't know how I did it (Yalina, participant, interview, 1).

By asking about the participants' subsequent experiences on reading in English, I could observe that this demand was not carried out continuously along with the BPCH training. In some courses, this activity was more necessary than in others, and even the amount of reading, type of texts and activities varied among teachers. Therefore, for this community, REAP was not a step-by-step activity. Reading in this language fluctuated in the same way as the demand for reading in Spanish. In this regard, although all participants said they preferred having teachers who did not ask them to read in English, there was, at the same time, a sort of recognition for those who included BPCH texts in English. Most participants linked using English with a better level of instruction. Brenda's positive appraisal of a teacher asking the class to read in English exemplifies how the participant eventually acknowledged the activity as beneficial:

> Desde la primera clase, esa maestra nos dijo que íbamos a leer en inglés todo el curso … y ¡lo hicimos! Fue muy pesado y muy difícil … pero creo que fue muy bueno. Aprendimos mucho y ¡en inglés! (Brenda, participante, entrevista, 1).
>
> From the very first class, that teacher told us we would read in English all the course … and we did it indeed! It was very heavy and hugely difficult … but I think it was very good. We learnt a lot, and in English! (Brenda, participant, interview, 1).

Although participants regarded their initial reading in English experiences as daunting, they also conceded it was no longer as shocking as it had been. In this round of interviews, an interesting literacy remark arose among some participants. Reflecting on the way they read in English, they used to compare how they did it in Spanish. Continually, participants said they played a more active role when reading in English than in their native language. When asked if they remembered about their first experience of reading in English, most of them could give information in full detail. In contrast, when asked about their first experiences reading a demanding BPCH text in Spanish, none of them kept in mind those encounters specifically. The difference in how academic reading in Spanish and English remained in the participants' memories indicates the impact the use of English signified for these readers. For example, Zitlali recalled:

> Todo iba bien, pero en 4º [curso], en cromatografía, desde la primera clase, supe lo que nos esperaba. El maestro nos dio la bibliografía y toda estaba en inglés. Me acuerdo muy bien que ese día, Rosalid y yo nos quedamos viendo. Nos quedamos heladas (Zitlali, participante, entrevista, 1).
>
> Everything was going well, but in 4th [course], in chromatography, from the very first class, I learnt what was waiting for us. The teacher gave us the bibliography, and everything was in English. I remembered that day; Rosalid and I stared at each other. We were frozen (Zitlali, participant, interview, 1).

5.7.2.2 If only I had studied English

In the second round of interviews, the inquiry addressed the English language instruction participants had received, if any. Although these students were recruited because they had not studied English or at least for a short time, it was relevant to deepen on two elements related to their exposure to the language. Firstly, to become aware of their familiarity with English, and to see if they had attended English classes at middle school or/and high school or any other experience linked to formal instruction. Secondly, to examine the participants' imaginary on reading in English, language skills, and professional development.

Of the ten participants who remained the entire span of observation, five did not receive any English language instruction in their previous stages of general education for different reasons. Although in México, most educational programmes include English classes at middle school and high school, in the participants' experience, it was a fact not accomplished in practice. Due to this situation, participants suggested a kind of regret or complaint about not having studied English by saying: "Unfortunately, in middle school and high school, they gave us nothing of English. I don't speak a word in English" (Miguel, interview, 2) or "My teacher didn't show up for work" (Zitlali, interview, 2). For the part, participants who had attended English classes said it had been in a range of one to three years of instruction, averaging 3-5 hours per week as a syllabus subject (*see* table 4.1). It should be noted that these participants remarked having studied English at the elementary level; some of them considered that the knowledge they had was poor or unrelated. In this regard, Montserrat contrasted:

> En la preparatoria, tuve clases de inglés… incluso creo que yo era muy buena para eso. Fue una materia que me gustó mucho. Tuve una maestra muy buena … pero una cosa es lo que leíamos en los libros que llevábamos y completamente otra lo que tenemos que leer aquí (Montserrat, participante, entrevista 2).
>
> In high school, I had English classes… even I think I was very good at it. It was a subject I liked very much. I had a very good teacher... but one thing is what we read in the textbooks we had and completely another what we have to read here (Montserrat, participant, interview, 2).

In these interviews, a recurring comment was that participants assumed that the prerequisite for reading in English was having studied it. Participants related their reading difficulties with the lack

of language instruction. At times, participants distinguished that the use they made of English was different from that found in regular English classes or the type of language of most everyday situations. However, when they thought about their reading comprehension struggles, participants were prone to blame themselves with certain expressions such as “If only I had studied English” (Rosalid, participant, interview, 2). Assuming they should study as commonly done in environments for language acquisition. Then, they very frequently considered following general recommendations implied in comments like “I’m going to check the English textbooks I have at home” (Verónica, participant, interview, 2) or “I’m going to translate the lyrics I like and watch movies without subtitles in Spanish” (Sebastián, participant, interview, 2).

5.7.2.3 Particulars of the variant of reading in English

The third topic covered in the interviews was the way participants read BPCH texts in English. The information provided in this round served to triangulate what think alouds and stimulated recalls informed with the participants’ general views about how they acquired and used information in English. The insight from these retrievals was very valuable since it laid the basis to determine that the variant of REAP participants carried out was better understood as a type of academic literacy. It could be identified that reading procedures did not match with prevailing criteria. Instead, the particulars of the readers and their needs of information aligned entirely with a situated practice where social interaction was the central resource to develop literacy.

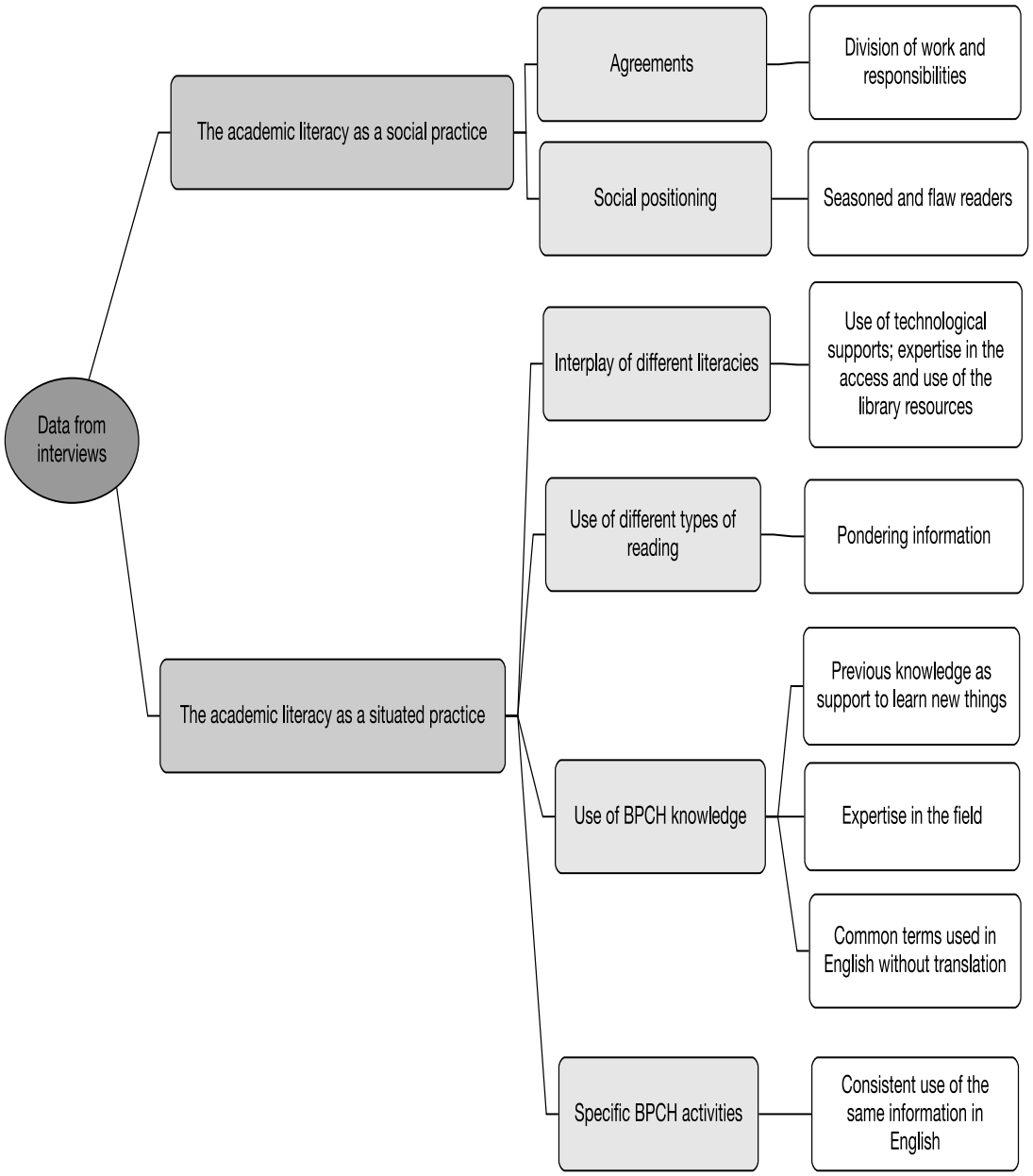
Data from these interviews substantiated two essential assumptions elaborated by the ideological model of literacy. First, a proper understanding of literacy must explain the relationship between the observable processes people carry out to get meaning from the written with the ideology surrounding such actions. Second, moving away from academic acculturation or the expected use of the language, the true meaning of literacy is how people adapt it to meet their needs. Consequently, bringing back a core claim from NLS, it was more sensible to focus on “what people do with literacy in their everyday lives, instead of what literacy does for them” (Barton and Hamilton, 2012, p. 7).

The below diagram shows the resources and procedures participants said to draw upon when reading in English (*see* figure 5-9). Without being exhaustive, it frames how participants conceptualised the way they read in English to study and learn new things. The organisation of data is two-headed. On the one hand, as previously mentioned, participants did not base their capacity to get meaning from BPCH texts in English through linguistic knowledge. They resorted to teamwork with other community members, which enabled them to make the most of their capacities to acquire information and consolidate knowledge. For this reason, by considering

social networks as the primary support, this data endorses the adequacy of analysing literacy as a social practice.

On the other hand, the diagram outlines the resources participants employed to acquire information from BPCH texts in English. The information confirms that because of the distinguishing characteristics of the readers, this variant of REAP could not be entirely extrapolated to other contexts. It was a distinctive form of developing literacy because readers, as members of the BPCH community, shared specific knowledge and expertise that defined the way they got meaning. Therefore, this academic literacy was better understood as a situated practice.

Figure 5- 8 References to the social and situated components of the academic literacy in interviews



5.7.2.4 Portraying reading in English over time

The fourth session of interviews explored the participants' perceptions about the way they had developed academic literacy throughout the BPCH training. On account of the data from previous rounds, inquiry attempted to synthesise, on an individual basis, the information they had provided. By revisiting the participants' perspectives, this set of interviews aimed to investigate if they identified any changes in both the way they developed literacy in English and how they regarded themselves as academic readers in English.

By reminding each participant what they had mentioned as initial reading in English experiences in previous interviews, the guiding question of this round attempted to explore the perceptions of the actual procedures and feelings about the academic literacy. Inquiry helped investigate those components that still defined the way they read when being interviewed. In the same way, they were asked about those elements that did not represent any longer what they were living. In comparing the two chronological stages of their literacy experiences, participants' opinions and feelings showed the true nature of any literacy. In the participants' voices, reading in English, rather than a steady ability, involved progressions, impasses and setbacks (*see* table 5.3).

Table 5 - 3 Participants' perceptions about the early and current procedures and feelings regarding the academic literacy

Topic	**Accounts of the early experiences of reading in English**	**Accounts of the current experiences of reading in English when attending the 9th BPCH course**
Lack of English knowledge	"I didn't know even the most basic!" (Sebastián, interview, 1)	"We work with this same handbook at the lab almost every day, and information is constantly repeated. So, we get used to it. It isn't that hard" (Brenda, interview, 4)
Amount and recurrence of reading in English	"In the 4th course, my final paper was on the properties of the dandelion plant. The information I found was only in English. But I don't remember having read another text in English up to the sixth" (Andrea, interview, 1)	"Last course everything… everything we read was in English. Once in a while we read in Spanish, but I would say all consultation was in English" (Montserrat, interview, 4) "In this course, we are not reading in English that much" (Verónica, interview 4)
Social ties	"Because Zitlali and I were completely lost in English, we tried to attend the same classes and read together… The two of us struggled to understand… Most of the time, we didn't, but at least we were lost together!" (Rosalid, interview, 1)	"If I were the only one who doesn't speak a word in English, I'd be already at home!" (Zitlali, interview, 4) "They [the rest of the group] read very well. There is always someone who helps in one way or another. They are smart, but me too. I manage to get help" (Rosalid, interview, 4)
Distressful emotions	"I wanted to cry… In fact, on that day, I didn't read even a tenth of the text. I asked my	"To be honest, it's still very challenging and stressful. Certain things are not very difficult

	classmates to tell me the most important ideas" (Verónica, interview, 1)	because we are always working with them, but it's not easy for me" (Montserrat, interview, 4)
Social arrangements	"My sister speaks English. I asked her to read for me. But sometimes she didn't have time or didn't understand pharmacology concepts. So, I had to ask someone else in the class… It was awful… the fool of the group" (Andrea, interview, 1)	"I'm very good at writing. As long as they [the team] give me the details, I write on the go. I feel confident when they report the information" (Érica, interview, 4)
Lack of specialised vocabulary	"I translated almost word by word… I realised many times the translator made my work even more difficult, but I had no option. So, I used it for the whole texts!" (Miguel, interview, 1)	"I no longer put whole texts in the translator. Just those parts where I really miss the point or those words we don't use frequently. For example, in the case of the excipients, the way of organising information is almost the same for each one: general description, properties, melting and flashing points, handling, and so on" (Brenda, interview, 4)
Increasing expertise in reading in English	"I got my starts reading in English in heterocyclic. I knew nothing of English … and even less of organic chemistry" (Yalina, interview, 1)	"I read a little better. Nobody is amazed, but … at least, it doesn't take ages for me!" (Yalina, interview, 4)
Lack of BPCH knowledge	"like being with one foot in a room and one foot in another" (Yalina, interview, 1)	"It was difficult to understand that text because I've used other types of starches… I didn't know it can be as a gel. It was very difficult to learn how to use it!" (Verónica, interview, 4)
Use of other resources for support	"We used to read together from the very first title of the text. Since we didn't understand anything at all, we put the text in the translator as it was. You know, copy-paste. We couldn't do things any different… We finally looked up for information of that topic in other texts in Spanish and didn't tell the teacher that we hadn't read the text she had given us" (Montserrat, interview, 1)	"The updated version of the handbook is in PDF and only in English. We were comparing previous versions in Spanish in just those difficult parts we didn't understand. Sometimes information is the same" (Érica, interview, 4)

Without differentiating between ups and downs, the above table shows significant literacy components participants mentioned to conceptualise reading in English in their first experiences and at the time of being interviewed, which spanned two years of BPCH instruction. The objective of organising data in this way was to ground a further discussion of the academic literacy carried out over time. Therefore, bringing together information from other research tools, elaborating the particulars of this variant of reading in English will be better supported.

5.7.2.5 Redefining reading in English and academic readers

In the last two of the six rounds of the individual interviews, elicitation focused on the way participants conceptualised REAP at two levels. While the fifth interview explored how

participants perceived themselves as readers who consulted texts in English to meet their BPCH training needs, the sixth session investigated the participants' beliefs and opinions about the significance of using English for other community members. These concluding interviews attempted to summarise what was to be a student with the participants' characteristics developing reading in English into their context.

From retrievals, four key issues were identified that linked the participants' interpretations of literacy to the relationship they kept with other BPCH community members. First, participants considered reading in English followed a different form of development than other learning experiences, particularly those formally taught. Their development had not followed a gradual progression like a timeline. On the contrary, literacy experiences resembled an upward and downward spiral that made participants sometimes feel improving while others get entirely lost. Moreover, the participants said that they had been confident about the information they got and felt satisfied at times. However, when they used it, it turned out to be wrong. Therefore, the way participants conceived themselves as readers in English was not definite neither matched necessarily with the opinions of their teachers or classmates. In this sense, Brenda illustrated this situation by saying:

> A veces siento que he mejorado en lo que llego a entender. Otras veces, pareciera que no he aprendido nada o que ya se me olvidó todo. Depende, a veces entiendo muy bien o al menos es lo que yo siento. Pero también me ha pasado que cuando mi maestra me pregunta por algo en particular, no sé ni qué decirle (Brenda, participante, entrevista personal, 5).
>
> Sometimes, I feel I've improved in what I can understand. Other times, it seems that I've not learnt anything, or I've forgotten everything. It depends; sometimes, I understand quite well, or at least that's what I feel. But it has also happened that when my teacher asks me for specific things, I don't know what to say (Brenda, participant, individual interview, 5).

Second, all participants agreed that at the beginning of the training, they considered it was somewhat unfair that teachers asked them to read in English. They thought teachers were demanding something that had not been stated previously. Giggling, Sebastián recalled having complained once he had misunderstood information and had made a mistake at the laboratory. When the teacher scolded him, he argued, saying: "If I had been warned that I would need to speak English, I would have chosen another programme" (Sebastián, participant, individual interview, 6). Despite the initial resentment towards teachers asking them to read in English, participants related they lived a sort of adaptation to the activity. Several participants even acknowledged having understood the reasons that sustained the need. Consequently, participants considered it reasonable that reading in English was part of the BPCH activities.

Third, although participants were reluctant or uncertain to acknowledge progression, in the fifth interview, all participants had no trouble accepting that reading in English was no longer as difficult as it had been at the beginning. They considered different factors such as vocabulary

recognition, pharmacology knowledge, or getting used to the commonly consulted texts as main supports to make meaning from the written and learn new things. The progression of literacy was also identified because, at early phases, it had been carried out essentially through collaborative work. In the class they were attending when interviewed, most of them could read without the same level of support. Even by that time, Andrea admitted she preferred reading in English by herself, in her place and with no distractors. By recalling what she did, she reflected:

> Yo siempre iba a la biblioteca a leer con mis compañeros. Si teníamos que leer en inglés, todos estábamos dispuestos a juntarnos hasta muy tarde porque no teníamos de otra. Nadie hubiera preferido leer solo. Ahora, yo definitivamente prefiero hacerlo por mi cuenta. ¡No soporto tanto ruido! (Andrea, participante, entrevista individual, 5).

> I always went to the library to read with my classmates. If we had to read in English, we were all willing to meet until very late because we had no option. No one would prefer reading alone. Now, I definitely prefer to do it by myself. I can't bear all that noise! (Andrea, participant, interview, 5).

Fourth, by referring to how participants conceptualised themselves as readers in English and how they perceived other fellow students did it, an important disclosure arose. Reading in English was not performed as an isolated activity. Instead, it was a set of activities that interplayed dynamically. For the BPCH members, this activity was neither an exercise to develop the skill nor to learn specific vocabulary or grammar structures or assess comprehension itself. The sole objective was to acquire information to use it in broader activities, including correlating research protocols, following instructions, or presenting a topic to the rest of the group. To meet their needs, participants drew upon anything that could help to get meaning. They used electronic translators and dictionaries, organised themselves to overcome misunderstandings easier, clarified information with teachers and peers, or confirmed information by consulting other texts on the same topic in Spanish and English. Hence, this variant of REAP embraced different literacies participants interplayed simultaneously. In this regard, Yalina narrated:

> Cuando tenemos que hacer una presentación, el profesor nos da el tema y más o menos los aspectos que tenemos que desarrollar. Ya entre nosotros buscamos los textos; claro, siempre buscamos en español primero. Casi siempre tenemos que juntar varios textos. Si de plano no encontramos en español, entonces ni modo, tenemos que leer en inglés. Generalmente hay alguien que sabe más y a ese le toca o nos rifamos el texto y lo leemos entre varios. A veces todo sale bien, pero otras… puros problemas y terminamos peleados (Yalina, participante, entrevista, 6).

> When we have to make a presentation, the teacher assigns the topic and the aspects we have to cover in general terms. Among us, we look for texts; of course, we always search them first in Spanish. Almost always, we have to bring together different texts. If we really don't find them in Spanish, then, no option, we have to read in English. Generally, there is someone who knows more, and he or she does it, or we raffle the text and read them with peers. Sometimes everything goes well, but some others… only problems and we finish on bad terms (Yalina, participant, interview, 6).

5.7.2.6 Reading in English in the community: complementary perspectives

Based on the last two interviews with participants, it was possible to identify some purposeful community members who could provide complementary perspectives to shape the academic literacy from their corresponding positions. These informants were two teachers, the academic coordinator and three students attending the first, second and fourth years of the same programme (participants attended the third year). The following sections present the biographical sketches and viewpoints concerning the topics developed in previous interviews with participants to organise what informants disclosed.

5.7.2.6.1 "Now, it turns out that I also have to speak English" Maricela 1st year student

Maricela was a 17-year-old student from a rural town. She had undertaken previous studies in nearby larger cities. For diverse reasons, she had not had any English teaching. To attend university, this student had left home for the first time four months before our interview. Therefore, she was in the process of adapting to living alone, university life and the happenings of interacting in a social context entirely different. When asked about her expectations on the use of English, Maricela said it was "scary" for her. She told me she did not know how she would manage it. In this sense, she detailed: "To be honest, everything is being very difficult… Now, it turns out that I also have to speak English!" (interview). Maricela's remark indicated two important elements that surrounded the embedded ideology towards the use of English for most participants.

On the one hand, for Maricela, reading in English implied an unexpected burden to accomplish academic tasks. She assumed that the lack of ability to use English was a weakness that left her in a disadvantaged position. On the other hand, Maricela considered it necessary to attend English classes first to read in English adequately. To satisfy her literacy needs, she had "to speak English well"; only then she could read proficiently. In this regard, she narrated:

> Ya le dije a mi mamá que tengo que tomar clases de inglés. Aquí todos mis compañeros hablan inglés. Yo necesito estudiar desde los más básico (Maricela, informante, entrevista).
>
> I already told my mother I have to take English classes. Here, all my classmates speak English… I need to study from the very first level! (Maricela, informant, interview).

Although Maricela had just arrived and had only met her classmates during the first weeks of the initial course, she believed the rest of the community spoke English. This perception tells the concern she had about the use of this language. Addressing the need for taking English classes with her mother also reflects the level of pressure she had in anticipating what she would have to do.

5.7.2.6.2 "It is getting better" Cristina 2nd year student

Cristina was a 19-year-old student from a medium-sized city where she had carried out all previous stages of general education. When she arrived at the university, she had not studied English, but she had just started taking private English classes at the time of the interview. She explained that she was taking English classes because she had just begun reading in this language for her BPCH courses. From Cristina's view, such demand represented one of the most challenging activities of the training. She considered that the lack of English knowledge had made her feel "simply out of place". Moreover, since she had not found someone else with whom she felt confident to team up to read in English, Cristina said, "I feel like if everyone turned their backs on me" (informant, interview). This perception was part of her initial experiences with REAP when she was attending the 5th course.

Cristina clarified that she had begun reading in English continuously from the 3rd course. The class she was attending was on chromatography, and all consultation materials were in this language. Despite her feelings towards using English, the informant clarified that, fortunately, this topic refers basically to calculations; consequently, vocabulary was not very difficult. Cristina even said: "It helps that I'm good at math". Besides, she reckoned: "although tedious and time-demanding… it's getting better" (Cristina, informant, interview).

This student also explained that she was using a textbook in the English classes with which she was learning how to introduce herself, nationalities and describing regular activities. When asked if those contents helped her with the BPCH readings, she ensured it without hesitation. Cristina was motivated to keep studying because she estimated that she could apply for a postgraduate programme abroad if she did it without stopping. At that time, it was her highest incentive. Therefore, she pursued getting good BPCH grades and learning English.

5.7.2.6.3 "Most of the time, I understand the English I need, but I don't speak it" Mariana 4th year student

Mariana was a 20-year-old student who lived in the outskirts of the city where the university is located. She lived with her family and commuted for more than 2 hours. This student had rented a dorm room nearby the university at different periods throughout her studies. However, because she was working on her thesis at that time, she did not go to the university daily and preferred living with her family at home.

Mariana had studied English for three years in middle school and three years in high school; however, she rated herself as a reader with minimal knowledge in this language. She had always

wanted to continue taking English classes, but it had not been possible. While studying at the university, her schedule had been very demanding most of the time. Later, near her home, there were no language schools, and she could not spend long hours on transport since her priority was finishing the thesis.

The participant explained that during her first BPCH courses, she tried to avoid reading in English. She had managed to do it many times, but eventually, she could not "escape" and started reading in English. She told me she had developed a kind of "preservation strategy". This student considered it was the need and consistent practice that had made her get used to it. In this regard, she said:

> No sé; pienso que ya no le temo tanto a leer en inglés. Todavía tengo problemas, pero me he ido acostumbrando. Si no te acostumbras, estás fuera. Nos las arreglamos lo mejor que podemos (Mariana, informante, entrevista individual).
>
> I don't know; I think now I'm not that afraid of reading in English. I still have problems, but I've grown accustomed. If you don't get used to it, you are out. We [BPCH students] do the best we can (Mariana, informant, individual interview).

About the changes over time in her reading patterns, she underlined that at the beginning, she expected to understand word by word as she read. As time went by and she acquired familiarity with this activity, she considered: "Most of the time, I understand the English I need, but don't speak it" (Mariana, informant, interview).

Mariana agreed with other participants' viewpoints that reading in English had not been a constant activity throughout the BPCH courses. She had read at different levels of difficulty and amounts discontinuously. In Mariana's opinion, it had not helped her to learn the language. She guessed that if she made an English placement test, she would have to start from the most elementary level despite "all the time I devoted to English" (Mariana, informant, interview). She also said she wondered whether to look for a job or continue a postgraduate programme, but she stated firmly: "whatever happens, I'm going to need English" (Mariana, informant, interview).

5.7.2.6.4 "They do what I did" Mario, a BPCH teacher

Mario was a BPCH teacher who had graduated from the same university where this case study was conducted. His perspective was very valuable since he shared some biographical features with many members of the community. Because four participants mentioned him as a very supportive teacher concerning the use of English, arrangements were made to meet him. Although Mario was interviewed formally only once, he was willing to provide further information at different times. His personal characteristics and life story gave a longitudinal panorama of the academic literacy, as well as with hindsight.

While inquiry with this informant principally focused on his role as a teacher, he let me know some revealing occurrences of his biography as a BPCH undergraduate student. When Mario started university studies, he had not received any English teaching. Thus, he had undergone first-hand what participants were living. In this regard, he said:

> Sé lo que ellos [estudiantes] sienten porque yo pasé por lo mismo. Incluso en aquella época, como no había internet, teníamos que pasar las noches pegados a los diccionarios (Mario, informante, maestro de química farmacéutica y biológica, entrevista).
>
> I know what they [students] feel because I went through the same. Even at that time, as there was no internet, we had to spend the whole nights glued to dictionaries (Mario, informant, BPCH teacher, interview)

Mario had received his doctorate on BPCH and had started his working life at the same university. He became a valuable informant because he could reflect on literacy from different angles. Regarding reading in English into the BPCH community, he noticed it had evolved in different ways. Unlike his experience as a student, there were a wide variety of consultation resources, mainly through digital media. Although these resources were beneficial as they could access updated information, they also imposed considerable challenges. For example, students had to consult challenging texts in English, and, at the same time, they also had to situate the origin of the information to adapt it to its context. In this regard, he elaborated:

> La cuestión es que, cuando yo era estudiante, consultábamos los libros que había en los estantes de la biblioteca, que casi todo estaba en español. Ahora, si buscas cualquier tema de farmacología en internet o en las revistas, casi todo está en inglés. Además del inglés, los estudiantes deben considerar a quién están dirigidos esos textos y comparar cómo van a utilizar la información ¡Eso es otra dificultad! (Mario, informante, maestro de química farmacéutica y biológica, entrevista).
>
> The issue is that, in my student days, we consulted the available books from the library shelves, which were mostly in Spanish. Nowadays, if you look up any pharmacology topic on the internet or in journals, almost all are in English. Besides English, students must be aware of whom those texts are addressed and compare how they're going to use the information. That's another difficulty! (Mario, informant, BPCH teacher, interview).

Another change in the academic literacy the teacher observed was the availability of new options for language support. The use of electronic dictionaries and translators characterised the way most students dealt with English. In his opinion, most BPCH students had not studied that language, so they resorted largely to these types of assistance. Indeed, within the digital translators' constraints and in the absence of better alternatives, students gained experience to get the most of them.

Mario related that in the digital library of the university, there was ample access to the most influential BPCH international journals; then, this community used them systematically. Similarly, in open access, students searched for specialised information. Diversity of publications, reliability

or validity of data and management of different formats made the students develop expertise in different areas. It also implied that they had to be well organised; otherwise, they would get lost in the information flows.

Describing how students dealt with reading in English, the teacher said it was primarily carried out through peer support. He tried to help them as he could, but not in terms of the language. He introduced topics, showed them how to search for reference materials, looked for easier reading texts when possible or clarified information on the go. However, his support could not go beyond that. Students themselves were the ones who managed to acquire the information in English. With no other option, little by little, they organised their readings and got accustomed to it. Mario said that, very frequently, he was surprised by the students' capacity to get meaning. Despite the English language constraints, many students were very skilful at finding out information, working with digital applications, and accomplishing tasks satisfactorily.

The information this teacher gave about the general characteristics of the community, the BPCH needs, and the proceedings students developed to cope with reading in English revealed two critical components. First, the participants' viewpoints matched to a great extent with his position. The use of English for the community followed particular patterns because it was restricted to reading. Information was used in Spanish for the daily activities of the BPCH work. This ability was part of a set of literacies that led me to consider it a situated practice. Secondly, the academic literacy had to be contextualised from its actual uses. Its core component was the group interaction to improve comprehension and consolidate knowledge. For Mario, this factor was of definite significance. It explains why, when Zitlali, a participant, narrated her literacy experiences; she was one of those participants who identified Mario as a sensitive teacher, saying:

> Fue por él que leer en inglés no fue tan difícil. Él nos daba confianza. Sin problema, yo le podía decir cuando estaba perdida en el inglés. Él nos ayudaba mucho. Con otros maestros, era mejor no preguntar (Zitlali, participante, entrevista individual, 6).
>
> It was because of him that reading in English was not that difficult. He gave us confidence. With no problem, I could tell him when I was lost because of English. He helped us a lot. With other teachers, it was better not to ask (Zitlali, participant, individual interview, 6).

5.7.2.6.5 "Pharmacology and English go hand in hand" Lino a BPCH teacher

Lino was a BPCH teacher who had also been graduated from the same university. In the interview, he narrated that when he arrived at it, he had not studied English. However, since the beginning of his undergraduate studies, he had begun taking English classes and regarded its use as a central skill for professional growth. In the teacher's case, using English had helped him develop his undergraduate studies and attain a master degree in the same university. Besides considering

that English was essential to access BPCH information, he also regarded speaking English as a plus for scholarships or any other professional improvement support. In Lino's experience, English had allowed him to accomplish his doctoral studies abroad.

I purposefully contacted this informant because participants identified him as a teacher who included most consultation materials in English. He was another teacher whom participants very frequently named when talking about using English. The elements participants emphasised were that in Lino's classes, they had developed different literacy components. Although students complained, in retrospect, they conceded that because the teacher had forced them to read in English, they had become familiar with the activity. Over time, reading in English had turned less complicated. Besides, this teacher had taught them to search for valuable information. For example, they had started consulting some pharmacology journals that had been of great help. Likewise, they had grown aware of specialised pharmacology web forums where itemised topics were addressed among field colleagues.

From Lino's point of view, the use of English for the community was a problematic issue. Like Mario, he considered that most students arrive at the university without knowing English or very little. He considered this situation as a significant constraint for adequate training since many pharmacology areas evolve according to manufacturing needs or processing improvements at the international level. He said that the more specialised and updated information takes a long time to be available in Spanish. In this regard, Lino considered that in contrast to other knowledge fields, "English is an essential part of pharmacology" (informant, interview).

Therefore, as a teacher, Lino's position was that he had to struggle with the students' lack of English knowledge and the use of relevant information. He had no other alternative; so, he preferred that students dealt with this need as soon as possible without considerable concessions. On this matter, the teacher said:

> No les digo nada, pero por supuesto, yo sé que para la mayoría de los estudiantes leer en inglés es muy difícil. Sin embargo, tarde o temprano, lo tienen que hacer. Incluso para nosotros [maestros], también es muy difícil. A veces tengo que explicarles cosa por cosa y no me entienden. Siempre les digo que se las deben ingeniar para estudiar inglés. La farmacología y el inglés van de la mano (Lino, informante, maestro de química farmacéutica y biológica, entrevista).
>
> I don't tell them anything, but of course, I know that for most students reading in English is very difficult. However, sooner or later, they have to do it. Even for us [teachers], it's also very difficult. Sometimes, I have to explain every single thing, and they don't get it. I always tell them that they have to arrange for studying English. Pharmacology and English go hand in hand (Lino, informant, BPCH teacher, interview).

The insight this teacher gave about the academic literacy was enlightening. The fact that he had learnt English in the traditional way helped me identify the influence of some prevailing conceptualisations towards using this language. Although students considered having progressed a lot, such appraisal was not entirely shared by Lino. In general terms, he underlined the need for students to take English classes. Lino assumed the lack of language knowledge explained the problems students had to develop reading in English. In his opinion, students did not realise that if they spoke English, they could "truly develop as professionals" (Lino). In the interview, the informant strongly criticised the university because the entry requirements had not been adapted to the actual training needs. He stated the BPCH programme should include language instruction or offer elective courses "to *speak* English, not to take a reading comprehension test with multiple choice items in Spanish as were done 30 years ago" (Lino, interview).

While Lino yielded valuable information about the reading patterns, needs, and forms of dealing with BPCH texts in English, his views towards the use of English became much more enlightening. As a purposeful member of the BPCH community, his complementary perspective enriched the analysis. From his disclosures, the following three central pieces of the ideology embedded in the academic literacy could be better recognised.

First, the teacher's biographical elements confirmed the participants' common assumption of relating personal and professional achievements with speaking English. On the one hand, as a graduate student from the same university, Lino had attained most objectives participants pursued. He had undertaken postgraduate studies. Indeed, his doctoral studies had been done in the USA, which into the community was highly appreciated. On the other hand, as a teacher, he implemented innovative resources in his classes. Besides including all consultation bibliography in English, he had introduced students with specialised journals and pharmacology forum sites. Accordingly, Lino could be portrayed as a role model of what represented professional success in the participants' eyes.

Second, Lino's divergent perspectives with the other interviewed teacher and the participants showed that literacy is not a neutral practice. Besides helping to identify some conflicting understandings, his disclosures also gave glimpses to appreciate that reading in English is not only a means to get information. It became a valuable commodity that placed BPCH members in different social status. While those who were assumed to have the skill received recognition, those who did not possess it were awarded lower positions. Such distinctions were taken for granted. Therefore, the various forms of experiencing literacy revealed that many BPCH members privileged the acculturation and language skills and disregarded some literacy components that enabled them to accomplish tasks.

Third, Lino had learnt English through traditional teaching methods. Therefore, he had been guided by a teacher into a language classroom and using didactically prepared materials covering the four skills. His conceptual construction of REAP derived from normative criteria related to the autonomous models of literacy. The way Lino evaluated how participants carried out literacy confirmed the suitability of drawing upon the ideological model. If the analysis of the academic literacy had been attached to the autonomous models, it would have focused on the challenges that participants had to get meaning and what they did wrong or merely could not do.

This variant of REAP showed the pertinence of attaching to the NLS. Lino's perspective helped to tie up a loose end. The objective was not to conciliate positions to define the practice in one piece and thus provide a foreseeable diagnostic. In this sense, the academic literacy investigated in this thesis required to explore both what lies behind the procedures and how participants adapted literacy.

5.7.2.6.6 "It's like dealing with what we do and what we want to achieve" Karina, the academic coordinator

Karina was the BPCH academic coordinator at the university where this case study was carried out. This teacher had made her BPCH undergraduate studies, a master in Organic Chemistry and her doctoral studies in Biological Sciences at the same university. When I met Karina, it was the third year that she served as the programme coordinator. Thus, she had been part of that community for almost twenty years. This long history allowed Karina to give a broad view of the academic literacy from two key points and in terms of time. First, her accounts reinforced that this literacy could be understood differently depending on the social role in the group. Second, she disclosed how reading in English had evolved. Rather than a steady practice, the amount of available information and communication modes opened up many possibilities and challenges at the same time. Like Lino, she considered the implications of using English and how the community carried it out had to be adapted to meet current needs.

Karina had studied English in different periods of her life. Similarly, as Lino, she considered it had helped her a lot for vocational training and professional achievement. She related that when she entered the university, her English proficiency level allowed her to consult texts in English with ease. It had even meant that her classmates very frequently asked for help. The topics she developed in her area of specialisation were mostly published in English. She remarked that she continually wrote pharmacology papers in this language. For Karina, reading in English without writing, listening and speaking was "more a pipe dream than reality" (Karina, informant, interview). In her opinion, confining English to reading was a limiting factor that many members

of the community did not understand. In this regard, she stressed, “If they really wanted to grow and progress professionally, they have to study English” (Karina, group interview).

As the coordinator of the programme, Karina delivered valuable information from different kinds. She knew most students and staff, the activities they undertook throughout courses, and how the community organised to meet the language needs. This informant underlined that the population was characterised by being diverse. She estimated that the vast majority of the students attending the programme came from other parts of the country. It made students with dissimilar sociocultural and education backgrounds convened.

Regarding the use of English, Karina said that it was a defiant issue among the community members since there was not an even level of knowledge. While some of them spoke it fluently, some others had little or no knowledge at all. The English teaching had never been considered and would hardly be included due to the human and economic resources it represented. Besides, while some teachers emphasised the language support should be provided, others pondered that its inclusion had no priority.

The coordinator also gave comprehensive information about the needs and forms of practising REAP. In line with Mario, she narrated that when she was an undergraduate student, the need for English was different. Twenty years before, there was not such a strong influence of that language in the reference materials or digital resources. The bibliography was strictly in the printed form. Thus, when students consulted pharmacology texts in English, contents and materials were widely known for teachers and students. In contrast, in Karina’s opinion, the influence and ways of implementing reading in English were different at the moment participants were experiencing them. Reading in English was totally related to the use of information for professional training irrespectively of the type and level of the language instruction, which was not part of the learning objectives. On this point, she stated: “It’s like dealing with what we do and what we want to achieve” (Karina, group interview). Besides, whether they liked it or not, English was part of the BPCH activities with the challenges it posed for the community.

5.7.2.7 The academic literacy: a single activity from different angles

From the perspective of the informants, the analysis got specific awareness on two essential components of literacy. First, specific communication needs and resources explain why the BPCH community develops REAP as a vernacular practice. Second, the different forms of experiencing and understanding it from corresponding angles depend on the positions from purposeful members into the same group. Therefore, the students’ insight from the other stages of the programme, the content teachers, and the academic coordinator complemented the ideological

construction that explained its nature. Because interviews with informants were carried out once interviews with participants had concluded, it was possible to clarify some information, which had been barely mentioned or only suggested. Therefore, interviews with participants and informants contributed to getting a clearer comprehension of the academic literacy.

The following table 5-4 lists some of the components of the academic literacy participants considered as most defining. These topics were addressed in the interviews with informants. Some selected issues are complemented with excerpts from the retrievals of these purposeful members of the community to cross perspectives, experiences or practices at different times and positions. This form of triangulating data gives the possibility to endorse two fundamental assumptions of the ideological model of literacy:

1. Academic literacy was not a neutral and standard skill even among those participants who shared many characteristics. In this case, the ideology surrounding the use of English played a key sociocultural role that went beyond the knowledge of the language.
2. Rather than an isolated activity, reading in English was better understood as a compound of different skills.
3. It was better explained as an academic literacy with the capacity of adaptation irrespectively of normative criteria.

Table 5 - 4 Informants' perspectives regarding the academic literacy as a social practice

Key literacy components of reading in English referred by participants	**Excerpts of retrievals from informants**
Diverse opinions and feelings towards the need for using English	"From the very first day, teachers warned us to be prepared because we are going to read in English throughout the programme. It's scary… I don't speak a word in English. No idea what to do" (Maricela, 1st year student)
	"I like studying pharmacology, but reading in English is the most difficult thing. In this course, we had to read a protocol in English to follow instructions. In my team, we didn't understand what we had to do… My teacher got very angry and said we have to get used. She said: *you must read it as many times as you need!* … Indeed, easy for her to say!" (Cristina, 2nd year student)
	"Everything is being very difficult… Now, it turns out that I also have to speak English!" (Maricela, 1st year student)
	"You have to speak English if you want to grow and progress professionally" (Karina, academic coordinator)
	"They think [students] use English, but it's a pipe dream" (Karina, academic coordinator)

	"Sometimes, they don't say a word. They only scowl. I can see what they feel. Their eyes say everything" (Mario, BPCH teacher)
Use of knowledge acquired in previous BPCH courses	"Over time, I think I've got used, and I feel more confident. I won't lie, it continues being difficult, but it's no longer the same. It doesn't take ages as it used to. At least, when I know about the topic, it's much easier for me" (Mariana, 4th year student)
	"At the beginning, they complain a lot. As time goes by, I observe they accept that we have to read in English. They link what they've learnt with what they read. Later, students themselves look for texts in English" (Lino, BPCH teacher)
Familiarisation with the type of texts commonly consulted	"In 8th and 9th, we used the same handbook every single day. As it's in PDF, we had it even on the cell phone. I already knew certain things. In fact, it was not that difficult" (Mariana, 4th year student)
Teamwork to acquire and use information in English	"The only thing that helps me is that most work in which we need English is done by teams. I wouldn't dare to work at the lab by myself" (Cristina, 2nd year student)
	"For my thesis, I'm working with a metabolite. It's a bacterium to ferment algae. There's no information in Spanish. I'm reading everything very carefully. I wish someone else was reading with me" (Mariana, 4th year student)
	"Students organise themselves. I know that most of the time they read in teams, but I don't ask them to do so" (Mario, BPCH teacher)
Other interactants in the academic literacy	"When concepts or parts of a text are very tough to understand, we ask teachers for help. It depends on the activity. When it's a text we have to read as a team, it's easier. If someone misunderstands the information, another corrects it. The big problem is when you read by yourself" (Mariana, 4th year student)
	"Our teachers commonly explain most concepts and procedures. Then, when I read in English, I try to relate what they said to understand what I'm reading" (Cristina, 2nd year student)
Use of digital supports to get meaning from the written language	"Now, students use different supports. For example, some of them translate the whole texts with electronic apps. In fact, on the Facebook page, some of them ask for information. I've seen that even teachers are part of it. We share some pharmacology forums" (Lino, BPCH teacher)
Translingual use of English and Spanish	"We read in English almost always. In class, everything is in Spanish…well, some words in English or Spanglish…I don't know... The point is that they understand what they do" (Lino, BPCH teacher)
Use of English as a commodity	"I had no problem because I spoke English when I was an undergraduate student, I could see my classmates having tough situations. In large part, English helped me to get a scholarship. English helps a lot!" (Karina, BPCH coordinator)
Feelings towards reading in English	"I want to study pharmacology, not English!" (Maricela, 1st year student)

	"Just thinking that I have to read in English, I already feel tired" (Cristina, 2nd year student)
Adaptation to reading in English through time	"When I was a student, I knew very little English. Thinking about it, I don't know when I got used to it. No Google translator in that time! We had to spend long hours with dictionaries in the hands. But in fact, I think that what they do [students] is quite the same of what we did" (Mario, BPCH teacher)
Perceptions of studying English	"Students are supposed to have had English classes before they come to the university, but it's not the case. Only some of them have no problem reading in English… Some even speak it very well. But most students don't know any English… or very little" (Mario, BPCH teacher)
Expectations towards the use of English as BPCH professionals	"I tell every student: If you want to be a chemical engineer with good prospects for the future, you need English" (Karina, BPCH coordinator)
	"I've not yet decided if doing a master or finding a job. Whatever happens, I have to learn English" (Mariana, 4th year student)

5.7.3 Stimulated recalls: general insights from specific reading in English experiences

The research tools previously used provided substantial data regarding the circumstances of how participants dealt with reading in English. While think alouds informed how participants faced concrete literacy experiences and thus the individual resources they used to acquire the information, interviews provided the background of the individual and collective needs, resources and perspectives on using English in the BPCH community. To get a broader panorama of the academic literacy, the stimulated recalls offered two complementary disclosures to triangulate information. On the one hand, by watching the recordings of what participants had been doing, they drew integrative viewpoints that pictured how they perceived what they lived both in plain sight and in a personal and closed way. Hence, unlike think alouds, the stimulated recalls also included why, what for, and how they felt not only about the process of acquiring information but also of the uses it would have. On the other hand, in contrast to the interviews, with stimulated recalls, participants addressed the topics they pinpointed as relevant. Participants played a more active role since they organised their ideas considering the in-progress actions, their perceptions about what they would like to do and what they actually did with the academic literacy.

Because the elicitation in stimulated recalls is non-intruding, participants' narratives gained a more evocative tone that let some unexpected issues to come up. Therefore, the report of the findings from this tool paid particular attention to those uncharted literacy components hardly or no covered with think alouds or interviews. In line with the presentation of the findings from

previous instruments, the analysis of data is explained with excerpts from the participants' retrievals immediately after they had read in English. Specifically, in stimulated recalls, there were four literacy issues not covered previously:

1. The overall relationship between the type of information they commonly consulted and the activities they carried out.
2. The differentiated use of support resources to acquire information depending on the purposes of reading and the characteristics of the texts.
3. The particular experiences that impacted how participants carried out reading in English.
4. The opinions and attitudes of the participants towards English as part of the BPCH tasks.

Another significant aspect raised in the stimulated recalls was that BPCH training requires practising very similar activities to prepare formulas at the laboratory. These procedures follow instructions for the adequate management of chemical products. Students consulted handbooks, test protocols, and textbooks that followed repeating patterns to present information on an ongoing basis. Therefore, in stimulated recalls, it was possible to realise that participants had developed familiarity with precise information and vocabulary in English. The reason was that they had used this type of information in previous courses. Although participants lacked language proficiency, they reported not having comprehension problems with specific aspects of the texts that readers with poor knowledge of pharmacological technicalities would struggle or be lost for comprehension. Érica's account exemplifies this literacy component:

> Investigadora: ¿Por qué escribiste esas cifras?
> Érica: Como voy a diluir el sorbitol en agua, se van a formar quelatos. Entonces, necesito medir la acidez y el punto de fusión.
> Investigadora: ¿Ya sabías eso?
> Érica: Sí, claro. Eso hacemos con todos los alcoholes. Por ejemplo, este alcohol debe estar entre 110-112°C y al 10% de agua sobre volumen (Érica, participante, recuerdo estimulado, 1).

> Researcher: Why did you write those numbers?
> Érica: As I'm going to dilute sorbitol with water, some chelates will be formed. Then, I need to measure the acidic condition and the melting point.
> Researcher: Did you know all that?
> Érica: Yes, indeed. We do that with any alcohol. For example, this alcohol must be between 110-112°C and 10% of water over volume (Érica, participant, stimulated recall, 1).

Similarly, it was possible to observe that besides concepts and forms of presenting information, participants used some terms in English. When asked why they wrote simultaneously in English and Spanish when taking notes, all of them replied that there was no translation of some words into Spanish. For example, in a stimulated recall, Yalina told me she required to know if the soybean oil she would use worked well as a buffer solution in an ointment with high iron content. The only word she used in English was 'buffer'. When asked why she used that term in English,

and she said there was no equivalent in Spanish. She perfectly knew the meaning of the word as it was used just like that among the BPCH community members.

The second literacy component observed during the stimulated recalls was that though in interviews, the use of different supports during reading in English was mentioned, some aspects concerning their specific application had been overlooked. As in the case of some BPCH terms and type of texts, participants had also acquired expertise with certain resources at the time of the observation. In interviews, participants described having polished how they used certain resources such as Google translator, Facebook, or some BPCH web forums. However, in the stimulated recalls, participants expounded how they employed them in a differentiated way. In this respect, participants indicated that their consultation fluctuated depending on how much detail and accurate information they required.

During the three rounds per participant, they reported using different purposes of reading. For example, sometimes, they had to consult BPCH texts to obtain general ideas to discuss in class. To meet this purpose, participants varied the types of reading. In some parts of the texts, they only scanned information, reporting those passages as irrelevant. In other parts, they conducted a careful reading explaining that those selections enclosed substantive information that demanded a more precise understanding. When struggling for comprehension, participants differentiated the use of supports. If they needed to get general ideas and information was not clear, they straightforwardly used the electronic translator. While sometimes, participants mentioned that information was not entirely understood, they commonly identified the main topics and ideas. Flaws in the comprehension did not hinder participants to continue reading. In this regard, Brenda explained in an account after reading:

> En este caso, apunté las ideas más importantes [en español]. Esta información detallada es más difícil. Estas partes, las salté [apuntando con su dedo]. Mi maestra nos dijo que leyéramos este texto porque es como una introducción de los agentes de viscosidad. No estoy segura si vamos a trabajar con ellos… ¡Ya ella nos dirá! (Brenda, participante, recuerdo estimulado, 1).
>
> In this case, I wrote down the main ideas [in Spanish]. This detailed information is more difficult. I skipped them [pointing with her finger]. My teacher asked us to read this text because it gives a kind of introduction about suspending agents. I'm not completely sure if we are working with them… She will tell! (Brenda, participant, stimulated recall, 1).

Nevertheless, when participants had to follow instructions to prepare formulas and were in charge of reporting information, they used the supports differently. If data was not clear, they wrote down key information to be clarified. The electronic translation was selectively used to look up isolated words or phrases. Sometimes participants confirmed meaning in other web browsers

to contextualise ideas. Moreover, when participants felt information might be misleading, they said it was necessary to ask someone else, either a classmate or a teacher, before reporting it. Participants also mentioned they would check BPCH forums where specific information could be verified. The significance of these sites was that particular BPCH uses were commonly examined in Spanish and situated into similar contexts. Although they indicated taking part in those forums rarely, these networks were recognised as reliable sites to clarify meaning and acquire BPCH knowledge.

In interviews with participants and additional informants, they had portrayed the most important characteristics of the BPCH resources and needs on reading in English. This information covered contextual factors such as purposes of reading, type of texts and activities, and the social patterns the BPCH community members followed to develop literacy. Despite the opportunity to interview participants iteratively and including complementary perspectives from the additional members of the community, the activity's description contained rather global explanations. In this regard, a clear contribution of the stimulated recalls was that retrievals brought up some fine points from the participants' experiences that explained subtly certain forms of conceptualising the academic literacy.

The stimulated recalls indicated that participants dealt with different tasks simultaneously. The BPCH training required spending long hours at the laboratory to complete chemical methods. If unforeseen circumstances occurred, the whole procedures had to be repeated. It meant a significant increase in the workload, which altered the rest of the activities. In the case of reading, it was always assigned as homework. Then, it was common that participants mentioned being undermined due to feeling tired, sleeping very little or concerned about their unfinished work. While academic endeavours irrespectively of the field of study generally imply performing challenging tasks and busy schedules, BPCH participants considered reading in English was even more difficult because it had to be done outside the classroom. Besides devoting full time to regular activities, they had to remain longer at the university team working for laboratory practices and reading in English. This situation meant that in stimulated recalls, participants rated this activity as backbreaking.

Another finding from stimulated recalls not previously addressed was that though participants commonly complained about having to read in English, they acknowledged playing a more active role when reading in English than in Spanish. Some participants reckoned that when reading in English, they truly concentrated on it, requiring them to pay more attention to make meaning. Therefore, when participants had to read texts in both languages, they prioritised reading in

English, assuming that they read corresponding texts in Spanish with no problem. From this issue, two elements for the analysis of the academic literacy arose.

On the one hand, participants sometimes recognised that they would likely recall more information after reading in English than if they did it in Spanish. In the stimulated recalls, most participants considered the information they got was sufficiently clear. They felt confident about using it for the required BPCH tasks. In some rounds, participants conceded that when they read in English, they even organised themselves better. For example, as a team, they made pretty clear the purposes of reading and sharing responsibilities. They paid greater attention to what classmates contributed. In this way, they consolidated BPCH learning from reading in English.

On the other hand, although in interviews, participants were prone to complain about having to read in English, suggesting that it was much easier in Spanish, in stimulated recalls, some participants conceded that this idea was not necessarily confirmed. When they referred to having shortcomings to get meaning, they identified that sometimes, it was due to the lack of some BPCH knowledge, not because of English. That is to say, when reading specialised texts, participants also faced challenges with BPCH texts in Spanish. The following excerpt from Montserrat's retrieval illustrates how by narrating what she had done; it was possible to observe that she reframed some of her ideas about reading in English:

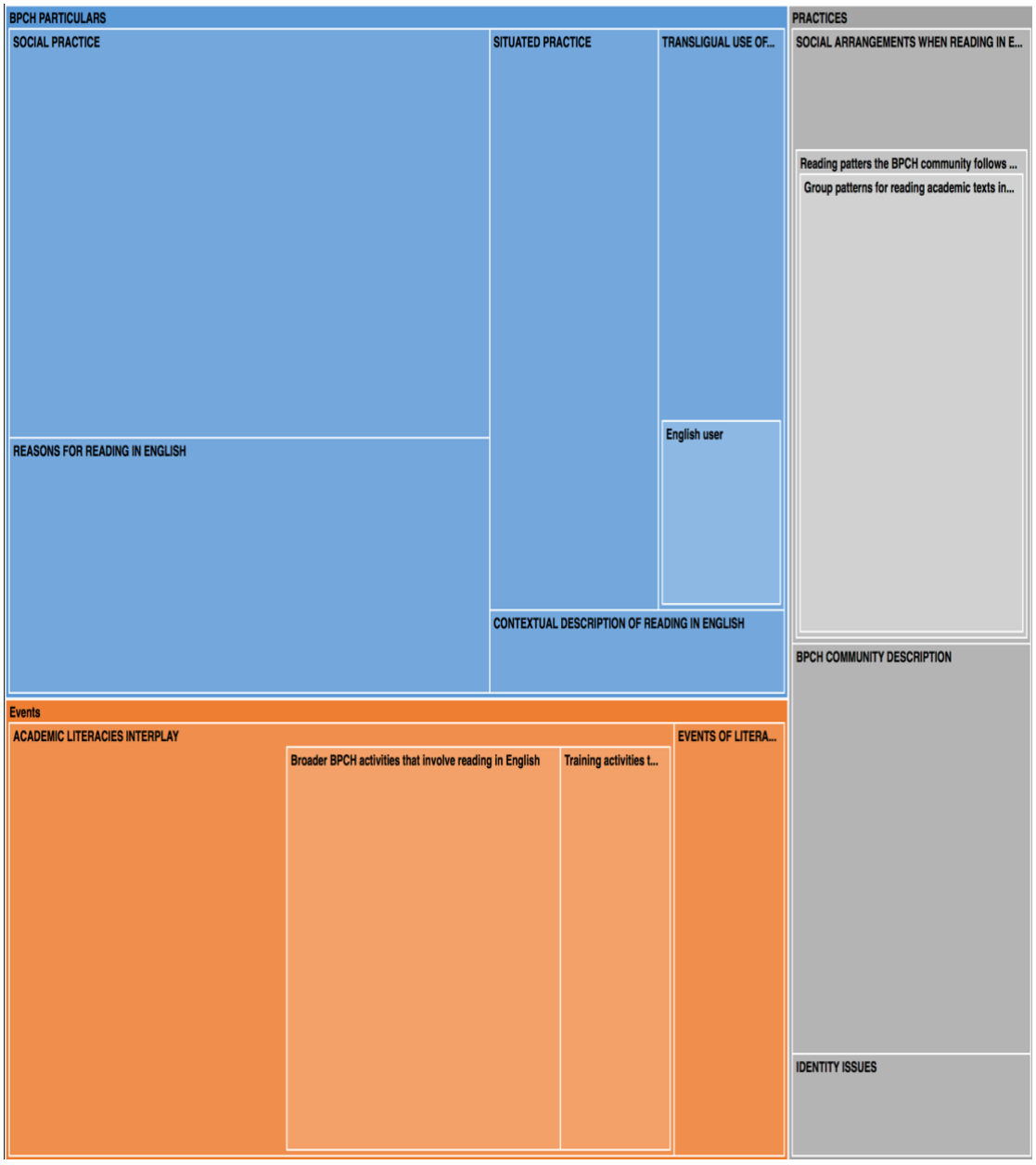
> Montserrat: "No me siento bien… casi no entendí. No sé nada de los agentes 'channelling' [diciendo esa palabra en inglés]. Lo único que sé es que vamos a usar este sodio para cambiar el carácter iónico del gel. Es porque el sodio ayuda a controlar la liberación de los medicamentos. En polvo, es de 1 a 10 de glicerina. Eso es todo lo que entendí ¡Ni modo!
> Investigadora: Si hubieras leído el texto en español ¿tendrías más información?
> Montserrat: Habría sido más sencillo… Quizá sabría lo mismo… A veces me pasa que me acuerdo más de lo que leí en inglés… Leer en inglés me obliga a poner más atención [frunciendo los labios]. ¡A veces me acuerdo más así! (Montserrat, participante, recuerdo estimulado, 2).

> Montserrat: I don't feel well… I didn't understand much. I know nothing about 'channelling' agents [saying that word in English]. The only thing I can say is that we are using this sodium to change the ionic character of the gel. It is because sodium helps to control the release of drugs. In powder, it is 1 in 10 of glycerine. That's all I got… Sorry!
> Researcher: If you had read that text in Spanish, would you have more information?
> Montserrat: It would have been easier… Maybe, I would know the same. Sometimes, it happens to me that I remember more of what I read in English… Reading in English forces me to pay more attention [pursing lips]. Sometimes I remember more in that way! (Montserrat, participant, stimulated recall, 2).

5.7.4 Photographs: a means to portray the academic literacy

As stated in the methodology section, photographs were used to complement the insight provided by the other research tools. They particularly represented what reading in English was for the participants and how it was carried out in situ. The participants' selection of the literacy episodes and their circumstances opened up an alternative form of expressing how they conceptualised the activity. Therefore, photographs helped to shape an important part of the ideology. Besides, photographs provided a valuable ethnographic approach to know, in an intimate way, the particulars of the places, times and situations that characterise this literacy as a social and situated practice.

Figure 5- 9 Hierarchical representation of codes in photographs



Despite the reservations of using photography as a research tool due to its subjective nature, some relevant elements justified the pertinence of its inclusion in this thesis to widen the understanding of a complex social phenomenon. In particular, they called into question the effectiveness of explaining literacy through standard settings, readers and valuations. By photographing literacy events, they captured diverse experiences and provided a kind of sense of being there. Moreover, beyond documenting folkloric performances on literacy, photographs provided data of its primary feature: the adaptive capacity to meet specific needs and resources. Thus, photography helped to understand the logic of an academic literacy that, among other literacies, includes a variant of REAP.

In this thesis, visual data were analysed in the same way as the rest of the research tools. Figure 5-10 shows the hierarchical representation of codes, which mainly contextualised the academic literacy the BPCH community develops. Therefore, from left to right and top to down, photographs informed how participants adapted REAP to the information needs and resources. The central elements photographs portrayed were the BPCH particulars and the literacy events participants considered as the most significant. From those literacy elements, the social arrangements among participants, the way they represented the academic community and some identity issues could be inferred.

Following some guidelines for the analysis of visual data concerning literacy suggested by Hamilton (2005), the below table shows the most significant literacy components found in the photographs provided by the participants. This table synthesises what photographs depicted regarding the main visible and inferred components of the academic literacy derived from the captured scenes. In capitalising on the information, the table lists the photographs' content. To provide meaningful visual data from a practice insufficiently socialised, some photographs are inserted throughout the further discussion of findings. As a sample of the insight provided by the use of photographs, *see* Appendix G.

Table 5 - 5 the most significant literacy components portrayed in the participants' photographs

VISIBLE LITERACY COMPONENTS WHEN READING IN ENGLISH WAS INVOLVED	
SOCIAL INTERACTION AMONG MEMBERS OF THE BPCH COMMUNITY	Photographs exhibited reading in English as a collective activity based on a shared experience. Participants did not provide any photograph reading individually.

SETTINGS WHILE ACQUIRING AND USING INFORMATION	Through photographs, it was possible to observe that the assigned times for reading in English were not part of the classroom activities. The process of acquiring information was exhibited either at the library, in small cubicles or in other university areas not clearly defined. The information was used at the laboratory with texts at hand or to write up BPCH assignments.
ARTEFACTS AND ACCESSORIES INVOLVED	Photographs showed that participants used paper and digital BPCH texts simultaneously, handbooks, textbooks, notebooks and personal laptops.
ACTIVITIES AND ACTIONS PERFORMED BY MEMBERS OF THE BPCH COMMUNITY	The purpose of reading to acquire and use information in English was directly related to central BPCH activities. That is to say, none of the photographs drew attention to texts in isolation or reading comprehension activities. They portrayed students in collaborative work as part of the ongoing activities. For example, some photographs focused on the chemical formulations they manufactured or giving presentations to the class.
NON-VISIBLE LITERACY COMPONENTS INTERPRETED FROM IMAGES	
FEELINGS, ATTITUDES AND BEHAVIOURS	Although participants repeatedly expressed having challenging situations to acquire and use information from texts written in English with the other conducted research instruments, images participants supplied suggested other circumstances. Photographs referred to cooperative work, such as presenting well-achieved tasks or participants taking part in a pharmacology seminar presentation.
STRUCTURED ROUTINES	Photographs confirmed that reading in English was carried out outside scheduled activities. In several pictures, it was possible to observe participants meeting after completing formal BPCH activities. Either in interviews and photographs, students related having to arrange themselves to deal with acquiring information. In diverse academic and everyday situations, the same students appeared together. It indicates they reached social agreements that influenced the way they faced reading in English.
APPROPRIATION OF THE LITERACY	Although the explored literacy is developed into an academic environment, it is carried out outside the formal teaching. Thus, teachers are not direct interactants, and students organise themselves, take decisions and regulate the activity derived from

their personal characteristics and strengths. Photographs illustrate how participants adapted literacy from their own resources to meet well-defined information needs.

The below photograph (figure 5-11) shows a team of BPCH students at the university library consulting a popular pharmaceutical handbook. Although in interviews, participants described settings, artefacts, people involved, and working atmospheres, visual data made some literacy components more meaningful. For example, in this event, students are consulting the same handbook but in different editions. Students shared the latest version only available in English at the centre of the desk while each one of them keeps previous versions in Spanish. In the picture, it is possible to observe how Spanish translations are dog-eared from being used continuously.

Figure 5- 10 A team of participants taking pictures of what reading in English represents for them

5.8 What cases portrayed

This section presents the most illustrative components of the academic literacy signified in two exemplary cases. The analysis retakes data gathered from the whole instruments to contextualise it into their biographies. The aim of discussing literacy in this way is to provide an in-depth

understanding from a personal perspective and in a longitudinal fashion. The criteria for selecting themes and participants were that their backgrounds influenced how they placed themselves into the BPCH community and understood the academic literacy.

As mentioned in chapter four, influential researchers who have developed ethnographic approaches to literacy, such as Street (1984, 2001) and Blommaert (2010), have shown that the readers' biographies are intrinsically embedded in the way of developing and conceptualising the practice and need to be part of the analysis. In this section, biographical issues are related to meaningful literacy events and practices addressed by participants and informants. Convergences and differences among the BPCH community members confirm that literacy is a complex social phenomenon experienced differently. Hence, the varied beliefs, values and attitudes constitute part of the identity of each individual.

In presenting the literacy components embedded into the life stories of the cases, the discussion takes advantage of two interrelated assumptions of the ideological model of literacy to comprehend a variant of REAP in a better way. First, it shows how cases in this investigation adapted their resources to deal with the need of using English. Even though in academic realms, where rules and proceedings are highly normative, readers adjust the forms of acquiring and using the information in English based on their particular features. Second, differences in backgrounds explain the diverse forms of conceptualising the academic literacy. So, the ideological construction goes hands in hand with identity issues. The analysis of this relationship also shows that literacy is experienced in a changing way not only among readers but also in a single reader at different points in time and circumstances. For this purpose, reflecting on the personal history of the two cases favours the identification of the ideology that, to a large extend, defined how they responded to REAP.

5.8.1 Andrea

I first met Andrea in the briefing session when she replied to the call for participating in the research. At that time, she had just finished the seventh course of the BPCH programme. In private conversation, Andrea said that she was interested in joining the research because using English was one of her major concerns about professional development. She detailed that in her two previous courses, teachers had included most of the bibliography in English. It had been a significant challenge for the development of Andrea's training, and she felt the need for doing something about it. This participant highlighted that it had taken a long time for her to complete assignments that involved this activity. She had to reread many times a single text without feeling entirely satisfied despite her efforts.

Although any other participant would have disclosed a comparable level of insight, some of Andrea's characteristics provided a meaningful perspective to understand the practice. In particular, there were two specific features of the academic literacy that she allowed me to delve deeper. First, among the cases in the project, Andrea reported having studied English the longest. Her understanding of the use of English and the patterns she followed to develop literacy compelled me to rethink some assumptions on REAP as developed in influential theories. Second, because Andrea had studied English one step further, it gave her a particular group position. Covenants among team members in which Andrea took part showed some of the ideology that shaped the academic literacy this thesis explores. Her biography and particular viewpoints served to analyse literacy from the perspective of someone who was acknowledged as a skilful reader by her classmates.

Andrea was a 19 years old student who came from a medium-size city three hours away from the university. She had been brought up in a four-member family comprising father, mother, an older sister, and Andrea. When I met her, she had been living by herself, renting a dorm room close to the university for more than two years. In her opinion, she had the opportunity for independent living during the week and going back to enjoy family time and the comfy of her own room on weekends. It meant that Andrea was one of the many students who did most activities at the university facilities. With her classmates, she had two meals at the university cafeteria, spent leisure time and partook in some household affairs.

While closer to her hometown, there was another university to study BPCH, Andrea considered leaving her family environment quite positive. She had the opportunity of establishing interpersonal relationships with classmates from various cultural and regional backgrounds, a characteristic not found in her social milieu. Thus, for Andrea, studying at the university represented more than achieving professional growth. This personal information enabled me to recognise her as a young woman who, besides being eager to thrive in various spheres of life, was also aware of some of the distinctive features of the university to which she belonged.

Other significant information regarding Andrea's history was that she had graduated from a two-year technical career in clinical analysis during her high school years. These studies had encouraged her to choose the undergraduate programme. In interviews with other participants who were or had been Andrea's classmates, some perceptions about her coincided. For example, when talking about how they used to read in English, two participants said they asked Andrea to read with them. In the participants' comments, they underlined that Andrea was "hard-working and reliable" (Érica, participant, interview 3) as well as "generally supportive" (Miguel, participant,

interview 1). These characteristics of Andrea facilitated following her for ten months. Her engagement in the project was very enthusiastic. Despite the many times that she was drained and with pending tasks, she hardly ever put off any of the 18 meetings.

During Andrea's technical studies on chemistry, she realised that reading in English was an essential skill. However, at that time, she did not have to read any challenging texts in English. Until the 4th course of the undergraduate programme, she had the first encounter with specialised texts in this language. On that occasion, Andrea's teacher asked the students to investigate different extraction processes individually. They had to search and report the assigned procedures to the rest of the class as a final project, which was of high importance for the final grade.

In Andrea's case, she searched on the properties, toxicity risks and adequate processing of the dandelion plant. While some general information was available in Spanish, she did not find data to the required specificity. The most comprehensive texts were only in English. This participant related it was the first time she had heard about the dandelion plant, and the English language itself was highly complex and specialised. Therefore, Andrea had just gotten scattered ideas. To get the necessary information, she worked with different texts. She clearly remembered that despite having devoted many working hours, she had felt uncertain and worried about the information she had presented to the group.

The shocking Andrea's first experience on reading in English explains why she kept the consulted texts and recalled, in detail, what she had done to accomplish the task. As a first option, she did what most of her fellow students used to do in the absence of better alternatives. She had translated the whole text with a digital app (Google). Unfortunately for Andrea, it did not help since many words were specific terms and abbreviations. Hence, the Spanish translation was quite vague. It can be envisaged from the following excerpt taken from one of the texts on the dandelion plant Andrea consulted.

> The LC/MS/MS was performed on an Agilent 1200 Series liquid chromatography that was coupled with an Agilent 6460 triple-quadrupole mass spectrometer equipped with an atmospheric pressure chemical ionization (APCI) source (Agilent Technologies, Palo Alto, CA, USA). Chromatographic separation was achieved on an Agela C_{18} (4.6 × 50 mm, 5.0 µm) column and maintained at 30°C. The mobile phase consisted of methanol–isopropanol–water–formic acid (80:10:10:0.1, v/v/v/v) with isocratic elution at 0.7 mL/min flow rate and 2.6 min run time. The injected volume for each sample was 5 µL, and the autosampler temperature was set at 15°C. The MS was performed in positive APCI mode using selected reaction monitoring (SRM) to monitor the mass transitions. The SRM transitions used were *m/z* 409.4 → 137.1 for taraxasterol, and *m/z* 503.4 → 113.1 for cucurbitacin IIa (IS). The fragmentor voltage values for taraxasterol and IS were set at 110 and 135 V, respectively. The collision energy values for taraxasterol and IS were both set at 25 eV. The other parameters of the mass spectrometer were optimized and set as follows: gas flow, 4.0 L/min; gas temperature, 325°C; vaporizer, 350°C; nebulizer, 20 psi; and capillary, 4.5 kV (excerpt taken from: González et al. (2014)).

Although Andrea acknowledged that digital translators were of great help, she also stated that very frequently, it took longer to contextualise misconstrued data. It had been the case of her experience with the dandelion plant; thus, she looked for another option. Andrea's second reserve was asking Fernanda, her sister, for help since she continued studying English, and Andrea pondered her as a proficient reader. Andrea said that though Fernanda had done her best, the topic was even more obscure for her, considering that Fernanda was not studying chemistry. For that task, no teamwork had been done. In Andrea's words, everyone was "saving their own skin" (interview, 1). Eventually, she regarded that initial reading in English as a clarifying experience. Among others, she had learnt the type of texts she would use, the actual sources at her disposal and the intricacies of the type of English she would use during her training.

Considerations regarding how Andrea perceived English yielded valuable information to understand the variant of REAP the BPCH community developed. As a student who had received some English instruction and required to use BPCH information in this language, she made interesting distinctions on the different approaches to this activity. By knowing some biographical aspects from Andrea and connecting them with the form she developed literacy, it was possible to contextualise some social interaction patterns and beliefs that gradually confirmed coincidences with many NLS.

Andrea had studied a total of four years of English. In middle school, she had had two times per week, one-and-a-half-hour classes during three years. Later, in high school, she had studied English for a year in a similar schedule to the previous stage. Besides, she had taken some private classes and summer courses. However, because these courses were discontinuous, she did not consider them as part of her instruction. Talking about the type of language teaching she had received, Andrea considered she had studied it in a disjointed manner. Many of the contents she had learnt in middle school were the same as those practised in high school. On this matter, Andrea underlined that the language contents had been those commonly addressed at an elementary level, such as introducing and describing people or expressing routines and everyday situations.

The type of English classes Andrea had attended were part of a four-skill method for language learning. She had worked with graded textbooks, teachers guided all activities, and in teamwork, she had practised contents with classmates through listening and writing exercises or role-playing. When recounting what Andrea had done in her English classes, she seemed to have good memories of them. This participant repeatedly said it had been fun and felt that she had performed rewardingly. It was until Andrea began referring to how she used English at the

university that some considerations regarding the way she had learnt it emerged. In her analysis, when Andrea linked her experiences with reading BPCH texts, she differentiated: “well, one thing is what I learnt of English, but completely another what I do now”. She even pinpointed: “sometimes I feel as if I hadn’t studied English at all” (interview, 2).

For Andrea, it was clear that the approaches to English from her language classes did not yield substantial contributions in dealing with challenging texts like the ones she was consulting for the BPCH training. Moreover, when analysing how this BPCH student used English, she realised she had not learnt the English language nor pharmacology progressively. In this vein, she discovered:

> Lo que pasa es que es un tipo de inglés diferente. No es algo que pueda aprender a partir de los temas del inglés, sino por los de farmacología… De hecho, los textos que leemos no abordan sólo un tema, sino varios… Bueno… en la carrera, vemos temas, pero vamos aprendiendo de varias cosas a la vez. Por ejemplo, digamos… procesos celulares. Cuando leemos de este tema, también vemos de anabolismo, catabolismo, procesos de medición, procesos de extracción, y cosas así… ¡Tampoco aprendemos por temas de farmacología necesariamente! [expresando sorpresa] Son cosas diferentes (Andrea, participante, entrevista 2).

> You know, it is a different type of English. It isn’t something I can learn from English contents but from BPCH topics... In fact, the texts we read do not cover just one topic, but many … Well… in the career, we address topics, but we are learning many things at a time. For example, let’s say… cellular processes. When we read about this topic, we also learn about anabolism, catabolism, measurement processes, extraction processes, and so on… We don’t learn BPCH per topics either! [expressing surprise] They are different things (Andrea, participant, interview 2).

Concerning the difference between common English and the variant of REAP in the BPCH community, Andrea even said she regretted having said to her fellows that she had studied English in middle school and high school. Some of them anticipated that Andrea knew a lot of English. This participant felt it was a supposed strength that she did not show very frequently. When comparing the didactic materials Andrea had previously used in the English classes and the BPCH texts in English she was consulting, the student said that there seemed to be no relation between them. Unlike “easy and short texts” (Andrea, interview 3), like the ones she had read in graded English textbooks, the BPCH texts she consulted came from journals, handbooks and textbooks. Then, this participant remarked:

> Por supuesto que estos textos están escritos para desarrollar temas de farmacología, no de inglés. Además, están pensados para quienes hablan inglés, no en nosotros. Es como cuando leemos en español, unos temas son más fáciles que otros. Hay textos en español que parece que están en chino (Andrea, participante, entrevista, 3).

> Obviously, these texts are written to develop pharmacology topics, not English. Besides, they are thought for those who speak English, no for us. It is like when we read in Spanish; some topics are easier than others. There are texts in Spanish that seemed to be in Chinese (Andrea, participant, interview, 3).

Andrea added that the uses of the information were entirely different. Instead of focusing on the texts themselves, the key point was that they consulted the information to understand concepts,

processes or follow instructions at the laboratory. No teacher guided them when reading. When doing team work, students acquired the information as they could and used it in the BPCH regular activities. On this aspect, she described:

> Si nos equivocamos, entonces tenemos que volver a leer y repetir todo el proceso. Es cuando nos damos cuenta quién del equipo se equivocó. Si logramos sin problemas lo que queremos en el laboratorio, quiere decir que todos entendimos (Andrea, participante, entrevista 3).
>
> If we get wrong, then we have to read again and repeat the whole process. It is when we realise who from the team got it wrong. If we achieve with no problems what we want at the lab, it means that we all understood (Andrea, participant, interview 3).

Andrea contributed with another interesting reflection about the variant of REAP she developed. When talking about the challenges she faced with the texts she had to consult, she said:

> Mi hermana ha estudiado inglés desde hace mucho tiempo, pero las lecturas en sus libros son de este tamaño [indicando con los dedos algo breve]. Yo creo que sólo leyendo y leyendo textos de farmacología es que he mejorado… al menos, un poquito. Quiero decir, desde que hemos estado leyendo tanto en inglés… siento que ya reconozco más palabras y entiendo mejor lo que leo. Por ejemplo, los maestros nos explican casi todos lo temas de manera general o leemos en español sobre eso. Cuando leemos en inglés, entonces ya no es tan difícil. Yo diría que nos acostumbramos poco a poco. Lo que alguno de nosotros no entiende, otro sí. Ponemos mucha atención si es muy importante (Andrea, participante, entrevista 4).
>
> My sister has studied English for a long time, but readings in her textbooks are this size [suggesting with her fingers something very small]. I think it is just reading and reading texts on pharmacology that I have improved… at least, a little. I mean, since we have been reading a lot in English... I feel I already recognise more words and understand better what I read. For example, teachers explain to us almost all topics in general terms or we read in Spanish about that. When we read in English, then it is not that difficult. I would say that we get used to it little by little. What one of us doesn't understand, the other does. We pay a lot of attention if it's very important (Andrea, participant, interview 4).

Among participants, Andrea was one of the firsts in underlining the significance of the previous BPCH knowledge to get meaning from the texts they consulted. I assume that having experienced the type of readings and activities she had practised in her English classes gave Andrea clarity about the different approach they had reading specialised BPCH texts in English. Andrea frequently mentioned that instead of English knowledge, what she knew about the topic helped her comprehend ideas. This element can be recognised in the graphic the qualitative software cast to represent Andrea's high recurrence of references using previous knowledge. It can be observed that she used to get meaning of the texts she read mainly from her pharmacology knowledge rather than from the language recognition (*see* Appendix I).

Emphasising both the importance of the BPCH knowledge and how she construed meaning, Andrea also helped to identify that the academic literacy the community developed was put together with other specific literacies. Because she was a very analytical participant, I could get a

comprehensive picture of certain characteristics of the use of English. For example, in a stimulated recall, Andrea exemplified a specific use of English by saying:

> Andrea: Yo no sé cómo decir 'boofer' en español. Es una de esas palabras básicas al hablar de excipientes. Pero… como en clase, mi maestro la usa tal cual: soluciones 'boofer'… Entonces, siempre la usamos en inglés. Según yo no hay traducción.
> Investigadora: ¿Entonces tú sí sabes qué significa 'boofer'?
> Andrea: ¡Sí, claro! En todas las fórmulas usamos 'boofers'. En geles, pastillas, cremas, jarabes. Ni nos damos cuenta, pero aprendemos palabras en inglés porque las usamos. No nos lo proponemos, igual que en español (Andrea, participante, entrevista 4).

> Andrea: I don't know how to say 'boofer' in Spanish. It's one of those basic words when talking about excipients. But… because in class, my teacher uses it just like that: 'boofer' solutions… Then, we use it always in English. I think there is no translation.
> Researcher: Then, you already know what 'boofer' means?
> Andrea: Indeed! In all formulas, we use boofers. In gels, tablets, creams, syrups. We don't even notice, but we learn words in English because we use them. We don't intend to, just like in Spanish (Andrea, participant, interview 4).

From Andrea's information, the way she perceived herself as a reader gave me the clues to identify a key component of the ideology that nurtured the literacy. In think alouds and stimulated recalls, she underlined the difficulties she had to comprehend when reading unfamiliar pharmacology topics. She often remarked, feeling overwhelmed by the lack of knowledge or the large volume of reading. While in most of the reading sessions, she achieved her goals and mentioned having comprehended the text satisfactorily, she also expressed it was a challenging activity. Regarding her regret for having said to her classmates that she had studied English. She said:

> Cuando les digo a mis compañeros que no entiendo, ellos creen que no quiero ayudar. Pero es verdad… Haga lo que haga, casi siempre quedo mal (Andrea, entrevista 6).

> When I tell my classmates that I don't understand, they think I'm refusing to help. But it's true… Whatever I do, I almost always look bad (Andrea, interview 6).

Andrea considered that her fellows very frequently relied too much upon what she said. It made Andrea felt a responsibility that did not concern her. Other times, the team members designated her more work as they argued that information should be as reliable as possible. Notwithstanding her views in the individual interviews, when retrievals were shared and concerted in the group interview, I could observe that Andrea's comments addressed other issues. She mainly focused on the problems it meant reading in groups. Either because of the disturbing elements at the library or the difficulties of reading in teams, Andrea explained:

> A veces leo sola, a veces con el equipo. Cuando tenemos que leer en inglés ... ¡A veces me toca leer todo!… aprendo… pero sólo si tengo tiempo… si no… perdón, pero yo prefiero leer sola…yo me voy a mi casa (Andrea, participante, entrevista grupal).

> Sometimes I read by myself, sometimes with the team. When we have to read in English… Sometimes I have to read everything! … I learn … but just if I have the time… If not … sorry, but I prefer to read by myself … I go home! (Andrea, participant, group interview).

Due to the request from those who considered themselves as flawed readers to work in teams, there was a special recognition to those considered seasoned readers. Andrea's appreciation towards reading in English varied. While in the individual reading rounds, Andrea could express problems to get comprehension; in the group interview, she mainly referred to the inconveniences reading with others implied. This change confirmed as a critical literacy component. There was social recognition of those who knew English was a privilege that should not be wasted. It is possible that because of this condition, in front of the other participants, she emphasised the advantages of reading by herself.

Andrea's remarks in the group interview support the idea that for these BPCH students, reading in English went further than a means to get information. It became a kind of commodity and her command granted Andrea a privileged position in the group. The fact that her classmates acknowledged this participant as more capable and well trained allowed her to decide whether to share a reading or not and with whom. Thus, unlike others who adapted to schedules and compensated for reading shortcomings with additional tasks, readers with Andrea's characteristics took the lead in this context.

5.8.2 Rosalid

Like Andrea, I first met Rosalid when she replied to the call for participating in the research. In that initial appointment, she told me she was interested in partaking as she required support. I explained to her that she would not find any language backing or reading instruction in the project because the focus was not on teaching. Therefore, during the reading sessions, she would do it with no help on my part or any other person. Despite these remarks, with no hesitation, Rosalid resolved to join. She said she needed to practise it, and sessions would force her to read by herself. She underlined it was a challenging issue as she always sought to do it with the help of someone else.

From the very first moment, Rosalid emphasised that English meant a kind of hurdle in her vocational training. In her opinion, the main reason that explained this form of experiencing it was that she had not had any English instruction. On this point, she said:

> Tengo una verdadera desventaja por el inglés… No sé nada de inglés y pues leo muy mal… Siempre tengo que pedir ayuda. Lo bueno es que la mayor parte del tiempo, los textos que tenemos que leer son muy parecidos. Entonces, voy entendiendo de lo que dicen los demás. El problema es cuando tengo que leer un texto yo sola. Es cuando sufro de verdad. Depende, pero si no entiendo, lo pongo en el traductor de Google. Lo que entendí, entendí (Rosalid, participante, entrevista 1).

> I have a real handicap because of English… I don't know any English, so I read very poorly …. I always have to ask for help. Fortunately, most of the time, the texts we have to read are very similar. Then, I gain comprehension from what others say. The problem is when I have to read a text by myself. It is when I really suffer. It depends, but if I don't understand, I put it in the Google translator. What I got, I got (Rosalid, participant, interview 1).

Rosalid was from a rural village where the teaching method at their middle school had been via videocassettes. A single teacher guided all activities while the presentation of contents from the different subjects was by watching explanatory videos. She said that though the curriculum included English, his teacher had been frank. He had admitted he would not be of great help because he felt uneasy with the foreign language. By contrast, he had told the students that he could help them better with other subjects. For that reason, they had skipped all the English activities.

Later, to attend college, Rosalid had to move to a town six hours away from home. She had lived at the house of some relatives and had begun working on weekends. It was only during school vacations or holidays that she went back home. English was not part of the programme, and although she wanted to study it, there were not private classes available in the vicinity. This situation made her only approach to English before going to the university was by reading lyrics from the songs she liked or watching subtitled TV programmes in English. From this information, it was possible to assume that Rosalid did not reject English since she had even looked for options to learn it.

Rosalid told me that her family had always encouraged her to study and develop into several areas. In general terms, she had always been a diligent student and enrolling at the university was an opportunity she highly valued since she was the first member of the family who could pursue a university education. At different times in our conversations, Rosalid noted that studying BPCH was very rewarding. However, she was under much pressure as she felt she had to excel in her professional development. From the very beginning of her BPCH studies, Rosalid considered the need for reading in English "a kind of nightmare" (Rosalid, interview 1). In this sense, she recalled:

> Cuando iba en segundo trimestre, no habíamos leído nada en inglés, pero mi maestra nos advirtió que en el siguiente curso leeríamos mucho en inglés. Ella nos dijo que, si no leíamos en inglés, iba a ser muy-muy difícil para nosotros. Yo sentí como si estuviera hablando de mi… (Rosalid, participante, entrevista 1).

> When I was in the second course, we hadn't read anything in English, but my teacher warned us that we would read a lot in English in the following course. She said that if we didn't read in English, it would be very-very difficult for us. I felt like she was talking about me… (Rosalid, participant, interview 1).

Rosalid said that she wanted to compensate her family for all their efforts to have her living as an undergraduate student in the capital city. Nevertheless, some concerns made her doubt if she

could succeed as a professional. Often, she remarked she was aware of certain shortcomings in her educational background since English was not the only problematic issue. Besides, once Rosalid graduated, she did not know whether she genuinely wanted to continue living in the city to find a job or go back to her place, assuming that she could not develop properly as a pharmacologist.

When I met Rosalid, she was 19 years old. Her school instruction and almost all her social life were in Spanish. Besides Spanish, her parents spoke Mixtec, a native Mexican language. Although she did not speak it, she understood it completely. Rosalid said that she had always considered having the ease to learn languages. Among her sisters and cousins, she was who understood Mixtec the best, even though her only approach to it had been listening to elder relatives talking among them. When Rosalid referred to how she felt towards the use of English, her opinions changed. She related:

> Trato de concentrarme lo más que puedo. No sé qué me pasa, pero casi no entiendo nada. No sé si es que me pongo muy nerviosa o de plano no puedo. Nunca me había sentido así… tan perdida ¡No se me da el inglés! (Rosalid, participante, entrevista individual, 5).

> I try to focus as much as I can. I don't know what happens to me, but I almost don't understand anything. I don't know if it is because I get very nervous or merely I can't. I had never felt this way… this lost. English is not for me! (Rosalid, participant, individual interview 5).

Whereas four of the participants had not received any English teaching, certain characteristics of Rosalid and her willingness to share her experiences led to identifying her as an exemplary case, which is shown by the very detailed level of information she provided (*see* Appendix J). Besides giving insight on a variant of REAP, Rosalid provided very valuable disclosures about the different abilities, or better said, literacies she drew upon to acquire and use information in English. Because she was particularly responsive, I could delve into different academic and personal aspects that gave sense to most essentials of the academic literacy.

Rosalid considered that though she had felt she would never manage with the need in her early experiences, the way she dealt with reading in English had changed over time. Considering it as the only alternative, she asked her classmates to either read with her the assigned texts in English or at least tell her what they had understood. By narrating, in general terms, the way she dealt with reading in English, she said:

> Cuando sé que vamos a leer algo en inglés, yo pongo mucha atención en la clase o leo en español del tema … A veces eso me ayuda a entender. Pero, si no entiendo nada del texto … ¡Al menos no estoy tan perdida! Cuando estamos leyendo en equipo, yo siempre trato de ser quien escribe. No sé … si no entiendo, me hago la tonta. O sea, como estoy escribiendo, pues estoy haciendo algo. No importa tanto que no esté entendiendo lo que dice el texto. Yo escribo lo que me dictan (Rosalid, participante, entrevista individual 1).

> When I know we are going to read something in English, I pay a lot of attention in class, or I read about the topic in Spanish … Sometimes, it helps me understand. But If I don't understand a word from the text … At least I'm not completely lost! When we are reading in a team, I always try to be the one who writes. I don't know … If I don't understand, I play dumb. I mean, since I'm typing, I'm doing something. It doesn't matter that I'm not getting what the text says. I type what they dictate (Rosalid, participant, individual interview, 1).

Rosalid remembered vividly the very first experiences when reading in English which had made her feel clumsy with her classmates with whom she had worked as a team. She talked about how, after those initial unpleasant experiences, she had adopted what she identified as an "own strategy" when she needed to acquire information in English. She synthesised her proceedings as a combination of two-phased components. First, Rosalid read the texts by herself before meeting with her classmates. She translated complete texts with a digital app. She skimmed and scanned the text to have a general gist of the content and get some ideas where translation was clear. She said that it was very frustrating as she sometimes went utterly blank; however, this option was her only recourse. Later, when she joined her team, she tried to participate, although she was completely wrong many times. Second, she did everything possible to read with someone else with whom she felt comfortable. She felt much more confident reading with whom she did not have to pretend to understand or felt ashamed of being wrong. However, when she had to work in a team where the rest of the classmates knew more English or did not feel at ease, she asked them to do something else that had nothing to do with English. So, she heavily relied on the information her fellows recounted. Due to the uncertainty of her comprehension procedures, she took literally what her classmates understood, even if it was not completely logical or clear. Reflecting on her poor reading comprehension, she expressed:

> Respecto al inglés, en 6º y 7º no hice otra cosa más que decir: por favor y sí. Cuando leía con alguien más, aunque yo sabía que algo estaba mal y no estábamos entendiendo, siempre pensaba que lo que ellos decían era mejor que lo que yo entendía. Ya cuando lo veíamos con la maestra y lo aclarábamos… yo me quedaba con la sensación de que yo lo había entendido mejor… [sonriendo]. Todavía me pasa (Rosalid, participante, entrevista individual 5).

> About English, in 6th and 7th I did nothing but say: please and yes. When I read with someone else, although I knew something was wrong and we didn't understand, I always thought that what they said was better than what I understood. It was until we checked it with the teacher, and we made it clear… I got the feeling that I had understood better… [chuckling]. It still happens to me (Rosalid, participant, individual interview 5).

Later, Rosalid pondered she had adjusted different practices when reading in English. The basic element that had compelled her to change was that during the 8th BPCH course, reading in English had become a continuous task, and many texts had been individually assigned. While asking classmates for specific information had been possible as it was sporadic, the recurrence of the activity made that she could not ask for help anytime she needed it. After saying: "I understood I couldn't continue avoiding reading in English", Rosalid elaborated:

> En ese curso, mi maestra nos hizo leer muchísimo. A veces, yo buscaba las versiones en español u otros textos que hablaran de lo mismo, pero me pasaba mucho tiempo haciéndolo.

> A veces me funcionaba, otras no. Empecé a poner mucha atención cuando leía con mis compañeros, más en los que leían mejor. A veces, les pedía que me explicaran sólo las partes del texto donde no entendía nada y sabía que eran importantes. También ya no usaba el traductor igual, sólo partes. Ya no traduzco todos los textos (Rosalid, participante, entrevista individual 4).

> In that course, my teacher made us read too much. Sometimes, I looked for the Spanish versions or other texts with similar content, but I spent a lot of time on it. Sometimes it worked; some others, it didn't. I began to pay more attention when I read with my classmates, especially on those who read better. Sometimes, I asked them to explain to me just the parts of the text where I didn't understand and I knew they were important. I didn't use the translator the same, only in parts. I don't translate whole texts anymore (Rosalid, participant, individual interview 4).

Although Rosalid's narratives were more likely to connect reading in English with awkward situations, she distinguished having the ability to work in teams. She underlined that she got along well with all her classmates. She often remarked upon her skills in organising tasks, come up with good ideas when working in teams, and give oral presentations to the group. These assets somehow compensated her drawbacks in the use of English. She said that among the different things she had learnt through time, she could make the most of her strengths. For example, in interviews with other participants, some of them mentioned working well with Rosalid without referring to any particular downside. In this regard, the participant said:

> Rosalid: Bueno, es que yo hago lo que mejor sé hacer. No se necesita decir, todos sabemos que a mi me cuesta mucho trabajo leer en inglés. Para mí, es muy claro. Mejor, yo hago otras cosas y las hago bien. Ellos me van dando la información y yo voy haciendo las presentaciones o las doy. A veces, cuando ellos se equivocan o les falta información, yo soy la que se da cuenta. Precisamente, como me cuesta trabajo entender los textos, pongo mucha atención.
>
> Investigadora: Entonces eso les convienes a los de tu equipo.
>
> Rosalid: Nosotros trabajamos mucho en equipo. Si no lo hiciera, ¡me sacan! [riendo] (Rosalid, participante, entrevista grupal)
>
> Rosalid: Well, I do what I do best. Needless to say, we all know that it's hard for me to read in English. For me, it's very clear. Better, I do other things, and I do them well. They give me the information, and I prepare the presentations or give them. Sometimes, when they are wrong or miss information, I'm the one who notices it. Indeed, since I have troubles understanding texts, I pay close attention.
>
> Researcher: So, that suits your team.
>
> Rosalid: We work a lot in teams. If I didn't do it, they take me out! [laughing] (Rosalid, participant, group interview).

Regarding establishing linkages to face reading in English, Rosalid revealed a sociocultural element of the academic literacy. She remarked that since the first BPCH courses, she had shared many affinities with Zitlali, another participant in the research. Rosalid narrated that both came from rural areas. For the first time, they lived in México City with all the challenges it represented. They also had engaged in a very similar type of previous studies. Like Rosalid, Zitlali considered reading

in English a challenging task and used different strategies to cope with it, basically grounded on mutual cooperation. These features meant that they underwent different matters together. A clear example was that they arrived together at the briefing session of this research, although our appointments had been set individually. Besides school matters, they shared other aspects of their daily lives, such as hiring at the same place, sharing some expenses and having almost the same friends.

In individual interviews, Rosalid and Zitlali agreed that they received essential support from each other to deal with English. Because they had attended the same courses, they had read together many times and throughout their stay at the university. It was enlightening to identify the significance of sharing their experiences on literacy. From all the participants, they were the ones who tended to give more meaningful and deeper occurrences. Hence, they allowed the researcher to approach them on many occasions when they read together and in diverse contexts, such as doing homework, taking part in a BPCH seminar, or confiding me some personal affairs. This form of sharing experiences endorsed how both of them related the academic literacy to building social networks. For example, in an interview, Rosalid said about Zitlali:

> Con Zitlali es como decir 'Dios las hace y ellas se juntan' [riéndose]. Casi siempre leemos juntas. Ella me ha ayudado mucho, incluso cuando he tenido que leer algún texto que a ella no le toca, me ha ayudado. Ya si de plano siento que no entendimos una sola palabra, le pedimos a alguien más. No hemos aprendido mucho inglés, pero ahí vamos (Rosalid, participante, entrevista individual 6).
>
> With Zitlali, it is like saying 'Birds of a feather flock together' [smiling]. Almost always, we read together. She has helped me a lot, even when I've had to read a text that she didn't have to, she has helped me. If I really feel that we don't get a word, we ask someone else. We haven't learnt much English, but there we go (Rosalid, participant, individual interview 6).

Despite the challenges that reading in English meant for Rosalid, she revealed the capacity of capitalising on different abilities to develop as a BPCH student. Drawbacks to acquire information were compensated by her abilities to use it. In other words, conventionally, REAP is related to acquiring and using information along the same line. However, Rosalid showed that she carried it out differently. While she struggled to acquire the information, she was very capable of optimising and adapting other resources to use it in broader activities.

Rosalid showed that the characteristics of the developed literacy were specific and did not equate with other practices. Nevertheless, due to the impact of mainstream REAP assumptions, she could not identify her strengths to use information. She explained her constraints to understand BPCH texts in English exclusively because of her lack of language proficiency. Rosalid, like most

participants, assigned a sort of idealisation regarding command of the language. Although she conceded reading those texts in Spanish also implied significant challenges because of the contents and forms of transmitting information, she ascribed her reading struggles entirely to the language. Hence, Rosalid had concerns about the validity of reading the way she did. She held the well-rooted assumption that she would read those challenging BPCH texts with no problem if she spoke English.

5.9 Summary

This chapter gave an account of the process that I followed to analyse evidence. After describing how raw data was organised and sorted out through digital resources, I expounded on the rationale for analysing the academic literacy under the approach of the grounded theory. For this purpose, I explained the adequacy of the constant comparison method to shape the particulars of a variant of REAP from the perspectives of those who directly develop it; instead of conceptualising it from standards and normative criteria.

To make plain the proceedings of the inductive method, I explained the process that I followed throughout three sequential coding cycles: open, axial and selective. Besides clarifying the objective of each phase of analysis, I provided some examples to substantiate the transition from literal retrievals of the participants to the construction of the central categories that better synthesise the essentials of the academic literacy. These categories refer to the particulars of the BPCH community in which the case study was carried out, the core literacy events that demonstrate why reading in English is part of the academic literacy and the ideology that underlies the different forms of experiencing it.

With the core categories construed in selective coding, data were analysed from two perspectives separately: research tools and two exemplary cases. From their distinctive nature, the local analysis of data sets the foundation for discussing academic literacy from global perspectives in the following chapter. Exploring what each research tool retrieved allows contrasting that it is not the same to be an outsider than to live it. Besides, the analysis of data from the perspectives of Andrea and Rosalid shows what actually defines the academic literacy: the relationship between how each person adapts literacy to acquire information in English, used it in day-to-day life and conceived it ideologically, both individually and as a member of the social group. The longitudinal observation from participants at different points in time and conditions gives a comprehensive picture of the individual needs, specific purposes, and REAP practices as part of a complex academic literacy.

Chapter 6 Discussion of findings

6.1 Introduction

This chapter aims to transit from a separate discussion of data carried out through research tools and exemplary cases towards a global understanding of the type of academic literacy the studied BPCH community develops. In order to do so, the analysis retakes information from the literature review to examine findings from two perspectives. The first part presents the distinctive elements that define a type of academic literacy that includes READ by elaborating central categories and corresponding themes from the rationale of the ideological model of literacy and NLS. The second part answers the research questions to explain concisely how ten BPCH undergraduate students deal with the need for acquiring and using specialised information in English away from READ conventions.

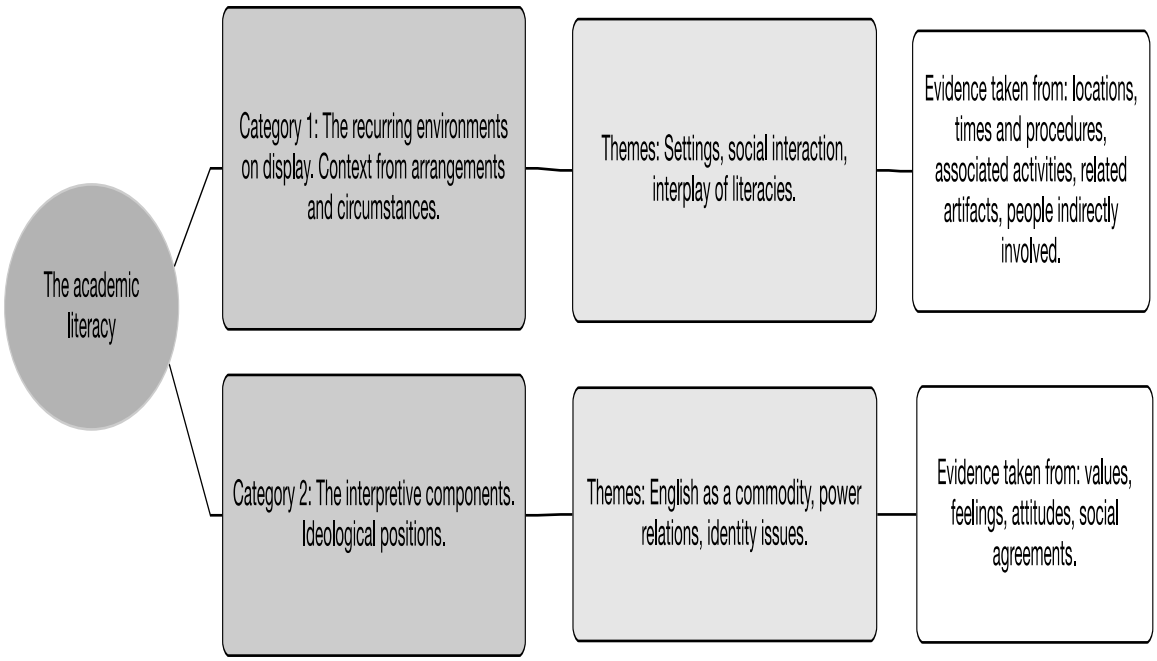
The global discussion of findings substantiates the advantages of incorporating vernacular practices of READ into the research of reading in English. The way the BPCH develops literacy shows that although this literacy pertains to the educational arena, its main characteristics do not correspond with instructional and acculturation pursuits. In this sense, while both the type of consulted texts in English and purposes of reading prevail among academic scenarios worldwide, the ways of valuing and using the information vary broadly. Non-mainstream practices of READ compel us to rethink some categorical assertions closely linked with language teaching. Thus, it becomes necessary to widen the research panorama to respond to the actual realities in the use of this language.

6.2 Two categories: the observable of the academic literacy and what lies behind

Two central categories explain the academic literacy this thesis investigates. Such analysis allows us to move away from normative criteria to prove that literacy is not a standard skill. It involves a series of particulars to adapt it depending on the people's needs and resources. To favour this understanding, themes from categories explain in detail the dynamics of why, for what, how and what it feels like to develop this type of academic literacy into the investigated milieu. Themes are arranged from their positioning in data analysis by the grounded theory and the rationale of the

ideological model of literacy (*see* Appendix K). The below diagram (Figure 6-1) synthesises the information that the categories and themes provide.

Figure 6 - 1 Discussion of findings by categories and themes



6.3 First category: events that characterise the academic literacy

The identification of the most representative literacy episodes enables recognising the different domains of life in which this academic literacy is experienced. Accordingly, background documentation includes anticipated situations in which reading in English occurs and impromptu meetings that contextualise happenings that shape the practice. In this regard, the analysis covers events in which BPCH students organise themselves to get information in English outside the school timetables; carry out activities in the classroom and the laboratory; and experience some meaningful everyday situations of social interaction.

The next sections elaborate on the themes derived from the literacy events participants and informants identify how this activity is mainly defined.

6.3.1 Settings of the academic literacy: a situated practice

Because BPCH students organise the readings in English by themselves, events are related to scenarios of cooperation. It explains why, although texts and text-driven processes were two key components according to the participants' voiced concerns; in settings, these elements do not receive undivided attention. Instead of private environments or classrooms, representative

settings are shared areas where students can read in small groups on their own. In this vein, as explained by Barton and Hamilton, these specific spaces represent the "structured, patterned contexts within which literacy is used and learned" (2012, p. 11).

The identification of settings document who, where, when, and under what conditions members of the BPCH community develop literacy. From this data, two different types of settings can be identified depending on whether students acquire or use the information. At first, because students need to consult texts in English in order to learn BPCH concepts and chemical methods, literacy events involve enabling environments for accessing diverse textbooks, reading materials and group work. Students work in teams even if they use the information individually to discuss with the teacher and the whole class. Since the information in English students acquire is strictly linked to BPCH activities, the second type of settings are locations where students use it in broader activities. Often, these students make group presentations or follow precise instructions at the laboratory from handbooks or handouts of pharmaceutical manufacturers. Also, they occasionally participate in pharmacology meetings such as local BPCH seminars or interuniversity forums.

Concerning events in which participants acquire information, essential locations are within the university facilities. Due to the big challenges reading in English pose to most BPCH students, they prefer meeting at the most favourable times and sitting together around a desk. Students look for suitable places to speak freely and feel more at ease. In this regard, participants explain that each student needs to use different things simultaneously when they read in English. So, most literacy events occur in equipped locations in good light that help them concentrate minds and work with electronic devices and other complementary materials. These areas are at the university library or available classrooms with internet access.

Specific artefacts used while acquiring information in English are pharmacology handbooks, biochemistry textbooks and chemical-pharmaceutical-biological journal articles in both printed and digital form, laptop computers, notebooks and personal belongings, such as backpacks, jackets and laboratory instruments for personal use. Among classmates or friends, students join to read in English once classes and laboratory lessons finish. Visible items confirm that reading in English is done after completing the school schedule. On this matter, some ethnographic images evoke informal environments where students are having snacks and sitting in a relaxed way.

To document literacy events ethnographically, the below photograph (Figure 6-2) exemplifies a typical setting for acquiring information in English. It portrays a team of BPCH students reading together at the university library. In this episode, students are sat around a working desk, taking

handwritten notes or typing on laptop computers. A quite revealing literacy issue of this setting is that each student is reading the same pharmacology handbook but in different formats, either in paper or digital.

Figure 6 - 2 A common setting where participants acquired information in English

In the words of Érica, the participant who took that photograph, the background of the literacy event was:

> Ese día estábamos estudiando para un examen de fitoquímica. Lo que debíamos aprender está en el libro de texto que usamos todo el tiempo y que tiene varias ediciones. En la biblioteca están las primeras ediciones en español, pero la última sólo la tenemos en inglés y en PDF [versión digital]… Lo que estábamos haciendo ese día era leer la última versión y donde no entendíamos, comparábamos la información con las versiones anteriores en español y así nos asegurábamos de lo que íbamos entendiendo. Cuando lo hacemos así, en equipo, nos funciona mejor (Érica, entrevista personal, 4).
>
> That day we were studying for an exam on phytochemistry. What we had to learn is in the textbook we use all the time, which has several editions. At the library, there are first editions in Spanish, but the latest is only in English and in PDF [digital edition] … What we were doing that day was reading the latest version and those parts we didn't understand, we compared the information with the earlier Spanish versions, and so we ensured what

> we were comprehending. When we do it this way, in teamwork, it works better (Érica, personal interview, 4).

This literacy event depicts the most common way in which the BPCH students deal with the need for acquiring information in English. In describing the setting, Érica said that the picture represented what she experienced when reading in English: at the library, team working with classmates and once the school schedule had finished. The fact that this participant did not focus her attention on the consulted texts or what she had done individually endorses the impact of the social interaction, the vernacular forms of acquiring the information and the interplay of different literacies to carry out the training activities. Thus, as Street points out, the exploration of these components facilitates the transition from an "idealized generalization about the nature of language and literacy towards a more concrete understanding of practices and events in 'real' social contexts" (1995, p. 3).

The significance of explaining the context where literacy is particularly experienced is one of the most revealing contributions of NLS practitioners. As widely discussed by Gee (2000, 2008, 2013), without this type of information, there is a strong tendency to envisage reading and writing as if they were performed in a unique way and under the same circumstances. It tells why most reading research derived from the autonomous models of literacy focuses on the "cognitive or psychological as a set of abilities or skills residing inside people's heads" (Gee, 2008, p. 1). Therefore, portraying settings in detail, far from a trivial matter, explains practices and makes vernacular literacies more meaningful.

The following photographs (Figure 6-3) show two different situations to describe representative settings when students use the information in English. In the picture to the left, two students work at the laboratory. Besides lab equipment, they keep next to them a handout to conduct empirical tests. Sebastián, the participant who took this photograph, explained that development stages might follow changing progressions depending on chemical reactions when they prepare formulations. Therefore, although they read in advance to get a general idea of what needs to be done, once at the laboratory, they must check physical and chemical properties and, in doing so, adjust instructions.

In the photograph to the right, two BPCH students are participating in a seminar. In this literacy event, Miguel, the participant who provided the photo, narrated that he and his team had presented the results they had obtained from a research assignment conducted throughout the 8th course. To do this, they had consulted most information in English to support the different phases of their research. The BPCH student remarked that though this activity was not that common, he associated those situations with using the information in English.

Figure 6 - 3 Two common settings where participants use information in English

6.3.2 The social interaction as the key component in developing literacy

As occurs with the examination of settings, in contrast to conventional situations where the focus of attention for REAP is the individual and intimate relationship between the reader and the text (*see* 2.2), this variant of literacy compels us to broaden this explanation. The rationale is that the oral and the group interchange are the undisputed mechanisms with which these readers get meaning from the written language. Consequently, such major distinctions explain why the foundations of the ideological model of literacy provide a better understanding of how participants organise themselves to acquire the information in English.

The significance of socialising the information turns out to be the element that allows the BPCH community members to develop literacy and, mainly, to build the basic membership that helps them consolidate knowledge. To illustrate this issue, a recurrent remark during the observation to participants was that students were not used to reading in English on an individual basis as they were requested to do it in think alouds and stimulated recalls. In this respect, Miguel, a participant, in the account of a stimulated recall distinguished:

> Miguel: Me costó mucho trabajo este texto y hay muchas cosas que no entendí. Si no me estuvieras viendo, no lo habría terminado [arrugando los labios].
> Investigadora: ¿Qué haces cuando te pasa esto?
> Miguel: Es por eso que siempre trato de leer con alguien más. Entre varios es más fácil. Por ejemplo [señalando una parte del texto con su dedo], esto sí lo entiendo y por eso sólo lo leí rápido. De hecho, me lo habría saltado porque no lo necesito para mañana [refiriéndose a la información de una tabla sobre las propiedades de un excipiente]. Pero, de esta parte, entendí muy poco. Lo leí con cuidado, pero no lo entendí bien. Lo que habría hecho sería escuchar lo que dicen los demás y yo habría apuntado lo importante (Miguel, participante, recuerdo estimulado, 2).
>
> Miguel: I had a hard time with this text and there are many things I didn't understand. If you weren't looking at me, I wouldn't have finished it [puckering lips].

> Researcher: What do you do when it happens to you?
> Miguel: That's why I always try to read with someone else. It's easier among many. For example [pointing a part of the text with his finger], I understand this part and that's why I only scanned it. In fact, I would have skipped it because I don't need it for tomorrow [referring to tabular information on the properties of an excipient]. But, from this part, I just got a little. I read it carefully, but I didn't understand it well. What I would have done is listening to what the others say and writing down just the important (Miguel, participant, stimulated recall, 2).

From this excerpt, it is possible to observe that in-group cohesion is not only the piece that allows the student to deal with reading in English. As Casanave remarks about exploring actual settings, they also inform about "sub-communities within communities, and multiple embeddings of micro-societies within sub-communities, and finally a great diversity of a small number of individuals" (1995, p. 86). Therefore, in literacy events, students show adaptive behaviours and socialisation patterns to deal with using English depending on the available resources.

As noted from Miguel's observation, he had already developed a certain level of literacy that helped him recognise BPCH information. However, to meet the information needs thoroughly, he relied on team support. Admitting that he would not have finished reading the text if anybody observed him indicates the support he received from his fellows. Both the peer support and feelings about sharing readings with someone else confirm the claim made by Gee that "the focus of literacy studies or applied linguistics should not be language or literacy, but the social practices" (2008, p. 5).

Participants and informants unanimously conceived their reading practices grounded on complementary contribution. Since it is not a teacher-controlled task, grouping to read in English responds mostly to personal affinities and partnerships. Students recognised who among them should take specific responsibilities, so team members pulled together their best skills to achieve the information needs. During that same round of a stimulated recall, Miguel went further when talking about how he used to overcome the need of using the information in English and he did not get comprehension by himself:

> Investigadora: ¿Entonces lo que entendiste no es suficiente para que mañana trabajes en el laboratorio?
> Miguel: Sí me sirve para mañana, pero no me siento igual que cuando lo leo con mi equipo.
> Investigadora: ¿Qué estás pensando hacer para mañana?
> Miguel: Érica está en mi equipo. Ella lee muy bien. Si no me da tiempo de preguntarle antes, en el laboratorio, le voy preguntando.
> Investigadora: ¿Le preguntas generalmente a Érica?
> Miguel: Sí, casi siempre. Cuando quiere, me ayuda ... pero otras veces me batea [suspirando] (Miguel, recuerdo estimulado, 2).
>
> Researcher: So, what you got is not enough for working tomorrow at the lab?
> Miguel: It helps me for tomorrow, but I don't feel the same as when I read with my team.
> Researcher: What are you thinking to do for tomorrow?

> Miguel: Érica is on my team. She reads very well. If I don't have time to ask her before, then, at the lab, I ask her on the go.
> Researcher: Do you usually ask Érica?
> Miguel: Yes, almost always. When she wants, she helps me … but some other times, she turns her back on me [sighing] (Miguel, stimulated recall, 2).

In this sequential account, Miguel disclosed that the support he got from his fellow students was not only to acquire information but to use it as well. He particularly asked those he recognised as the seasoned readers though they might help or leave him on his own. In this case, Miguel named a classmate with whom he kept social arrangements to either acquire the information in English or use it. This everyday situation in which sometimes the student could get help from others and other times found himself in vulnerable positions also aligns with Gee's remark concerning that in literacy, "conflicts are real and cannot simply be wished away" (2008, p. 4).

Although the call for participation in this project was individual, it was possible to know that participants were acquaintances or friends since the very beginning of their university studies. This component became a central issue to understand the academic literacy as a social practice. These BPCH students had not only shared different occurrences on literacy before the research began; they had also interacted in diverse areas beyond academic activities. It also shows that literacy impacted several facets of their university life because students sought to read in English in cooperation.

The visible components from the interpersonal relationships among the BPCH community members remind us what Barton and Hamilton underline about the importance of examining the "realm of social relations that mediate between literacy and private and public spheres" (2012, p. 15). In this connection, the following photographs show two episodes not directly related to reading in English in which participants coincidentally spent time together and strengthened social bonds. Such occurrences confirm that in literacy, there is "permeability of boundaries, of leakages and movement between boundaries, and overlap between domains" (Barton and Hamilton, 2012, p. 11).

In the photograph (Figure 6-4) to the left, three participants in this research are together preparing to join in the university's annual race, which assembles the whole population of the campus. Unlike approaches that isolate the reading process from indirect social occurrences, this unexpected episode of social interaction ratifies how reading in English is one of the diverse situations related to the participants' social network that enhance literacy. The fact that some participants shared this occasional activity also informs about the meaning of the social ties in the BPCH community members.

In the same vein but depicting a day-to-day occurrence, the photograph to the right (Figure 6-4) shows some participants having lunch together at the university cafeteria even though no training activity is involved. The event exhibits that just as students join to face the need for reading in English, they also interact and strengthen linkages in wide-ranging activities. Consequently, by incorporating in the analysis not only what happens when performing academic activities, but also what participants experience around them and how they organise themselves for literacy, this variant of REAP is better understood.

Figure 6 - 4 The participants' social interaction when reading in English was not involved

In interviews, by asking participants about the reasons that compelled them to gather in other activities besides their training, explanations behind these social patterns ranged. Some of them said that since they perform BPCH assignments in teamwork, it is easier to do other things to make the best of the working schedule. Other participants considered that if they work well together, they feel more at ease doing different things collectively. Long working hours become less burdensome and easier to perform. Some other students reckoned it is just because they enjoy being together, even if their educational activities do not always coincide. Reading in English with friends is the way students support each other.

The few occasions participants reported having read in English individually and at home were mainly due to compelling reasons that hindered them from staying at the university once scheduled activities had finished. For example, Montserrat, a participant, explaining why she sometimes read by herself, related:

> A veces leo sola… principalmente cuando me siento muy cansada. Yo no aguanto el cansancio como los demás. Tengo que ir a mi casa, comer, descansar un rato y después ponerme a leer más tranquila… Sinceramente, creo que más bien es porque me desespero. Paso todos los días con mis compañeros y luego quedarme con ellos a leer en

> la tarde… Siento como si estuviéramos en 'Las guerras del hambre' [riendo]. Trato de quedarme, pero a veces ya no puedo ¡Ya es mucho para mí! (Montserrat, entrevista individual, 3).
>
> Sometimes I read alone … mainly when I feel exhausted. I can't bear tiredness like the others. I have to go home, have lunch, rest for a while, and then read more relaxed... Honestly, I think it's rather because I get desperate. I spend the whole days with my classmates and then staying with them to read in the evening... I feel like we're in 'The Hunger Games' [laughing]. I try to stay, but sometimes I can't. Too much for me! (Montserrat, individual interview, 3).

The above excerpt suggests the tension the workload produces among students. The fact that Montserrat alluded to a fictional story about the fight to the death among members of a community reflects how she conceives having to acquire information in English and the high amount of stress this activity inflicts on her. Academic activities are already demanding, and adding up the need to cope with English increases the difficulties of preserving social relations on good terms. In Montserrat's case, the fatigue after finishing a hard day's work made those physical and cognitive requirements great barriers to continue socialising.

The struggles students experience when dealing with reading in English collaboratively align with a fact emphasised by different researchers on NLS. Literacy implies, rather than a smooth pursuit, a series of issues not exclusively linked to the comprehension processes a reader carries out with a text. It is necessary to take a broader view to notice that what happens around influences the way people react towards literacy. In this case, because reading in English is not guided like the rest of the students' tasks, organising themselves to deal with it implies tensions. These patterns of social interaction also influence the settings where students develop literacy. The contextual incidents that result from the social interaction match with the simile Kalman uses to represent literacy like a "tug of war" (2013, p. 76).

Besides some occasional situations that made students prefer to read alone, a gradual familiarity and confidence with reading in English were also indicated. Although direct references about improvements in the use of English were scarce, in one way or the other, participants and informants conceded that after a steady practice, they somehow cope with this requirement more satisfactorily. On this point, Mariana, the student attending the last year of the programme, reckoned:

> Al principio siempre leía en inglés con una amiga o mi equipo porque tratábamos de ayudarnos. Yo diría que fue así hasta quinto [curso]. En sexto, tuvimos que leer todo en inglés. Para entonces yo ya sabía más … quizá no de inglés, pero sí de farmacología…Ya no era tan difícil. Además, no podíamos leer juntos todo lo que nos dejaban. Quizá fue cuando empecé a leer sola. Si los textos son muy difíciles o estamos haciendo algo juntos, claro que prefiero leer con alguien más (Mariana, informante, estudiante de farmacología de 4º año, entrevista individual).
>
> In the beginning, I always read in English with a friend or my team because we tried to help each other. I would say it was this way until fifth [course]. In sixth, we had to read

> everything in English. By then, I knew more… maybe not English, but pharmacology… It wasn't that difficult anymore. Besides, we couldn't read everything together. Perhaps, it was when I began reading by myself. If texts are challenging or we are working together, of course, I prefer to read with someone else (Mariana, informant, BPCH student in the 4th year, individual interview).

When I interviewed Mariana, she had already experienced reading in English for more than three years. Besides having gained expertise in reading in this language, she also considered that her wider knowledge in BPCH helped her deal with English in an easier way. From her point of view, although social interaction was still needed, it responded to more specific conditions either because of the characteristics of concrete academic tasks or because of a significantly higher degree of difficulty of the texts. Because Mariana referred to these determinants for collaborative reading, it is possible to identify that she had developed expertise even if she did not state it clearly.

6.3.3 Interplay of literacies: a social and situated practice

Due to the relevance of social interaction and other specific skills with which participants get meaning from BPCH texts in English, it becomes necessary to question the validity of thinking REAP as a single phenomenon (*see* 3.5.1). Evidence shows that reading in English comes along with other abilities and knowledge that enhance acquiring and using the specialised information. The academic literacy encloses, besides cognitive components, the capacity of negotiation among classmates and the adaptation of particular resources to meet the communication needs. Therefore, the variant of REAP that BPCH students carry out is better explored from an integrating perspective.

Literacies in events include alternating written and oral modes. Students need to share aloud what they understand to confirm comprehension and consolidate learning. They use Spanish and English translingually. While reading in English, these readers clarify ideas in Spanish. However, when they interchange the acquired information, some words or phrases are commonly said in English. Students use digital resources to access, translate and organise information. They draw upon general and BPCH knowledge to understand what they read. Moreover, they learn how to promote teamwork, control emotions and endure social agreements.

Because listing literacies as separate abilities can promote isolating reading, it is worth noting that they operate dynamically in events. Given the functioning of each literacy, their role acquires complementary leverage depending on the communication needs. In this way and according to what Gee defines as literacies, these BPCH students develop "multiple abilities to 'read' texts of certain types in certain ways or to certain levels" (2008, p. 44). Therefore, in events, literacies are

not steady nor hold equal importance. While a particular literacy plays a major role in an episode, this same literacy can remain in a second-tier position or even not take part in another.

The preponderance of literacies does not follow a rigid role. They intertwine depending on the reading purpose, the BPCH topic, the characteristics of the texts, the type of activity in which information will be used, the individual abilities of the team members, and the contextual situation where each event is carried out. The fact that the BPCH community members vary the interplay of literacies dovetails neatly with the positionings from Makoni and Pennycook when referring that the use of languages and literacy as cultural artefacts are “invented, dis-invented or reconstructed to endure unfolding needs and resources of interaction” (2007, p. 23).

Two participants in this research provide a meaningful example regarding the interplay of literacies. In this case, they share a series of events in which they work together with three of their classmates to elaborate a set of toiletries with similar ingredients but in different presentations (gel, cream, and lotion) as the final course activity. Because this team carries out several stages of the same task, the BPCH students show how the interplay of specific literacies explains, to a large extent, the nature of the academic community develops. Due to the complementary interplay of literacies, these participants develop a specific academic literacy that enables them to:

a) Deal with specialised BPCH publications. The more detailed and up-dated protocols are available primarily in English. Thus, BPCH students learn to consult academic texts in English addressed to a specialist audience. This literacy includes learning how to search for scientific publications and pharmacology topics. Therefore, BPCH students become familiar with this type of publications even if they are not necessarily open and easy to access.

b) Develop knowledge and expertise in terminology and meanings of specialised BPCH areas. The extensive and continuous work with pharmacology protocols makes students recognise fluently very particular elements not commonly found in general dictionaries, translation search engines or electronic language translators. So, BPCH students use a type of information only experts in the field possess.

c) Work in teams to capitalise on their personal and group abilities and consolidate learning. Since knowledge of English ranges among peers, they know how to organise themselves to share subtasks from recognising the particular processes involved when acquiring and when using the information in English to fulfil the assigned tasks.

To exemplify the interplay of these literacies, the following excerpt from Verónica, a participant who also belongs to the team, portrays the way students commonly organise the teamwork to acquire the information in English, saying:

> Verónica: Para trabajos en equipo, casi siempre hacemos lo mismo. Primero, con la maestra, revisamos las fórmulas generales. Luego, ella nos explica lo que tenemos que presentar y cómo nos va a calificar. Ahorita, ya empezamos a trabajar por equipo. Esta semana tenemos que decidir qué vamos a hacer. Como ya hemos hecho jarabes y pastillas, queremos hacer jabón en gel, crema para el cuerpo y champú con las mismas bases, pero diferentes excipientes.
>
> Investigadora: ¿Entonces no habían hecho esos productos antes?
>
> Verónica: Sí, en el curso anterior, pero por separado. No como un juego. Es casi lo mismo, pero tenemos que comparar los excipientes y surfactantes para cada presentación y hacerlos compatibles.
>
> Investigadora: ¿Y ustedes saben cómo comparar las fórmulas?
>
> Verónica: Comparar las fórmulas no es problema, encontrar su compatibilidad es lo difícil. Por eso tenemos que buscar muchas fórmulas diferentes (Verónica, participante, entrevista personal, 4).

> Verónica: For teamwork, we almost always do the same. First, with the teacher, we check general formulas. Then, she explains what we have to present and how she's going to grade it. Right now, we already began working in teams. This week we have to decide what we're doing. Because we've already made syrups and tablets, we want to make soap gel, body cream and shampoo with the same bases but different excipients.
>
> Researcher: So, you hadn't made those products before?
>
> Verónica: Yes, in the previous course, but separately. Not as a set. It's almost the same, but we must compare the excipients and surfactants for each presentation and make them compatible.
>
> Researcher: And, do you know how to compare the formulas?
>
> Verónica: Comparing formulas is not a problem; finding their compatibility is the difficult point. That's why we have to look for many different formulas (Verónica, participant, personal interview, 4).

Following up on the interplay of literacies in this series of events, the academic literacy the BPCH community develops is only explained from a wealth of literacy experiences, knowledge in the study field and social agreements students bring together to deal with the demand of acquiring and organising information in English. In this regard, Verónica describes a common way her team starts to arrange the work outside the classroom and without the teacher's guidance:

> Investigadora: ¿Cómo van con su trabajo?
> Verónica: Seguimos leyendo protocolos, ya tenemos la crema y el champú, pero nos falta el gel.
> Investigadora: ¿Y dónde encuentran ese tipo de protocolos?
> Verónica: En revistas y en algunos libros.
> Investigadora: ¿Ya conocías esas revistas y libros?
> Verónica: Algunos, no todos. Los más famosos… Conforme buscamos cosas más específicas, ¡encontramos más! [quejándose]
> Investigadora: ¿Dónde encuentran esos materiales?

Verónica: En la biblioteca
Investigadora: ¿Impresos o digitales?
Verónica: De lo dos. De lo que estamos haciendo, ¡Encontramos un montón!… Hay mucho de ingeniería cosmética, dermatología, toxicología ... El problema es que, como siempre, todo está en inglés.
Investigadora: ¿Y cómo se organizan para buscar los protocolos?
Verónica: Primero cada quien busca información por su cuenta y la selecciona. Pero lo más importante y lo que nos sirve más, lo leemos juntas.
Investigadora: ¿Y cómo saben qué es lo que les sirve más?
Verónica: Ya sabemos más o menos qué necesitamos. Como siempre trabajamos con protocolos, nos vamos familiarizando. La crema y el champú, los encontramos en revistas. Ya tenemos los ingredientes, elaboración, desempeño y costos [señalando con su dedo algunos títulos de una tabla en su cuaderno].
Investigadora: ¿para qué hacen esas tablas?
Verónica: Porque así es más fácil comparar las especificaciones y los procesos. Cada una de nosotras va conjuntando lo que encuentra. Así definimos las mejores fórmulas y dónde encontramos la información. Además, así podemos utilizar mejor la información para trabajar en el laboratorio y, si todo sale bien, para que hagamos el reporte (Verónica, participante, entrevista personal, 5).

Researcher: How are you doing with your work?
Verónica: We keep reading protocols, we've got the cream and the shampoo but still missing the gel.
Researcher: And where do you find that type of protocols?
Verónica: In journals and some books.
Researcher: Did you already know those journals and books?
Verónica: Some, not all. The most famous ... As we look for more specific things, we find more! [groaning]
Researcher: Where do you find these materials?
Verónica: At the library.
Researcher: Printed or digital?
Verónica: Both. From what we are doing, we found a bunch! … There is a lot about cosmetics engineering, dermatology, toxicology … The problem is that, as always, everything is in English.
Researcher: And how do you get organised to look for protocols?
Verónica: First, each one searches for information on her own and chooses it. But, the most important and useful, we read together.
Researcher: And how do you know what is the most useful?
Verónica: We already know what we need, more or less. Since we always work with protocols, we get used to them. The cream and the shampoo, we found them in the journals. We already have ingredients, elaboration, performance and costs [pointing with her finger some titles from a table in her notebook].
Researcher: What are those tables made for?
Verónica: Because it's easier to compare specifications and processes in this way. Each one of us gathers what we find. So, we define the better formulas and where we find the information. Besides, we can use better the information to work in the laboratory and, if everything goes well, to make the report (Verónica, participant, personal interview, 5).

From Verónica's retrieval, it is possible to identify that these students develop expertise using BPCH information. They work with textbooks and publications aimed at BPCH specialists and in different formats. Therefore, such materials include technicalities and detailed information a layperson hardly understands, regardless of the language command. Moreover, they learn how to organise the information in advance as they build literacy with this type of information and training tasks. Before reading the selected

protocols, they know how to devise graphic organisers considering the information each team member may provide.

Once they collect the adequate bibliography, they begin reading; however, reading patterns differ depending on whether the information is in Spanish or English. When Verónica describes how they read in English, she details two key social components of the academic literacy. Firstly, reading in English is a shared activity based on the agreed understanding among readers. They use English and Spanish simultaneously; the focal point is not the way they use languages but how they can get meaning from the written based on their available resources. Secondly, when comprehension among team members is not achieved, their following step is to ask other classmates acknowledged as more seasoned readers for help. In the case of the BPCH task the participant describes being done, although specificities of the formulas change, fundamentals and procedures are comparable. Thus, students rely on other classmates to clarify information. Both supporting networks can be noted as follows:

> Investigadora: ¿Cómo leen los protocolos?
> Verónica: Pues, digamos que mientras una va diciendo lo que lee, las demás escuchamos y revisamos si entendemos lo mismo. También vamos escribiendo. Cuando entendemos cosas diferentes o nos perdemos, traducimos esa parte del texto en Google, pero casi siempre queda más confuso y nos tardamos más.
> Investigadora: ¿Y qué hacen cuando no entienden?
> Verónica: Como estamos haciendo cosas muy parecidas, le preguntamos a algún compañero o ya de plano a la maestra (Verónica, participante, entrevista personal, 6).

> Researcher: How do you read the protocols?
> Verónica: Well, let's say that while one reads aloud, the rest of us listen and check if we get the same. We also write on the go. When we understand different things or get lost, we translate that part of the text on Google, but most of the time, it becomes more confusing and takes us longer.
> Researcher: And what do you do when you don't understand?
> Verónica: As we are doing very similar things, we ask a classmate or eventually the teacher (Verónica, participant, personal interview, 6).

As seen in previous accounts, the team interplayed various literacies to acquire BPCH information in English for the task. Considering that students had previously worked with the basics of the formulas with the teacher in class, they could determine the more targeted information and where to find it. It suggests that students had built up literacy regarding the appropriate type of texts to look for in terms of publications and contents. Such experience was confirmed by the fact that Verónica stated with certainty the kind of information they got from specialised journals and books. It also means that they had expertise in consulting hard copies of the circulation shelves as well as on the consultation of catalogues through meta searchers from the digital library of the university with information mostly in English.

Figure 6 - 5 BPCH students working in teams to integrate information in a common format from different reading materials

Because students organise group efforts taking advantage of their BPCH knowledge and expertise with academic texts, the way they use the information in English vary. For example, in the case of this team's task, once they agreed on the products to work, students searched for specific information individually. This activity indicates that they had also grown a sort of literacy only developed through consistent practice in reading texts in English on the field. Similarly, to decide the best formulas and presentations, they knew how to select and systematise precise information. The team members could integrate data from different sources as well as arrange it in a single format. In that way, they verified covering the required specifications on equal terms for the three products such as ingredients, elaboration processes attainable at the university facilities and monitoring guides during production processing.

Verónica's account allowed me to follow up investigating subsequent events related to how they were using the information with Yalina, the other participant in the research who belonged to the same team. Their reports serve to portray how BPCH students who felt disadvantaged because of English collaborated with different strengths to teamwork. In this regard, Yalina contextualised the contributions she was making to the task:

> Investigadora: ¿Cómo van con su proyecto? ¿Qué están haciendo?
> Yalina: Ya nos dividimos. Sofía la crema, Ana el gel, Norma el champú, Verónica la redacción y yo los planos de los procesos químicos.
> Investigadora: ¿Entonces ya no están trabajando juntas?
> Yalina: Siempre trabajamos juntas, pero cada una se hace cargo de algo.
> Investigadora: ¿Y en qué consiste que tú hagas los planos?
> Yalina: Yo tengo que registrar todo en el cromatógrafo [aparato de medición] y hacer las gráficas en AutoCAD [un software para la representación gráfica].
> Investigadora: ¿Es muy difícil?
> Yalina: Es mucho trabajo, pero para mí más fácil porque no tengo que estar revisando los protocolos.
> Investigadora: Y de lo que estás haciendo ¿algo está en inglés?
> Yalina: No, ¡eso es lo bueno! Bueno… AutoCAD está en inglés, pero a eso sí le entiendo (Yalina, participante, conversación informal).

> Researcher: How is it going with your project? What are you doing?
> Yalina: We already divided it. Sofia the body cream, Ana the gel, Norma the shampoo, Verónica the writing up and I the chemical blueprints.
> Researcher: So, you are not working together anymore, right?
> Yalina: We always work together, but each one takes charge of something.
> Researcher: And what does it mean that you're making the blueprints?
> Yalina: I have to keep the records from the chromatograph [measuring instrument] and make the graphs in AutoCAD [a software to represent graphs].
> Researcher: Is it very difficult?
> Yalina: It's a lot of work, but for me, it's easier since I don't have to be checking protocols.
> Researcher: And from what you're doing, is there something in English?
> Yalina: No, that's the good point! Well... AutoCAD is in English, but I already understand that (Yalina, participant, informal conversation).

From Yalina's description, it is possible to notice that participants had gained expertise in different areas about using the information in English in the context of the BPCH activities. Being the collaborative work the core resource, students organise themselves to comprehend details in English and divide the work taking practical advantage of each team member's strengths. For the task, English became a piece of the machinery. The combination of both literacies and concerted efforts was the driving force that allowed the team to fulfil the goal of the activity.

Figure 6 - 6 A literacy event where different academic literacies interplayed

The photograph above (Figure 6-6) is a literacy event in which the team presents the products they had accomplished through the BPCH course. It synthesises the two core components of the academic literacy. On the one hand, the setting gives an account of the situated practice. For the team, REAP is part of the regular activities of the training. Information is not the vehicle to learn English nor to make explicit the reading strategies they follow. Instead, they acquire the information because they need it to perform the training activities. Hence, this information is directly linked to the contents and learning-based tasks of the BPCH programme.

On the other hand, from the different skills these students interplay, the social interaction turns out to be the basis for developing literacy. It is clear that their information needs would hardly be achieved if it was not because of the mutual collaboration. The social agreement among the team members illustrates the primary function of literacy, which is to match up needs with individual and group resources to get meaning from the written texts. In this sense, the set of literacy events team members had carried out in the task connects entirely with Street's claim which defines the development of literacies as a "craft that can only be learned by doing and is not just a matter of knowledge … It requires a lot of constant negotiation" (2002, p. 76).

The interplay of different literacies reveals two central elements of the academic literacy that relate to each other. First, the organic cooperation of literacies makes that the way BPCH community members use information in English takes a new meaning. The background characteristics and the resources these students draw upon shape a vernacular literacy better explained from the context where it is situated. Second, the way most of the community members use English confirms a key concept analysed by Street regarding the capacity of using languages according to the people's needs. In this vein, Leung and Street point out:

> In the discussion of data from different classrooms, 'English' is something different in different school settings, depending on the situated resources and intentions of social actors. Effective policy-making, then, should be based on a closer understanding of how language is practiced, rather than relying on projections of romanticised and essentialized notions of language-culture (2012, p. XV).

6.4 Second category: ideologies that sustain the academic literacy

The second category of the academic literacy obtained from the selective coding covers the ideology that permeates how the BPCH community members figure out the activity. As previously discussed, under the ideological model of literacy, this type of non-visible units of data are called practices (*see* 3.3.1.2). Practices, instead of encompassing common patterns, inform of the separate perspectives regarding a single literacy issue. Because practices find their expression through values, attitudes and behaviours, they capture the "constitutive of identity and

personhood" (Street, 1995, p. 140). Hence, the explanation of the literacy practices does not derive from commonalities.

The importance of incorporating literacy practices into the analysis stems from the fact that they reveal the diverse manners members in the same community represent reading in English to acquire and use information. By comparing positions, it is possible to observe that, far from a standardised activity, the academic literacy entails a series of ideological divergences that events do not account for but imbue how they are carried out. Although social arrangements are observable, they show, as noted by Barton and Hamilton, only "the tip of an iceberg" (2012, p. 17). Behind these literacy elements on display, practices fluctuate not only among the BPCH community members but also in the same participant, depending on circumstantial factors.

Themes from this second category evidence some critical aspects of the academic literacy that endorse the relevance of attaching the analysis to the ideological model to shape the individual and collective understandings that comprise the academic literacy. These key ideological elements are:

a) From the selective coding, the ideological issues regarding the academic literacy were delineated. However, by delving into them, there was no consensus on their understanding among the community members since they experienced literacy differently. While some opinions, feelings and interests were similar or negotiable, others arose different or entirely contradictory.

b) Since English is not a shared knowledge, its command grants social recognition. For those who have English knowledge, it becomes a bargaining chip to gain advantages on work arrangements and social status in the group. In contrast, for those who do not have any English background, it means a sort of crystal ceiling that hinders professional development.

c) Although English teaching was not part of the programme curricula, conventional REAP assumptions influenced how this community understood the practice. For participants, it was clear that the use of English was due to a need for access to information. However, since they did not use this language as expected, participants felt that they lacked something related to a flaw or inappropriate use of the language.

Because reading patterns in this academic literacy do not follow prevailing parameters, a substantial part of their interpretation is identifying how the ideology influences the participants' identity along three strands: as English users, academic readers and members of the BPCH group. The following sections comprise the most revealing categories from the literacy practices participants and informants disclosed. They expound on how the community members signify the

academic literacy, the power relations it produces, and some identity issues related to how each community member places themselves within the social group. Whereas themes function like core axes, their actual value comes from the diversity of interpretations, which portray a more accurate representation of the academic literacy from the perspective of the ideological model.

6.4.1 English as a commodity: a scarce good gets a higher value

As previously described, participants were BPCH students who had not taken English classes regularly during the earlier stages of general education. Besides, at the university where the investigation was carried out, English teaching was not part of the curricular programme (*see* 4.9). Notwithstanding, the decision to explore REAP among members of this community was because, according to the university library records, BPCH students in the third year of this programme show a larger consultation than the students from other degree programmes on campus. In this regard, Mario, a BPCH teacher, explains the need of using English extensively for this training programme:

> A diferencia de la química teórica, la química fármaco-biológica es principalmente experimental. Lo que hacemos en el laboratorio puede cambiar en muy poco tiempo. Eso hace que casi todo se publique en inglés, independientemente de dónde venga. Si quieres saber qué está pasando en farmacología, lo vas a saber en inglés… Como la mayoría de mis alumnos, no estudié inglés… pero yo diría que ellos ya deben hacerlo porque ahora lo usamos a diario (Mario, informante, profesor de farmacología, entrevista individual).

> Unlike theoretical chemistry, biological and pharmaceutical chemistry is mostly focused on the experimental. What we do at the laboratory may change in a short time. It causes that almost all publications are in English, no matter where they come from. If you want to know what is happening in pharmacology, you will know it in English… Like most of my students, I didn't study English… but I'd say that they should do it because nowadays we use it every day (Mario, informant, BPCH teacher, individual interview).

After interviewing additional informants, it was revealed that a lack of previous English instruction was a common situation for most of the population. From the total of fifteen BPCH community members interviewed, only a teacher and the coordinator reported having studied English to a level they could efficiently use for the academic activities. Consequently, for most community members, besides the learning challenges of the BPCH programme, the use of English made them feel "like being with one foot in a room and one foot in another" (Yalina, participant, interview 1).

Although all BPCH community members agreed to consider English a problematic issue, explanations that sustained this concern differed. Opinions not only diverged between teachers and students; there were also opposing interpretations among members of the same subgroup. While some of them considered using English as a precondition for anyone who intended to develop as a pharmacologist professionally, for others, it was a demand they should struggle with all resources within their means since "things are not black and white" (Mario, BPCH teacher). The

following table (6-1) gathers the diversity of perspectives about the use of English participants and informants provided. For ease of comparison, the English translation is only included here. In Appendix M, the Spanish version is presented.

Table 6 - 1 A literacy event where different academic literacies interplayed

Perspectives about the use of English	"Nowadays, they [students] need English for qualified training. It's also part of the credentials to apply for a scholarship either abroad or even at the national level... Not to mention for professional employment. I'm aware they have busy schedules, and private courses are not affordable for all of them. But it's a fact they have to face it. It's just like this: Do you speak English? Yes, or not?" (Lino, BPCH teacher, individual interview)
	"I know what they [students] feel because I went through the same. Even, at that time, since there was no internet, we had to spend whole nights glued to dictionaries. The issue is that, in my student days, we consulted the available books from the library shelves, which were mostly in Spanish. Currently, if you look up any pharmacology topic at internet or in journals, almost all are in English. Nowadays, they don't use dictionaries anymore. They manage to use electronic translators and other apps that help them to understand what they read in English… It's a problem we haven't found how to deal with it… It's supposed that students had English classes before they come to the university, but it's not always the case. Only some students have no problem reading in English. Most of them have not studied it… or very little. So, they refuse using English. Little by little, they begin to accept they have to do it. They are very smart. Often, they surprise me with their capacity to use English!" (Mario, BPCH teacher, individual interview)
	"I think that in one way or the other, they [students] can cope with English in their own way while studying here. There's a kind of rejection. Some of them think that English is the United States, and it applies not only for students [frowning]. But, honestly, I don't know what they are expecting to do when being outside looking for a job. I tell every student: If you want to be a chemical engineer with good prospects for the future, you need English" (Karina, academic coordinator, individual interview)
	"From the very first day, teachers warned us to be prepared because we're going to read in English throughout all the programme. It's frightening… I don't speak a word in English. No idea what to do… Everything is being very difficult… Now, it turns out that I also have to speak English! I already told my mother that I have to take English classes. Here, almost all my classmates speak English… I need to study from the very first level!" (Maricela, 1st year student, individual interview)
	"When I hear the word *English*, I start feeling simply out of place" (Cristina, 2nd year student, individual interview)
	"I studied English for three years in middle school and three years in high school. Six years! [showing six of her fingers] … But I feel as if I had studied asleep [chuckling]. I don't know, I think now I'm not that afraid of reading in English… Over time, I think I recognise more, and I feel more confident. I won't lie, it continues being difficult, but it is no longer the same. It doesn't take ages as it used to be. But… I need to speak English. I don't know If I'm applying for a master in pharmacology or looking for a job. Whatever happens, I'll need English" (Mariana, 4th year student, individual interview)

> "It's like a nightmare" (Rosalid, participant, individual interview, 1)

> "I don't know what I will do. If I stay here [capital city], it's very difficult to work in a leading pharmaceutical laboratory since they always require speaking English. I mean, not just reading. If I go back to my town, I won't find another job than in a clinical laboratory or something like that, in the best case. I have a real handicap because of English" (Rosalid, participant, individual interview, 6)

> "My parents sent me to private schools from the kinder garden up to middle school. To continue studying, I went to a public high school because there were no other options nearby. There, we didn't have any English classes. I wish I had continued studying. In the land of the blind, the one-eyed man is king. I know I must go back to the English classes" (Andrea, participant, individual interview, 5)

> "If only English didn't exist! I only want to be a pharmacologist" (Zitlali, participant, individual interview, 3)

> "Sometimes when we are reading, one of us reads aloud in English. Well, in our English. It looks bad, but we understand. Anyway, I'm sorry! (Zitlali, interview, 4)

> "I don't know what happens to me. Every time I have to read in English, I feel tired… or rather, the dumb of the class!" (Montserrat, think aloud, 2)

> "Maybe, it's not that I can't, it's that I don't want" (Miguel, think aloud, 5)

To illustrate the value participants granted to the use of English, it is worth retaking the photograph Miguel provided to signify reading in English (*see* Figure 6-3 [right photograph]). In that event, he and his team presented the results from a research assignment in a BPCH seminar. In particular, they explained the different processes they had undertaken to produce an antifungal cream. An important point to note is that they had consulted different publications to learn new specialised things about azole agents, manufacturing procedures, and even packaging specifications for that assignment. However, in the photograph, the focus of attention was on the social scene. It did not allude to any component of the presentation itself nor the product.

Although most information was consulted in English for the research, Miguel admitted that some data had been read in Spanish but quoted from the English editions. In his opinion, within the BPCH milieu, it is assumed that "most up-dated and renown publications are in English" (Miguel, interview, 6). So, emphasising that they had read in English implied the following positive points:

a) Using English provides more reliability and validity to the investigation. The objective of presenting the information in that way was to meet the expectations of good research.

b) To make more visible the use of English, in the PowerPoint slides, they included quotes in English and attached, as footnotes, the Spanish translations.

c) Showing to the audience that members of the team used English gave a better reputation among colleagues.

The above attributes brought a kind of added prestige as using English was related to desirable academic skills and job prospects. Thus, Miguel narrated that the strategy they had followed to highlight the use of English was:

> Para presentar cada proceso, le fuimos poniendo citas en inglés con nuestra traducción. Así le pusimos: "traducción nuestra". En la última diapositiva [de PowerPoint], pusimos toda la bibliografía en inglés. La verdad, creo que nos lucimos. De eso se trataba, ¿o no? [riéndose] (Miguel, entrevista personal, 4).
>
> To present each process, we added quotations in English with our translation. We put it like this: "own translation". In the last slide [from PowerPoint], we put all the bibliography in English. Frankly, I think we showed off. That was the case, wasn't it? [giggling] (Miguel, personal interview, 4].

When I asked Miguel further about the product and the results, I could observe they had applied different specialised expertise and resources, which did not receive equal value. It was as if those acquired skills everyone in the group could achieve did not pay the same profits. For example, the consultation of specialised publications on azoles or the proper packaging details for this type of creams. Such knowledge can be observed in the following two photographs (Figure 6-7). To the left, it is the last slide of their presentation with the bibliographic references they had consulted to produce the antifungal. To the right, it is the final product they presented in the BPCH student seminar. In contrast, the competencies they lacked but considered a stepping stone for social recognition were what this participant valued the most in his description. It explains why the previous photograph Miguel provided to represent reading in English was the social event where the team gave the speech.

The information Miguel provided regarding how he conceived English confirms the importance of knowing what lies behind the literacy events. The observable components help situate any literacy into its specific background, as seen in the first category. In this case, it is a Spanish-speaking community that uses English for diverse academic activities. From events, we can notice where the community members experience literacy, how they carry out this type of reading and which other literacies these readers bring together to meet the information needs. Hence, from this data, the literacy the BPCH community performs is similar to many other academic communities since acquiring information in English to use in vocational activities is a prevailing activity worldwide.

Figure 6 - 7 Bibliographic references and the final product the team presented

Bibliografía

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Notwithstanding, because the ideological model gives equal importance to the defining and observable elements as well as those underlying components on an individual basis, the significance of literacy is more deeply understood. Miguel's perceptions about the use of English revealed two central points on the ideology of the academic literacy this thesis explores. English was not common knowledge in the community; besides being a means to get information, its command signified a commodity not everyone could access. Moreover, the BPCH community reads in English as many other academic communities do at the international level; however, the characteristics of the community from this case study made that such literacy was not necessarily a transferable practice. The BPCH community develops a vernacular literacy explained by social interaction and the specificities of the needs and resources from its members. The insight the ideology provides explains why the term practices "is not just the superficial choice of a word but the possibilities that this perspective offers for new theoretical understanding about literacy" (Barton and Hamilton, 2012, p. 7).

6.4.2 Power relations: English like a bargaining chip

As shown in the previous section, although feelings and perspectives about English differed, all participants and informants signified its use as a sensitive issue since it is not an option and "nobody escapes from reading in English" (Sebastián, participant, individual interview, 4). Forms

of understanding English as part of the BPCH activities kept a close relationship with the way each one of them managed to work with it. In this sense, reading in English is not only a skill to obtain information but also a negotiable instrument to empower or disempower community members. Given that, using English becomes a symbol of social status that impacts how they present themselves in the eyes of others.

Because at the university where this case study was conducted, English is not part of the programme curricula, its knowledge represents a tangible component of asymmetrical backgrounds. Arriving at the university with or without English teaching is related to academic, sociocultural, and economic factors. This condition aligns with what Morgan and Ramanathan remark by discussing the social strife the knowledge acquisition entails as "power is embedded in various nooks and crannies of all aspects of education" (2005, p. 163). For example, Cristina, a BPCH student who had not received any previous English classes, considered that having to use this language was an element that purported a differential treatment favouring those who knew English no matter the efforts they made. In this line, she exposed:

> Me parece injusto. Cuando el maestro nos deja leer algo en inglés, sólo participan los que saben inglés. Yo le dedico mucho tiempo. Leo y vuelvo a leer un mismo texto. Muchas veces, no entiendo una palabra, y en clase, me quedo callada rezándole a dios para que el maestro no me pregunte. En el salón, algunos de mis compañeros estudiaron inglés. Con que medio lean los textos y digan cualquier cosa, ¡ya la hicieron! El maestro sólo habla con ellos. Es como si hubiera una división entre nosotros: los que hablan inglés y los que no pasamos del verbo *to be* (Cristina, estudiante de 2º año, entrevista individual).
>
> I find it unfair. When the teacher asks us to read something in English, only those who know English take part. I devote a lot of time. I read and reread a single text. I often don't understand a word, and in class, I keep quiet, praying to God the teacher doesn't ask me. In the course, some of my classmates studied English. As long as they read the texts a little and say whatever, they did it! The teacher only talks to them. It's like there was a division between us: those who speak English and those of us that don't go beyond the verb *to be* (Cristina, 2nd year student, individual interview).

Similar opinions to Cristina's revealed that, within the community, members who had studied English held a social credential that situated them into privileged positions in terms of leadership. The central point of conflict was that this positive attribute resulted from the lack of a level playing field. It was not a type of knowledge circumscribed to the BPCH instruction. Moreover, like Cristina, students who had not studied English considered that those who had studied it in secondary or college were English speakers. As stated by Cook-Gumperz, this differentiation made using English one of those "communicative language practices and historical attitudes to these practices that unite or divide a community" (2006, p.17).

Like most power relations in which work is involved, students considered more seasoned readers in English received advantageous conditions. They decided very frequently with whom to share

readings and the working schedules that suited them the best. There was a minority group in the community considered as good readers in English compared with those who rated themselves to perform poorly. As a result, those students identified as proficient focused on reading in English; meanwhile, the rest did other things deemed as less worthy.

Similarly, students who perceived themselves as flawed readers in English thought they belonged to a pool of undergraduates without the necessary basis for an adequate education. This lack of knowledge, besides hindering training, also called into question their possibilities to develop professionally. Hence, for those who felt disadvantaged because of English, having that knowledge turned out to be a prized possession that went beyond a means to facilitate access to information.

Reaffirming the claim expressed by Gee that in literacy, "conflicts are real and cannot simply be wished away" (2008, p. 4), it is useful to retake the series of literacy events a team of students carried out to manufacture three toiletries (*see* 6.2.1.3). Although the team completed the learning goal, some products were achieved better than others. It caused the students to lose some points in the final grade, which led to a dispute. As two of the five students had avoided responsibilities that required reading in English, it eventually brought some negative consequences. According to those who read in English, the conflict arose because not all team members had committed the same. In this sense, although each student had made the assigned tasks, they were criticised for not having read in English.

Participants in this thesis who were informing on the academic task said that the three members who read in English estimated they had been forced to take the lead, a duty not exclusively from theirs. Both participants said that, at first, they had agreed on the work division. However, when results did not come as expected, it was easier to blame them. Although the team had concluded the task and were on good terms, they had resolved not to work together again. If the literacy event in which the team is presenting the final results is observed in detail (*see* figure 6-6), it can be noticed that the team is not well integrated when presenting the cosmetic products to the teacher. In that literacy episode, although all of them were present, students are not interacting as a whole.

Similar to Miguel's account expounded in the previous section, if we describe the event in which the team members present the toiletries, a series of elements are on display. There is a significant setting, which is the laboratory where BPCH students commonly work. As an indirect person involved, the teacher is listening to the students' presentation. Also, it is possible to contextualise why and how they acquired and used information in English, among other literacy components. Nevertheless, as stated by Street, "you can photograph literacy events but cannot photograph

literacy practices (2000, p. 22). Consequently, the information about what happened in ideological terms for each participant separately becomes the missing part for a full understanding of literacy.

6.4.3 Identity issues: the impact of English to see themselves on a professional basis

As previously explained, in the BPCH community, English was not taught but widely used to acquire specific information. Although most members understood that the way of using English was different from that of a language class, some normative parameters pervaded. In particular, because in REAP, as a derivative of EAP, learning the linguistic system is considered of utmost importance. Community members assumed it was necessary to study the language as the natural path for adequate reading patterns. So, only then readers could get meaning from academic texts in English "as it should be" (Cristina, informant, individual interview). The contrast between what is done and what is expected to be done explains why Street remarks that "if they [people] feel their literacy practices are unequal to the formal literacy practices, if they have internalized outside views of what is literacy, then outsiders have not just defined 'literacy' but also have imposed inequality on them" (2011, p. 581).

Unlike other types of knowledge and abilities previously acquired, the use of English was not an isolated activity. It was a critical vehicle to access information at every turn during professional studies and a highly advisable skill for professional growth. For the BPCH community, the fact is that having a greater knowledge of English than others gave social prestige. While for some of them using English signified legitimacy and fulfilment, it was a handicap that generated negative feelings for others. Therefore, it impacted both how each member identified themselves as part of the group and how they seek to present themselves to others.

Depending on the position the community members felt concerning English, it influenced how they conceptualised it. Thus, literacy practices were "inextricably linked to cultural and power structures" (Street, 1988, p. 59). On the one hand, those in favourable situations underlined the value of what they possessed through assertions concretely stated or subtle forms of expressing a distinction to their benefit. On the other hand, those who felt undermined because of the lack of English expressed either complete rejection towards English or assumed sort of submissive roles. At **its** root, the BPCH community kept arrangements related to unequal social recognition, which caused students were "embedded in relations of power and struggle over resources" (Street, 1984, p. 28).

Gaps in the understanding of English caused that members of the same community identified themselves with specific sub-groups. Those who claimed to know English stressed it as a strength that symbolised autonomy and leadership. For the group, knowing English was related to adequate development, and they frequently regarded it as the key funding when dealing with academic endeavours. It was used as a mark of distinction for positive reinforcement. Meanwhile, for those at a competitive disadvantage because of English, it was an issue that frequently affected their confidence. English became a sign of the need to build good social relations for support and get the most of their strong points to preserve a place in the group.

For a teacher who spoke English, if students wanted to "truly develop as professionals, they should arrange for learning English" (Lino, informant, BPCH teacher, individual interview). For him, English was a fundamental tool for proper training and competitiveness when looking for a job. Because he presented himself as someone who owned that skill, his position suggested he had to make some concessions, such as: "I have to explain every single thing, and they [students] don't get it". (Lino, informant, individual interview). In the teacher's view, the university should revise entry requirements. He considered that if an English certificate was required, the academic staff could adequately fulfil current training needs. Because this teacher had learnt English conventionally, he "perceived as instances of deterioration of standards" (Pennycook, 2013, p. 9) the way students dealt with English.

In the same vein, for the academic coordinator who not only read in English but wrote scientific articles in this language, the way the BPCH community dealt with English was "more a pipe dream than reality" (Karina, informant, individual interview). In her opinion, many community members did not realise that the lack of English would deter them "to grow and progress professionally" (Karina, BPCH coordinator, individual interview). Hence, she considered students "should not wonder if they wanted to study English or not, but what kind of pharmacologists they expected to be" (Karina, BPCH coordinator). Referring to her circumstance, she said:

> En mi caso, no tuve ningún problema porque yo ya hablaba inglés cuando estuve en la licenciatura. Yo veía a mis compañeros pasar por situaciones muy complicadas. En gran medida, el inglés me ayudó a seguir estudiando … ¡El inglés ayuda mucho! (Karina, informante, coordinadora académica, entrevista individual).
>
> In my case, I had no problem because I already spoke English when I was an undergraduate student. I saw my classmates having tough situations. In large part, English helped me to continue studying … English helps a lot! (Karina, informant, BPCH coordinator, individual interview).

For her part, Andrea, the participant who had studied English more than most of her fellow students, thought this knowledge made her experience some ambiguous situations. On the one hand, some of Andrea's classmates recognised her as a better reader, which showed her some dividends. For example, forming teams in her class was not an easy task. They had previously

worked together many times and already knew each other. They had preferences with whom they wanted to work. The fact that Andrea was recognised as a better reader assured her to belong to the teams she selected, an option those who struggled reading in English would not always have. On the other hand, this student felt much pressure for achieving reading comprehension without mistakes. She considered it was kind of unfair that her colleagues relied upon what she reported. In this regard, she said:

> Haga lo que haga, es muy fácil quedar mal con los demás. Cuando todo va bien, nadie dice una sola palabra. Pero si cometo un error, yo soy la responsable. Claro, si alguno no trabaja bien, ya no trabajo con él después (Andrea, participante, entrevista individual, 5).
>
> Whatever I do, I'm likely to lose face with my classmates. When everything goes well, nobody says a word. But, if I make a mistake, I'm the only one in charge. Of course, if someone doesn't work well, I don't work with him any longer (Andrea, participant, individual interview, 5).

Nevertheless, when Andrea reflected upon her situation within the group, she concluded what she experienced was much better than the hardships of those who knew no English. She thought she should continue studying English because she knew first-hand the advantages of having that strength. In this regard, she deemed "in the land of the blind, the one-eyed man is king. I know I must go back to the English classes" (Andrea, participant, individual interview, 5).

In contrast to previous perspectives, for Mario, the BPCH teacher who had not studied English, it was a need that had to be dealt with available abilities and resources. Because Mario had undergone what students lived, he often showed empathy. For example, he said:

> A veces no dicen ni una palabra, pero con sus gestos, me lo dicen todo. Yo los veo y están haciendo caras o cabeceando … Finjo que no me doy cuenta. Pero por su puesto, puedo ver lo que están sintiendo (Mario, informante, profesor de farmacología, entrevista individual).
>
> Sometimes they do not say a word, but with gestures, they tell everything. I look at them, and they are making faces or nodding off ... I pretend that I don't realise. But of course, I can see what they are feeling (Mario, informant, BPCH teacher, individual interview).

In the teacher's opinion, this problem needed to be solved by the whole community, not only by the students on their own. In previous educational stages, English was supposed to be taught. If students did not have English classes at the university, they should be given help instead of "leaving them at their fate" (Mario, BPCH teacher, individual interview). Although he considered the use of English as a demand the community did not "correctly accomplish" (Mario, BPCH teacher, individual interview), he also conceded that little by little, students adapted to read in English. From his viewpoint, many times, he was surprised by the level of comprehension students reached. He said students were very skilful and that they also learnt to take full advantage of their own resources.

On her part, Zitlali, a participant who felt unable to take responsibilities that involved acquiring information in English, assumed that she had to compensate for the support she received from those who helped her with the readings. For example, she reported having done activities that required more time or were tedious, like laboratory trials. What Zitlali wanted was that her classmates considered she contributed to the teamwork somewhat. In this case, she said:

> Mientras yo no tenga que leer en inglés, prefiero quedarme en el laboratorio a hacer las pruebas. No me importa que me lleven mucho tiempo. Además, no me puedo poner muy exigente. Yo entiendo que ellos están leyendo en inglés (Zitlali, participante, entrevista individual, 6).
>
> As long as I don't have to read in English, I prefer staying in the laboratory to carry out the trials. No matter it takes longer. Moreover, I can't become very demanding. I understand they are reading in English (Zitlali, participant, individual interview, 6).

Because Zitlali compared her professional expectations with those she thought spoke English very well, she judged herself as not goal-oriented. In this regard, she reflected: "I don't know if I'm developing as pharmacologist" (Zitlali, participant, individual interview, 6). The way Zitlali identified herself illustrates how social covenants are profoundly ideological and thus are "constitutive of identity and personhood" (Street, 1995, p. 140).

Finally, for Miguel, a participant who had not studied English and felt overwhelmed by reading in English, it caused him to express a complete rejection of such requirement. For this participant, English was a kind of knowledge he could not acquire like other subjects he had gotten. Hence, about this issue, he mused:

> Cómo me gustaría que el inglés fuera algo que yo pudiera aprender nada más dedicándole tiempo como las otras cosas que tengo que aprender en español. Dime la verdad ¿Cuánto tiempo tengo que estudiar para leer bien? (Miguel, participante, entrevista individual, 5).
>
> I wished English was something I could learn simply by devoting time to studying as other things we have to learn in Spanish. Tell me the truth. How long do I have to study English to read fluently? (Miguel, participant, individual interview, 5).

The refusal of this participant to use English was systematically expressed. In think alouds and stimulated recalls, Miguel sometimes quit reading even if he was in charge of acquiring the information for the teamwork. An example from Miguel's reluctance to reading in English when feeling the burden was when he stated: "Maybe, it's not that I can't, it's that I don't want" (Miguel, participant, think aloud, 4).

6.5 The research questions

This section gives concrete answers to the research questions that guide the investigation. Taking advantage of the discussion by themes and categories, this integrating perspective recovers the most enlightening findings to explain why the type of academic literacy the BPCH community develops is a social and situated practice. Such global understanding contributes to achieving the

aim of the thesis, which is to investigate a variant of REAP and how its stakeholders adapt and understand the practice. Findings demonstrate the need for fulfilling a gap regarding the following two key components of what nowadays REAP entails outside the language classroom:

1) While there is much progress on REAP as a derivative from EAP, far less is known about non-prevailing practices of this activity. In line with what Street has clearly stated, the analysis of the academic literacy this thesis investigates compels us to call into question reading in English "as independent of the social context, an autonomous variable whose consequences for society and cognition can be derived from its intrinsic character" (Street, 1993, p. 5).

2) The discussion of the collective reading practices and how the BPCH community members experienced it individually confirm the influence of the underlying dynamics that drive developing literacy in diverse forms. Therefore, it is more profitable to understand REAP as a compound of complementary literacies than as an isolated skill. In this way, due to the current conditions of global interaction, it becomes fruitful to rethink the use of English based on the diversity of readers, resources and information needs found in academic environments worldwide.

6.5.1 RQ1 What practices allow the participants to acquire and use information in English?

Evidence regarding some contextual factors clearly explains why participants, who are Spanish-speakers primary, consult scientific and technical texts in English from their field of study in a distinctive manner. These aspects related to the way participants adapt reading in English give sense to a vernacular academic literacy scarcely acknowledged. Such contextualisation helps differentiate the needs and resources of the academic community and thus decouple the practice from English learning in a language class. The distinguishing characteristics explain why participants read the way they do and how the practice becomes entirely sensible to meet the need of using the information in English in the rest of the training activities.

Findings of this study show that REAP is due to the lack of information in the native language, which forces the students to consult specialised texts in English as the only option to develop training activities. Reading in English for the BPCH community cannot be separated from core activities even if most of its members have not been language learners and even reject this demand. It explains why participants and informants in the research agree with Sebastián, a BPCH undergraduate student, who ensures that in this community, "nobody escapes from reading in English" (Sebastián, participant, individual interview, 4).

From the very beginning, students of this BPCH programme know that REAP happens from one day to the other. Therefore, regardless of the previous contact with English, they have to cope with this need from their available resources. The need for access to information in English causes that most community members consider using this language as one of the most defiant activities. In particular, for those students whose first experiences with English are having to read unavailable BPCH texts in Spanish, it makes them feel "like being with one foot in a room and one foot in another" (Yalina, participant, interview, 1). Suddenly, they find themselves juggling with four challenging areas at once:

1. Learning BPCH contents
2. Consulting texts in English aimed at specialists in the study area
3. Organising teamwork to meet the challenge
4. Using the information in training activities

What this community experiences with the use of English gives insight into how much this language has permeated academic activities all over the world. However, the particularities of such a need vary from one field of study to another. In the case of the BPCH, a content teacher explains that:

> A diferencia de la química teórica, la química fármaco-biológica es principalmente experimental. Lo que hacemos en el laboratorio puede cambiar en muy poco tiempo. Eso hace que casi todo se publique en inglés, independientemente de dónde venga (Mario, informante, profesor de farmacología, entrevista individual).
>
> Unlike theoretical chemistry, biological and pharmaceutical chemistry is mostly focused on the experimental. What we do at the laboratory may change in a short time. It causes that almost all publications are in English, no matter where they come from (Mario, informant, BPCH teacher, individual interview).

Either in Spanish or English, the use of the information is the same. The language in which the information is acquired depends widely on the BPCH topics or the availability of reliable translations. Moreover, the difficulty of the texts in English ranges not only in terms of the language but also on the reader's previous knowledge or even the own characteristics of the reading materials, precisely as happens in the students' native language. Regarding the type of texts students have to consult, Andrea, a participant, explains:

> Por supuesto que estos textos están escritos para desarrollar temas de farmacología, no de inglés. Además, están pensados para quienes hablan inglés, no en nosotros. Es como cuando leemos en español, unos temas son más fáciles que otros. Hay textos en español que parece que están en chino (Andrea, participante, entrevista individual, 3).
>
> Obviously, these texts are written to develop pharmacology topics, not of English. Besides, they are thought for those who speak English, no for us. It is like when we read in Spanish,

> some topics are easier than others. There are texts in Spanish that seem to be in Chinese (Andrea, participant, individual interview, 3).

In this context, reading in English, far from a language learning objective or a means for discipline acculturation, provides basic BPCH information to develop training tasks. If normative criteria do not help understand the practice, analysing the activities participants perform from a deficit perspective makes no sense. It is much more profitable to explain the way students read in English according to the context, and thus, to analyse what they do rather than what they do not. Consequently, understanding how participants adapt literacy makes this variant of REAP reasonable and profitable.

Unlike conventional language learning settings, the reason that explains the reading in English practice the BPCH community carries out is the need for access to information unavailable in Spanish. Therefore, three interrelated causes substantiate this variant of REAP:

a) Most influential BPCH publications are only available in English. Even though some of them come from non-English speaking communities, they prefer publishing in this language. On this matter, participants and informants say that, at the national level, some BPCH journals that used to publish in Spanish nowadays are written in English.
b) It takes considerable time for state-of-the-art contributions on BPCH to be translated into Spanish. On this point, a content teacher estimates that “an influential academic paper may take even years to be properly published in translation. If you search for up-dated information, let’s say on any chemical advance or new production equipment, it’s in English” (Lino, informant, BPCH teacher, individual interview).
c) When publications address specialised topics, the targeted public is not that wide. Then, it is common that publishing houses in Spanish do not include those materials in their catalogues.

Because of the above, in the absence of the necessary information in Spanish, the community members have no choice but to consult many BPCH scientific and technical journals, manuals and textbooks in English. In print, there are some well-known handbooks and textbooks with different editions, which earlier issues might be in Spanish. However, almost all the latest versions are in English and digital format. The use of this type of texts is confirmed with the reading materials participants brought to the think-aloud and stimulated-recall sessions, which the BPCH teachers had assigned. Most of them are five to ten-page texts of pharmacology handbooks, 15 to 20-page BPCH protocol tests or developments or book chapters with variable length. Due to the familiarity with the BPCH topics or the way of presenting the information, participants show the

development of a particular academic literacy that helps them to get comprehension. On this matter, Brenda refers to a handbook she had consulted during several courses as follows:

> Trabajamos con este mismo manual en el laboratorio casi todo los días y la información se repite constantemente. Entonces nos vamos acostumbrando. Ya no es tan difícil. Si necesito saber las propiedades de los excipientes, el punto de fusión o su estructura molecular, siempre están en estas tablas [señalando con su dedo una sección del texto] (Brenda, participante, entrevista personal, 4).
>
> We work with this same handbook at the lab almost every day, and information is constantly repeated. So, we get used to it. It isn't that hard. If I need to know the excipients' properties, their flashing point or molecular structure, they are always in these tables [pointing with her finger a section of the text] (Brenda, participant, interview, 4).

Concerning the use of English, participants develop another important component of the academic literacy. The information BPCH students commonly use is about similar chemical properties, processes and reactions. Hence, the community members become familiar with specialised terms and technicalities on BPCH in English. Through extensive knowledge and experience, students acquire the ability to overcome language deficiencies to learn new things. In this way, participants frequently relate their schemata as pharmacologists to get meaning from what they read. In this regard, when talking with a participant about the way she acquires information in English for later use in the laboratory, she confidently describes:

> Investigadora: ¿Por qué escribiste esas cifras?
> Érica: Como voy a diluir el sorbitol en agua, se van a formar quelatos. Entonces, necesito medir la acidez y el punto de fusión.
> Investigadora: ¿Ya sabías eso?
> Érica: Sí, claro. Eso hacemos con todos los alcoholes. Por ejemplo, este alcohol debe estar entre 110-112°C y al 10% de agua sobre volumen (Érica, participante, recuerdo estimulado, 1).
>
> Researcher: Why did you write those numbers?
> Érica: As I'm going to dilute sorbitol with water, some chelates will be formed. Then, I need to measure the acidic condition and the melting point.
> Researcher: Did you know all that?
> Érica: Yes, indeed. We do that with any alcohol. For example, this alcohol must be between 110-112°C and 10% of water over volume (Érica, participant, stimulated recall, 1).

Evidence shows that specialised BPCH knowledge and expertise often help students bridge the gap of the English language. Therefore, these readers learn to draw upon different literacies gradually developed, which eventually, as a whole shape a specific academic literacy. In this regard, a key point to underline is that literacies go beyond specialised knowledge and familiarity with texts. To a large extent, this academic literacy is explained by the mutual contribution among team members, which makes acquiring information from demanding texts in English less burdensome. Besides, this form of practising literacy makes students consolidate their knowledge and skills to hold a group position. That is to say, while the BPCH knowledge and expertise defines this literacy as a situated practice, the way students work together to deal with English also defines it as a social practice.

As a result, the literacies that shape the practice can be grouped into two types. On the one hand, those literacies that are part of general academic tasks irrespectively of the field of study. Among others, they include searching for information, using digital resources or integrating information from different texts and formats. On the other hand, specific knowledge resulting from the BPCH activities, such as familiarity with technicalities or specialised knowledge only acquired in daily practice.

Both the general and specific abilities match up to operate in a complementary fashion. Their separate practice does not ensure that participants can acquire and use the required information adequately. Instead, the interplay of literacies aligns much better with an encompassing functioning that includes a series of social abilities that allow BPCH students to organise themselves to make the most of the strengths from each team member. Therefore, as suggested in many NLS, the use of the plural *literacies* clarifies the real practice of what students do to meet the information needs. In this regard, what Szwed, an NLS practitioner, elaborates on the real dynamics of literacy dovetails with what members of the BPCH community experience in their academic endeavours:

> [O]ne might hypothesize the existence of *literacy-cycles*, or individual variations in abilities and activities that are conditioned by one's stage and position in life. What I would expect to discover, then, is not a single level of literacy, on a single continuum from reader to non-reader, but a variety of *configurations* of literacy, a *plurality of literacies* (1991, p. 423).

Besides the easily recognisable literacies participants interplayed, the use of English also imposed that they developed other literacies barely identified. A BPCH teacher reveals this insight by comparing how he used to read in English in his student days and how their students do it at this time. On this point, he says:

> Cuando yo era estudiante, consultábamos los libros que había en los estantes de la biblioteca, que casi todo estaba en español. Ahora, si buscas cualquier tema de farmacología en internet o en las revistas, casi todo está en inglés. Además del inglés, los estudiantes deben considerar a quién están dirigidos esos textos y comparar cómo van a utilizar la información ¡Esa es otra dificultad! (Mario, informante, maestro de química farmacéutica y biológica, entrevista).
>
> In my student days, we consulted the available books from the library shelves, which were mostly in Spanish. Nowadays, if you look up any pharmacology topic on the internet or in journals, almost all are in English. Besides English, students must be aware of whom those texts are addressed and compare how they're going to use the information. That's another difficulty! (Mario, informant, BPCH teacher, interview)

Therefore, reading BPCH texts in English implies that participants not only get meaning from a language that meant significant challenges, they also have to be aware of the underlying information, a type of academic literacy related to skilled readers. They have to differentiate the information they acquire to use it properly in their own context. Such realignment and ownership of the information agree with Makoni and Pennycook. These specialists on NLS consider that the

use of languages and literacy as cultural artefacts are “invented, dis-invented or reconstructed to endure unfolding needs and resources of interaction” (Makoni and Pennycook, 2007, p. 23).

In line with the ideological model of literacy, evidence shows that the academic literacy is “a social practice, not simply a technical and neutral skill” (Street, 2003, p. 77). Therefore, as many NLS have revealed, this variant of REAP relies on the social integration of “sub-communities within communities, and multiple embeddings of micro-societies within sub-communities, and finally a great diversity of a small number of individuals” (Casanave, 1995, p. 86). In addition, as the information addresses a particular area of knowledge, participants interplay “multiple abilities to ‘read’ texts of certain types in certain ways or to certain levels” (Gee, 2008, p. 44).

Another enlightening characteristic of this academic literacy indicates an essential difference from REAP assumptions. In general, the reading process is related to acquiring the information, on the one hand, to later use it on the other. Hence, it is widely assumed that a single reader carries out both procedures. The functioning of both stages is explained by the single reader who performs the activity. However, in this practice, participants show that the academic literacy operates differently. Among team members, while some of them acquire the information, others optimise and adapt resources to make the best of it in broader activities. This literacy is mainly collaborative, and the practice of acquiring information in English is only explained by the use such information will have in the training tasks.

6.5.2 RQ2 How do participants engage in knowledge-sharing and collective learning?

The specific needs for reading in English, the type of texts commonly consulted, and some distinctive characteristics of the participants’ backgrounds show that the reading practice the BPCH community carries out does not correspond with most REAP assumptions. Unlike language students immersed in conventional settings, the way participants find to meet the information need is based on peer work and capitalising on specific resources and knowledge. Therefore, these differences compel us to widen the exploration of what happens with REAP outside the language classroom and as a result of a need for access to information only available in English.

By identifying the participants’ needs about reading in English for their vocational training, it is possible to set the academic literacy within its context. On this subject, Gee emphasises the importance of situating literacy by saying:

> What I mean by a ‘who’ is a *socially situated identity,* the ‘kind of person’ one is seeking to be and enact here-and-now. What I mean by a ‘what’ is a *socially situated activity* that the utterance helps to constitute literacy (1999, p. 21).

Therefore, if the “who” and the “what” are constitutive of literacy, Gee concludes:

> You are *who* you are partly through *what* you are doing and *what* you are doing is partly recognized for what it is by *who* is doing it (1999, p.23).

Considering Gee's remark concerning the adequacy of contextualising the specific characteristics of both the readers and their doings, the analysis of the academic literacy the BPCH community develops makes the use of English and the diverse literacy experiences of the community members acquire a new meaning. This ethnographic approach discloses three main features from the way participants arrange literacy procedures:

1. Because reading in English is not a guided activity, students organise their readings through self-agency procedures.
2. The social interaction around reading goes beyond the information needs. Community members establish partnerships whose support influence other areas of the participants' life.
3. Besides the social interaction, there are other specific resources participants draw upon to acquire the information as an integral part of the BPCH training.

These components explain the nature of a social and situated academic literacy. In this sense, the diverse literacy episodes show that social interaction is convincingly the central element that allows the BPCH students to get meaning from the texts and consolidate knowledge. Although the oral and the exchange of information are the two essential parts of any learning process, challenges to acquire and use specific information in English demand from these students to concentrate further efforts. In the students' opinions, from all the training activities, reading in English requires the strongest mutual support. The backing students provide to each other is the key to facing the learning demand and continuing to develop as undergraduates. Such importance can be understood from Cristina's account, a second-year student when referring to the support she receives from her classmates:

> Lo único que me ayuda es que casi todo el trabajo donde necesitamos leer en inglés, lo hacemos en equipos. Yo no me atrevería a trabajar sola en el laboratorio. Sólo porque lo hacemos juntos, siento que lo puedo hacer. De otra manera, sería muy difícil si es que no imposible, al menos en mi caso (Cristina, informante, estudiante de farmacología de 2º año).

> The only thing that helps me is that most work in which we need English is done by teams. I wouldn't dare to work at the lab by myself. Just because we do it together, I feel I can do it. Otherwise, it'd be very difficult, if not impossible, at least in my case (Cristina, informant, 2nd year BPCH student).

The social role of sharing this demand confirms "the importance of other people in a person's literacy practices" (Barton, 2013, p. 2). Students very frequently referred that their vocational training is already a defiant demand. Reading in English is an additional difficulty that makes them feel "like being with one foot in a room and one foot in another" (Yalina, participant, interview 1).

Regarding the challenge that reading in English imposes to the participants in comparison with other activities like reading in Spanish, Zitlali, said:

> Para mi, leer en español es una cosa completamente diferente ¡Si tan sólo no existiera el inglés! A la mejor no entiendo todos los temas, pero al menos están en español. Una que otra palabra no entiendo en español, pero se siente diferente. Además, si no entiendo todo, mi problema es con la farmacología, no con el inglés (Zitlali, participante, entrevista individual, 3).
>
> For me, reading in Spanish is a quite different thing. If only English didn't exist! Maybe I don't understand all topics, but at least it's in Spanish. One word or another I don't understand in Spanish, but it feels different. Moreover, If I don't understand everything, my problem is with pharmacology, not with English (Zitlali, participant, individual interview, 3).

From Zitlali's account, it can be seen that though reading academic texts in Spanish is a defiant task, she conceded that it is part of the expected activities of the training. Challenges in understanding correspond to any learning process. It is taken for granted that difficulties are due to the uncharted study contents of BPCH. Conversely, reading in English is perceived as more a matter of an unreasonable demand to which it is necessary to coordinate efforts and devote the most significant resources.

While most activities participants carry out are guided by a teacher, reading in English follows a different procedure. It is a self-agented activity whose authority figures are those close friends or team members recognised as more seasoned readers, being the most important referent if students have attended English classes. This form of social organisation in which the BPCH students acquire and use the information in English reminds us of the rationale of the concept of communities of practice (*see* 3.4.2). The central reason is that in contrast to vertical forms of knowledge transmission and assimilation, members of a community of practice consolidate learning without the intention of being taught. In this matter, Miguel, a participant who commonly had to ask for help, describes what he does when in troubles for reading comprehension:

> Miguel: Érica está en mi equipo. Ella lee muy bien. Si no me da tiempo de preguntarle antes, en el laboratorio le voy preguntando.
> Investigadora: ¿Le preguntas generalmente a Érica?
> Miguel: Sí, casi siempre. Cuando quiere, me ayuda ... pero otras veces me batea (Miguel, participante, recuerdo estimulado, 2).
>
> Miguel: Érica is on my team. She reads very well. If I don't have time to ask her before, then at the lab, I ask her on the go.
> Researcher: Do you usually ask Érica?
> Miguel: Yes, almost always. When she wants, she helps me … but some other times she turns her back on me. (Miguel, participant, stimulated recall, 2).

From Miguel's account, it can be identified that the academic literacy the BPCH students develop is due to the need for sharing of knowledge and expertise to address a "real-life problem or hot topic" (Wenger et al., 2002), which in this case, it is using English as part of the training tasks. Besides, they arrange different social strategies among peers to learn unintentionally. While some

students take the lead in certain activities, such as reading in English, in other activities, these same students are the learners. Thus, participation, leadership and social recognition range since community members evolve knowledge and expertise.

As in most activities where the social interaction is extensive and demanding, close relationships also imply a series of problematic situations students have to overcome. The way BPCH students organise their readings reveals that the academic literacy also includes hierarchies among members of the community. Those who need more language support have to maintain social relations in good terms if they want to meet the information needs.

Unintentionally and as in no other training activity, students learn to organise themselves to develop autonomy. On this matter, students consider they are forced to play a more active role when reading in English than in their native language. Therefore, students compared the reading patterns they follow when reading in Spanish, highlighting that they share tasks differently. For example, Zitlali, one of the participants, distinguished:

> Cuando leo en español, siempre es en mi casa, ya tarde, en mi cama [poniendo sus manos en la nuca], ya casi cuando me voy a dormir. Después, nos juntamos para organizar la información. Cuando alguien entiende algo mal, todos nos damos cuenta. Es algo muy diferente (Zitlali, entrevista individual, 3).
>
> When I read in Spanish, it's always at home, late, lying on my bed [placing her hands behind the head], it's almost when I'm going to sleep. Later, we get together to organise the information. When someone misunderstands, we all notice it. It's something entirely different (Zitlali, individual interview, 3).

The concentration of efforts to use English information causes participants to consider learning in more detail when they read in this language. It requires paying close attention to the fellows' contributions and a continual self-assessment of the reading comprehension. For example, Miguel, reporting in a stimulated recall, pondered:

> Miguel: Me costó mucho trabajo este texto y hay muchas cosas que no entendí. Si no me estuvieras viendo, no lo habría terminado [arrugando los labios].
> Investigadora: ¿Qué haces cuando te pasa esto?
> Miguel: Es por eso que siempre trato de leer con alguien más. Entre varios es más fácil… Lo leí con cuidado, pero no lo entendí bien. Lo que habría hecho sería escuchar lo que dicen los demás y yo habría apuntado lo importante (Miguel, participante, recuerdo estimulado, 2).
>
> Miguel: I had a hard time with this text and there are many things I didn't understand. If you weren't looking at me, I wouldn't have finished it [puckering lips].
> Researcher: What do you do when it happens to you?
> Miguel: That's why I always try to read with someone else. It's easier among many… I read it carefully, but I didn't understand well. What I would have done is listening to what the others say and writing down just the important (Miguel, participant, stimulated recall, 2).

The language support BPCH students receive to cope with reading in English is incidental. Although interviewed teachers coincide that they try to help their students, they have different

forms to support them. For example, Mario, a content teacher, said that he tries to select materials in terms of the level of difficulty of the language to the possible extent. Besides, this teacher tries to contextualise the information before assigning readings in English. However, he conceded that reading in English was not a guided activity saying: "students organise themselves. I know that most of the time they read in teams, but I don't ask them to do so" (Mario, informant, BPCH teacher). In this regard, Mariana, a student attending the last course of the programme, considered:

> Cuando los conceptos o partes de un texto son muy difíciles de entender, les pedimos a los maestros que nos ayuden. Depende de la actividad. Cuando es un texto que tenemos que leer en equipo, es más fácil. Si uno se equivoca con la información, otro corrige. El problema grande es cuando lees tú sola (Mariana, informante, estudiante de 4º año).
>
> When concepts or parts of a text are very tough to understand, we ask teachers for help. It depends on the activity. When it is a text we have to read as a team, it's easier. If one misunderstands the information, another corrects it. The big problem is when you read by yourself (Mariana, informant, 4th year student).

Because students organise themselves to face the need for information, they gather selectively. Some students make teams depending on whom they read in English better. Others because they make steady teams and reading in English is one of the many activities they perform together. Others reading in English is a challenge they prefer facing together among close friends. An example is the close connection Zitlali and Rosalid kept throughout their undergraduate studies. Because these two participants shared many features, one of them explained:

> Con Zitlali es como decir 'Dios las hace y ellas se juntan' [riéndose]. Casi siempre leemos juntas. Ella me ha ayudado mucho, incluso cuando he tenido que leer algún texto que a ella no le toca, me ha ayudado. Ya si de plano siento que no entendimos ni una palabra, le pedimos a alguien más. No hemos aprendido mucho inglés, pero ahí la llevamos (Rosalid, participante, entrevista individual, 6).
>
> With Zitlali, it's like saying 'Birds of a feather flock together' [smiling]. Almost always, we read together. She has helped me a lot, even when I've had to read a text she didn't have to, she has helped me. If I really feel we didn't understand at all, we ask someone else. We haven't learnt much English, but there we go (Rosalid, participant, individual interview, 6).

The close rapport of these two BPCH students confirms how reading in English cannot be detached from the patterns of social interaction participants followed. This component reveals "the permeability of boundaries, of leakages and movement between boundaries, and overlap between domains" (Barton and Hamilton, 2012, p. 11).

6.5.3 RQ3 How do participants conceptualise the role of English in their vocational studies?

Evidence regarding the contextual circumstances explains the reasons that compel the BPCH community to consult texts in English, the participant's experiences about the use of English and the procedures they follow to meet their information needs. These observable features enable

situating the academic literacy in its milieu. In this way, it is possible to distinguish how the BPCH community adapts literacy to acquire and use information in English.

From the literacy episodes, the most revealing particulars show that reading in English is not performed individually or as an isolated skill. Instead, the interplay of different literacies enables the participants to get meaning from texts in English addressed to a specialised public. This situation lets us identify that participants contribute to literacy in varying forms depending on their strengths to ensure a place in the group, which underlines the nature of the academic literacy as a social practice.

In contrast to these observable patterns, the community members do not necessarily share the way of conceptualising literacy because it is experienced differently. Values, attitudes and feelings range not only from one person to the other but in a single reader in English, depending on the circumstances. While some positions result comparable, others are different or even conflicting. Therefore, the understanding of the academic literacy depends on the eye of each BPCH community member.

In the case of this academic group, the main point that causes discrepancies in the conceptualisation of literacy derives from the use of English. On the one hand, a minority segment of the population speaks or has studied English. For them, it is an asset with which they can negotiate a higher social status. This favourable situation encourages them to base criteria on the standards they know and validate. On the other hand, the vast majority of the community has none or minimal English background. All of them assume it is a major deficiency that puts them at a disadvantage and closely linked it with inappropriate school education and professional development. Since English teaching is not part of the curricular programme, the lack of this knowledge signifies asymmetrical relationships that shape how they envision the academic literacy.

For the BPCH community members, English arises as a symbol to reckon either strengths or weaknesses. It becomes a central point in the way teachers and students present themselves to others. Divergences in the conceptualisation of the academic literacy are mirrored in the values, attitudes and feelings from participants and informants about using English. These personal insights confirm the core tenet from the ideological model by emphasising that literacy, far from a neutral and standard activity, involves a series of tensions between the authority that sets normative criteria and thus exercises power and those under pressure who either endorse standards or generate resistance through alternative forms of communication.

Those at advantaged positions mostly regard having studied English as a noticeable proof of preparatory work. They assume that to use English adequately, it is necessary to learn the language first. Hence, the fact that many other community members acquire and use the information differently from the expected is deemed "more a pipe dream than reality" (Karina, informant, academic coordinator, interview). On this point, those who know English are prone to underline what readers cannot do. They consistently express having to make concessions to get the tasks done, such as "I have to explain every single thing, and they don't get it" (Lino, informant, BPCH teacher, interview).

Consequently, being equipped with English signifies for the community not only the advisable credentials "to truly develop as professionals" (Lino, informant, BPCH teacher, interview), but it also gives social prestige worthy of preserving. In this connection, while in personal accounts, participants frequently voiced concerns about the difficulties they underwent at reading challenging texts in English; such expressions turned different when interacting with others from their own group. In particular, the more seasoned readers in English addressed the problems they faced trying to help those in need of more support.

The profits of safeguarding the recognition from the others become clearer in the retrievals from the participant who knew more English among the sample of BPCH students in this study. In individual interviews, this student used to refer to the struggles she had reading BPCH texts in English by saying: "I wish I had continued studying. In the land of the blind, the one-eyed man is king" (Andrea, participant, individual interview, 5). However, when participating in the group interview, her positionings covered other issues. For instance, she emphasised the burden of taking responsibilities for leading the use of information in English. In this regard, she expressed:

> Haga lo que haga, es muy fácil quedar mal con los demás. Cuando todo va bien, nadie dice una sola palabra. Pero si cometo un error, yo soy la responsable. Claro, si alguno no trabaja bien, ya no trabajo con él después (Andrea, participante, entrevista individual, 5).
>
> Whatever I do, I'm likely to lose face with my classmates. When everything goes well, nobody says a word. But, if I make a mistake, I'm the only one in charge. Of course, if someone doesn't work well, I don't work with him any longer (Andrea, participant, individual interview, 5).

In contrast, those who found themselves in disadvantaged positions conceptualised the academic literacy from another angle. Values, feelings or attitudes regarding the academic literacy changed depending on the circumstances they underwent. An enlightening example was Zitlali, a participant that felt diminished because of English, who even hesitated on her overall condition by saying: "I don't know if I'm developing as pharmacologist" (Zitlali, participant, individual interview, 6). This BPCH student, in an individual interview, when referring to how she worked

with her fellow teammates, expressed kind of a submissive attitude, assuming that she had to compensate for the aid she received. In this regard, Zitlali said:

> Mientras yo no tenga que leer en inglés, prefiero quedarme en el laboratorio para hacer las pruebas. No me importa que me lleven mucho tiempo. Además, no puedo ponerme muy exigente. Yo entiendo que ellos están leyendo en inglés (Zitlali, participante, entrevista individual, 6).
>
> As long as I don't have to read in English, I prefer staying in the laboratory to carry out the trials. No matter it takes longer. Moreover, I can't become very demanding. I understand they are reading in English (Zitlali, participant, individual interview, 6).

Because reading in English is not part of the guided activities, BPCH students keep self-agency agreements to develop literacy. Those who find themselves in a greater need of support are used to build strong social networks that may go beyond the academic tasks. Being at the same unfavourable positions, they find strength banding together. In this respect, Rosalid, a participant, explained her link with Zitlali, another participant:

> Con Zitlali es como decir 'Dios las hace y ellas se juntan' [riéndose]. Casi siempre leemos juntas. Ella me ha ayudado mucho, incluso cuando he tenido que leer algún texto que a ella no le toca, me ha ayudado. Ya si de plano siento que no entendimos una palabra, le pedimos a alguien más. No hemos aprendido mucho inglés, pero ahí vamos (Rosalid, participante, entrevista individual, 6).
>
> With Zitlali, it is like saying 'Birds of a feather flock together' [smiling]. Almost always we read together. She has helped me a lot, even when I've had to read a text she didn't have to, she has helped me. If I really feel that we didn't get a word, we ask someone else. We haven't learnt much English, but there we go (Rosalid, participant, individual interview, 6).

However, when Zitlali underwent too much strain or weariness for reading in English, her attitude changed. Under these circumstances, the participant expressed that she was not willing to please others. Her positioning turned to validate her own means to develop the academic literacy. Once, the student explained: "Sometimes when we are reading, one of us reads aloud in English. Well, in our English. It looks bad, but we understand. Anyway, I'm sorry! (Zitlali, participant, individual interview, 4). Even when overwhelmed, this participant bemoaned: "If only English didn't exist!" (Zitlali, participant, individual interview, 4). Participants often voiced concerns that reflected the burden they feel because of the challenges of reading in English. In this vein, attitudes from the participants showed complete rejection, like saying: "Maybe, it's not that I can't, it's that I don't want" (Miguel, participant, think aloud, 5).

Although the variant of REAP most community members developed do not match normative criteria, strong ideological baggage negatively influences how it is perceived. Most of them consider that since they have not attended language classes, then the way they perform literacy is

not valid. Even though students often acquire and use the required information, they commonly pay more attention to what they should do but do not.

Differences in the way of conceptualising the academic literacy connected with the role they played in the group. On this matter, to understand the academic literacy, the objective was not to conciliate positions to define the practice in one piece and thus provide a foreseeable diagnostic. The richness of such perspectives mainly lied in their diversity.

6.6 Summary

This chapter discusses the findings from two encompassing perspectives: through categories and themes and by answering the research questions. In this sense, categories and themes confirm the adequacy of drawing on the rationale of the ideological model of literacy and the NLS to understand a vernacular literacy. Although variants of REAP are widely disregarded in the reading in English research, the academic literacy the BPCH community develops gives an account of how this activity is a socially and situated practice that adapts organically to the actual communication needs. On their part, answers to the research questions synthesise the most representative features that shape the academic literacy this thesis analyses. Both approaches provide the necessary framework to meet the aim of the study, which is to comprehend a non-mainstream form of REAP and how the stakeholders conceptualise the practice.

Categories and themes capitalise on the central assumptions of the ideological model of literacy and the NLS that sustain the adequacy of analysing the observable elements that contextualise vernacular practices and the ideology that sustains how individuals and different groups understand how they experience the activity. Therefore, attaching to this complementary analysis of data, the understanding moves away from normative criteria that base valuations of literacy on transferable sub-skills even if they do not correspond between communication needs and resources.

The first core category explains a variant of REAP through three key components regarding the literacy events:

1) In contrast to prevailing conditions where REAP is situated into an English class, participants deal with reading in English by their own means. No teacher is involved, and locations are those where students can perform literacy through methods of self-agency.

2) This activity is essentially carried out by concerted efforts through teamwork. Thus, social interaction plays a key role. To deal with a defiant challenge or to endorse learning, mutual feedback explains this type of academic literacy as a social practice.

3) REAP is not developed as a separate skill. To acquire and use information in English, participants combined many other resources that substantiated the adequacy of underpinning the analysis under the concept of literacies.

The second category reveals how the BPCH community understands this academic literacy since it expounds on the ideology that underlies the practice. Far from a neutral conceptualisation, the BPCH community members are influenced by the following three key components:

1) The use of English goes beyond that of a means of communication. English becomes a commodity that impacts social socio-cultural relationships. Therefore, there was a series of unobservable components as significant as those recognisable elements, which, as a whole, shaped the academic literacy the BPCH community experienced.
2) English knowledge generates power relations that influence the way its use is adapted.
3) The understanding of the use of English affects individual and collective identities.

The unobservable components of this academic literacy resulted as significant as those recognisable elements. As a whole, these ideological elements shaped the academic literacy the BPCH community experienced.

Finally, the research questions bring together the data analysis from the previous chapter and summarise the major findings. The answer to the first research question explains how participants access information in English to be used in BPCH activities and the logic of this variant of REAP. The answer to the second research question distinguishes how participants organise themselves to meet the need of using English and how such practices allow them to consolidate learning through teamwork. Finally, the answer to the third research question explains that to truly comprehend the nature of literacy, it is necessary to consider the way it is individually and collectively conceptualised as this activity is not a neutral and standard skill.

Chapter 7 Conclusions

Mostly based on the ideological model, New Literacy Studies (NLS) have shown a wide variety of everyday literacies that reflect the people's ability to adapt their knowledge and skills for communication. Through ethnographic perspectives, these studies have found the ingenious use of different languages people can make in commerce, music, virtual environments and many other areas of daily life. Notwithstanding, in highly normative fields such as academia, there is a lack of NLS that address non-mainstream forms of reading in English for academic purposes. The tendency to fulfil guidelines makes to consider the concept of REAP as the qualified form of getting meaning irrespectively of the readers' features and the particular needs when carrying out this activity.

This multiple case study investigates a variant of reading in English for academic purposes. Away from the common connection between the reading process with language learning, the studied community shows another form of developing it. Two critical elements shape this academic literacy in English as a social and situated practice. First, instead of the individual process from a reader, the core mechanism of this type of literacy is the cooperation among readers as it allows them to acquire and use the information. Hence, the sharing of knowledge and mutual support are what truly explain it as a social practice. Second, the BPCH community members have specific characteristics that define the way literacy is developed. They commonly consult the same type of texts, perform repeated training activities that involve using English from which they become familiar, and grow specialist knowledge and expertise in their field. Thus, such particulars of the readers explain the academic literacy as a situated practice.

The learning derived from this investigation allows foregrounding some implications of the study on practical and theoretical grounds, the limitations of the study, some directions for future research and a brief personal reflection on my experience of writing the thesis.

7.1 The contribution of this study

Nowadays, English has reached many academic environments worldwide and its use follows diverse patterns depending on the communication needs. Therefore, the learning of how the BPCH community adapts academic literacy in English provides several insights to the NLS research, which were outlined here.

Findings challenge the assumption that theoretical concepts about the use of English, academic settings and readers are unbiased, as commonly considered in REAP. For example, by referring to

the global use of English, Johns and Dudley-Evans assert that “the international community recognized the importance of learning English not only as a means to achieve transmission of knowledge and communication but also as a neutral language to be used in international communication” (1991, pp. 301-302). However, this case study shows that this belief is far removed from reality. As expounded in chapter three, literacy is “not simply a neutral and technical skill” (Street, 2002, p. 7). For participants, the use of English implies a series of issues that fully align with the rationale of the ideological model of literacy that sustains that every person lives literacy differently.

In the BPCH community, understandings of literacy change among members of the same subgroups. For some teachers, the way the academic community adapts reading in English is a serious weakness that questions the legitimacy of the vocational training. However, for other teachers, it reflects the students’ ability to cope with a significant challenge drawn from their skills and resources. What is more, the perception of literacy ranges even in a single participant. It varies according to the angle from which it is viewed at different times and situations. Sometimes, a participant can express acceptance for the use of English, but at other times this same person shows complete rejection. It is not the same when a community member has certain knowledge that others do not and the other way around. The disparity in the form of understanding literacy illustrates that because the use of English is not a shared asset, it becomes a bargaining chip that generates struggles and power relations. Accordingly, the way each participant contributes to the academic literacy keeps a close relationship with identity issues.

This study supports the approach that a well-aimed analysis of a vernacular literacy derives from the ongoing experiences of those directly involved. In the case of the BPCH community, while academic purposes of reading in English prevail, the way of achieving them follow particular processes that do not match with those conventionally considered. Therefore, the community develops a variant of reading in English for academic purposes as valid as any other as it responds to a compromise between the information needs and the available resources. The meaning of the findings shows that if the analysis is derived from generalist appraisals, comprehension of this sensible form of developing academic literacy would have no room.

The participants’ happenings, expectations and views regarding the academic literacy explain it in depth. However, a broad understanding of the social and situated practice would fall short without the informants’ complementary perspectives. Because participants shared many characteristics and attended the same BPCH courses, data disclosed similar occurrences. Insights from the three students attending the other years of the programme, the content teachers and the academic coordinator enrich the shaping of the academic literacy as a complex social

phenomenon. As evidenced in 5.7.4, the triangulation of viewpoints from purposeful members of the BPCH community is of great help to take notice of some literacy features. Although not always visible, the group representations of literacy influence the way participants interpret what they do. They also help to grasp, in greater complexity, what participants were experiencing.

As mentioned above, the prevailing assumptions of REAP come from conventional characteristics of readers, texts and contexts. The reader is a language learner who gets instruction through didactic materials with the aid of a skilful reader (an English teacher) and into a classroom setting. These views of reading are closely related to uniform conditions, and so the way of representing it. Nevertheless, when reading practices do not match with such conventions, unfamiliar audiences may be confused or mistaken. As seen in chapter four, NLS have narrowed this gap by providing meaningful ethnographic understandings of vernacular practices through the use of photography.

In this case study, the participants' contribution by taking the photographs fulfil two important functions. On the one hand, through the use of visual communication, participants lead the representation of what literacy means from their viewpoints, not from the researcher. Therefore, they give introspective accounts of the way participants signified the academic literacy and themselves as members of the BPCH community. On the other hand, photographs illustrate first-hand the settings and most literacy events hardly ever shown since they are not part of mainstream situations. In this respect, photographs allow us to contextualise accurately how the BPCH community members deal with reading in English in a more personal and involved way.

7.2 Implications of the study

As discussed throughout the thesis, English has become the language most widely used among speakers of different languages. In some non-English speaking academic environments, its incorporation has been gradual, and its use follows common patterns, such as including the language teaching into successive stages along with the educational programmes. English is mainly seen as a subject matter that shows evidence of sound and up-to-date preparatory work. In this vein, it is assumed that undergraduate students previously received the language instruction during middle school and high school as well as the expected training to use it for academic purposes once they enter at the tertiary level.

Nevertheless, in other academic settings, as in the case of this BPCH community, the use of English is experienced entirely different. The unprecedented spread of English and the own characteristics of the educational context cause that such communities develop vernacular forms to cope with the current challenges of communication. In this case, the use of English is not

related to the teaching of a second or foreign language, to the language command through speaking, listening, writing and reading on equal terms nor to the conceptualisation of a shared language for two-way communication.

From the different language skills, reading is still the prevalent form to gather data among speakers of different languages. Then, in academic environments, reading in English has become a must for many university groups around the world. As an issue for applied linguistics, REAP has reached much progress. However, as anyone can conclude by reviewing the existing literature, almost all research is based on conventional tenets: language learners, the acquisition of the skill through gradually guided activities and methodologies that seemed to be ideologically uncharged.

Moreover, in contrast to other more permissive social settings, in academia, parameters about reading in English are strongly influenced by normative criteria. There is a general tendency to assume that once readers perform as expected, reading is a proven means to acquire information, and so to learn and strengthen knowledge. Under this premise, it could be argued that those readers who do not stick to the rules need to be amended even if their information and communication needs are different. Otherwise, such English users do not belong to the group of proficient readers and lack something to perform properly in academia.

The critical implication of the study is that if reading in English is an essential part of academia worldwide, then it must reflect the idiosyncrasies of the readers that allow them to adapt literacy rather than the other way around. Although purposes of reading are the same (i.e., using previous knowledge to learn new things or integrating information to build schemata), categorical assumptions constrain understanding of non-prevailing forms of reading in English for academic purposes, from which far less is known.

From the different practices regarding reading in English for academic purposes, applied linguistics has centred the analysis on explaining only a type. More research and discussion regarding emergent academic literacies are needed. Consequently, the way the BPCH community uses languages (English and Spanish), capitalises specific knowledge, and conceptualises what they do compel to address some implications for both practice and theory.

7.2.1 Implications for practice

An implication for practice is that this study confirms the need for applied linguistics to investigate what happens regarding reading in English for academic purposes outside the English language class. There is a real lack of study on variants of reading in English for academic purposes that have nothing to do with language learners and guided instruction. In particular, this case study

shows the constraints of underpinning the analysis of reading in English on standards about readers, the use of languages, reading processes and contexts. The consequences of this shortcoming are twofold. Applied linguistics limits its area of research and misses the opportunity to keep up with vernacular literacy practices that enrich what reading in English for academic purposes involves. Moreover, unconventional academic readers are negatively influenced as they do not fulfil the expected abilities even if they are not interested in learning English or being evaluated in terms of isolated text-based activities.

Another contribution to practice is that the study explains the academic literacy based on its own logic. Without taking into account regulatory criteria, findings show the actual intricacies reading in English signify for unconventional academic readers. Such information is important given that applied linguistics has not properly opened up research to alternative reading practices, and nowadays, many non-English speaking academic communities manage with emergent literacies irrespectively of what is commonly regarded as desirable or valid.

In this context, making known a vernacular academic literacy that involves reading in English by no language learners allows other communities with comparable features to take a step back from approaches detached from their corresponding realities. It may serve not only to update what is happening about emergent academic literacies but to derive similar implications that widen understanding of reading in English for academic purposes beyond didactic proposals. Thus, this investigation plays a part in tempering the big calls concerning the present status of English and the "idealized generalization about the nature of language and literacy towards a more concrete understanding of practices and events in 'real' social contexts" (Street, 1995, p. 3).

A further implication for practice derives from the findings that understand the characteristics of the academic literacy as it is. In other words, because the analysis moves away from a deficit-oriented perspective, findings point out knowledge and skills hardly regarded when reading is valued through separate outcomes from the rest of the literacy, such as standardised tests given to each reader individually. In this case, a conventional approach to reading in English is not only predictable but pointless. In prioritising what participants do rather than what they do not, the investigation allows us to value the way they organise individual and group knowledge as well as their social skills to cope with academic literacy; thus, the learning becomes more meaningful. Although this understanding is revealing in any context where vernacular literacies are developed, in academia, this variant of reading in English for academic purposes turns enlightening.

Implications for practice signpost the meaning of reflecting on the theoretical framing in which reading in English for academic purposes is mainly developed. Contributions of education and ethnography offer multidisciplinary approaches to pinpoint the cultural relativism of those who

theorise about it from an overall understanding. Hence, the investigation of vernacular literacies becomes a stepping stone to bring theory and practice together.

7.2.2 Theoretical implications

Most autonomous models of literacy set the outcomes people must accomplish to be considered literate. These models pay particular attention to the language system and discursive forms, which are taught as learnt structures for meaning construction. Such criteria influence the theoretical foundation of REAP, as mainly developed in applied linguistics. While correspondences between autonomous models of literacy and REAP are entirely sensible in mainstream settings, their true scope becomes limited in the light of vernacular performances.

The findings of this study show that both autonomous models of literacy and prevailing assumptions of REAP matter a lot as they build the ideology from the mainstream practice. However, they are not enough to explain the human capacity to construct meaning from the written texts when it is far from conventional conditions. For example, when academic readers are not language learners, they undertake self-agency processes for reading in English and develop vernacular uses of English. Normative criteria would put into question the three core elements of reading in English for academic purposes from which participants of this study develop variants. Reading is not explained by a two-way individual process between the reader and the text. The use of English is not related to communication among speakers of different languages. And, the use of information in English is a necessity, not an option to accomplish well-bounded academic activities.

Although in literacy research, there are forking positions in terms of their understandings, and they eventually do not rule out each other. On the contrary, these models show the true nature of literacy, which embraces a full spectrum of practices. In theory, such orientations bring richer and clearer viewpoints about the diversity of the communication targets. However, for those who experience literacy differently, the ideological baggage of prevailing parameters makes them consider what they do like a flaw and out of place.

In most cultures, being literate based on standards is deemed like a skill of a higher order. It causes that people embrace criteria that do not necessarily match with what they do or require to do. Findings from this collective case study show that participants had profoundly internalised the idea that if they do not fulfil the expected credentials, their capacity to get meaning from the written is at stake. Empirical evidence leads to the following theoretical implication: If non-conventional practices were included in REAP research, it would yield benefits for the understanding of academic literacies in English developed outside the language class. Then,

research on reading would widen its scope for a fuller comprehension of emergent forms of adapting literacy at a time when the use of English is increasing and changing constantly.

Taking into account the above, the meaning of the findings compels to highlight the need for complementary orientations in reading in English for academic purposes that favour two key points. First, the way other academic literacies are developed from collaborative work, the support of subsidiary skills and the particular processes from English users who own expertise and knowledge on the topics they read. Second, how literacy in English is something else than reading and writing as it comprises other complex social agreements. If distinctions between literacies and social values are made explicit, readers are better aware of their individual and collective strategies to adapt literacy. Because such orientations refer to vernacular academic literacies, then it is the time for researchers belonging to those grounds to draw out complementary rationale.

7.3 Limitations of the study

The theoretical framework and methodology adopted in this case study were successful in achieving the contributions presented above. However, the subsequent analysis of the findings led me to identify some limitations that are outlined here.

The thesis investigates an academic literacy that encompasses a set of different literacies whose interplay is what mostly defines the practice. This academic literacy is a variant in which non-language learners acquire and use information in English for vocational training. So, reading in English is one of the several elements that shape the type of literacy. However, for empirical observation, the analysis focused on the episodes when reading in English would take place. To a certain extent, specific episodes of literacy were disengaged from their natural course.

Observation of participants when reading and writing in the native language or the significance of the orality to consolidate knowledge was not properly considered in the study. In this respect, there is awareness about the contradiction in the methodology in terms of the analysis as it only provides glimpses of the rest of the literacies participants integrate. Both the ideological model of literacy and the participants' insights indicate that separating literacies hinders understanding of its deep nature. This can only be justified by pointing out my need to concentrate on the variant of reading in English for academic purposes. There is a limit to how much can be problematised in an academic literacy that draws upon many and complex issues.

Another limitation in the methodology within this framework was the way the possibilities of observation were diminished through the use of the stimulated recalls and think alouds. For the

selection and planning of the research instruments for introspective inquiry, the case study made by Dempsey (2010) provided significant comprehension. In this research, the author makes clear the advantages of joining groups when conducting stimulated recalls. Because the interest of the researcher was to understand how some musicians communicated in an ensemble when playing the drums in jazz jam sessions, he creatively asks participants to provide introspective accounts through collective feedback. Unfortunately, at that time, I did not take advantage of that experience. The opportunity of gathering participants to replicate the aforementioned approach was missed. Both stimulated recalls and think alouds were conducted individually, although I already knew that most of the time, these undergraduate students performed the academic literacy teamworking. I feel that it is only now, after reflecting on the meaning of the findings, that I am in the position to engage in a more solid exploration of introspective issues regarding vernacular academic literacies.

7.4 Suggestions for further research

The limitations of the study described above suggest different possible areas for further research. However, based on my experience in this thesis, expounding on three key aspects of the academic literacy can give significant information, which I would aim to work in the future. I outline these suggestions with my reflections on the possible lines of inquiry.

Findings show that the ideology that sustains how participants understand the academic literacy is heavily influenced by their expectations not only on the way they develop as undergraduate students but also as professionals due to the lack of English. As seen in chapters five and six, participants and informants assume that those who have English knowledge qualify for promising career advancement. Hence, this case study provides insight from the initial phase of the academic literacy and would be very enriching to follow-up what these readers experience throughout subsequent professional stages. In this regard, longer-term ethnographies could address two main literacy strands. First, to know first-hand whether and to what extent, the expectations of the academic community match with what graduates experience in the working life. Second, the way members of the community adapt the academic literacy taking into account the evolving demands, forms of participation and working methods within the pharmacology field.

Another promising line of research is to carry out a similar collective case study with an ethnographic approach but without recruiting participants with a defined level of English knowledge. As previously explained, members of the academic community observed in this investigation have an uneven level of English command. There is a minority group with greater

knowledge that plays an important social role in teamworking once they mingle. Therefore, it would be relevant to conduct a study that focuses on the mechanics of literacy events and practices when people with different types and amount of English knowledge and beliefs interact to achieve a common learning goal.

Additionally, an engaging suggestion for further research is to extrapolate the analysis to other academic communities from the same university of this case study. The reason derives from the fact that in literacy, several components cannot be entirely inferred from one context to the other, even if they are quite similar. As noted previously, in a significant number of academic communities of non-English speakers, the use of languages follows comparable patterns to the ones of this study. Nevertheless, it does not mean that the characteristics of the texts, activities or forms of acquiring and using the information in English are the same. So, it would be very useful to use the theoretical framework of the ideological model of literacy and the methodology of NLS but to distinguish how people adapt literacy depending upon the particulars of different fields of study.

7.5 Final remarks

Writing a thesis on academic literacies under the approach of the ideological model has left me with many lessons. In this concluding section, I reflect on how the challenging meaning of the findings made me reshape my proper understandings as an English teacher, novel researcher and student writing a doctoral dissertation in another language than the native. As a whole, I learnt the value of changing the perspectives in which a single phenomenon can be understood. Moreover, because in academia, many assumptions and practices seem to foster neutrality and impartiality, the analysis of the ideology in literacy showed me clearly the benefits of questioning customary criteria.

I am an English teacher with more than 20 years of service at the tertiary level. In both my pre-service training and professional performance, the idea of using the foreign language attached to standards has taken root. My role as a teacher has echoed, somewhat acritical, the prevailing framework of the autonomous models of literacy. As previously described, it caused that though what unfolded before my eyes did not match with mainstream REAP assumptions, it was a hard process for me to distinguish differences. It took me a long journey to finally state the relevant theoretical framework. This process allowed me to broaden my understanding of other forms of adapting and experiencing literacy in English. Consequently, although the academic literacy this thesis investigates is not related to a class setting, my perspectives as a teacher on the process of reading, the use of languages, and the impact of the academic context were widened as well.

As a novel researcher, this study also taught me about the complexities of letting the evidence to take the lead. In the limitations of this study, I above explained that both think alouds and stimulated recalls were conducted individually though participants and informants had made clear that most of the time, reading in English was done collectively. After reflecting on the impact of normative criteria and mainstream scenarios on reading, now I can understand why most research centre the attention on individual introspective accounts. If we examine research on academic reading in which think alouds and stimulated recalls are used, most empirical observations base the skill on conventional practices. Now, I have a clearer understanding of how research methods can and must be adapted to the natural occurring practices on literacy. The fact that I did not find studies using collective think aloud and stimulated recall to analyse reading in English for academic purposes confirms the influence of the autonomous models of literacy.

The meaning of the findings also challenges my role as a non-native English speaker writing a PhD dissertation. Just like the participants in this case study, I struggled with trying to fulfil the standards that commonly define appropriate academic writing in English. I am aware that in the search for what I interpret as the right academic words and tone, I may have lost some elements of the creativity and wit with which participants voiced their literacy experiences as well as the expression of my own positioning. Instead of providing additional value, it may have demeaned the value of experiencing literacy differently.

Appendix A Consent form (ERGO)

Because participants were Spanish speakers only, all formats and research inquiry were carried out in the same language.

UNIVERSITY OF Southampton

FORMATO DE CONSENTIMIENTO *(PRESENCIAL: 001/12/2015)*

Título del estudio: La lectura académica en inglés como lengua extranjera en una universidad mexicana: un estudio de caso longitudinal

Nombre de la investigadora: María del Carmen Gómez Pezuela Reyes
Número de estudiante: 27398285
Número de referencia ERGO: 18509

Favor de poner sus iniciales en los cuadros si está de acuerdo con las siguientes afirmaciones:

He leído y entendido la hoja informativa (Formato de consentimiento 001/12/15) y he tenido la posibilidad de hacer preguntas sobre el estudio.	☐
Estoy de acuerdo en formar parte de este proyecto de investigación y autorizo que mi información sea utilizada para los propósitos de este estudio.	☐
Entiendo que mi participación es voluntaria y puedo retirarme en cualquier momento sin repercusión alguna a mis derechos legales.	☐
Estoy de acuerdo en participar en entrevistas individuales y grupales, así como en observaciones que serán video grabadas.	☐

Protección de datos

Entiendo que la información recolectada durante mi participación en este estudio será almacenada en una computadora protegida por contraseña y que esta información será usada exclusivamente para los propósitos de este estudio. Todos los archivos que contengan información personal serán anónimos.

Nombre del participante (letra de molde):

_____

Firma del participante: _____

Fecha: _____

Appendix B Record of research methods and number of rounds retrieved by participants and informants

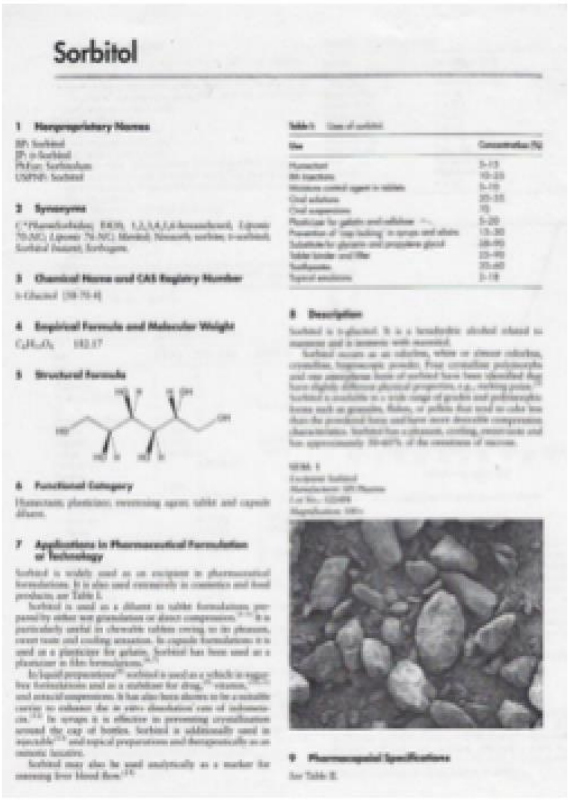
Participant	Individual semi-structured interview	Group semi-structured interview	Think alouds	Stimulated recalls	Photographs
Andrea	6	1	7	3	3
Brenda	6	1	7	3	2
Érica	6	1	7	3	1
Miguel	6	1	7	3	3
Montserrat	5	1	6	3	1
Rosalid	6	1	7	3	4
Sebastián	6	1	7	3	1
Tania	1	0	3	0	0
Verónica	6	1	7	3	2
Yalina	6	1	7	3	2
Zitlali	6	1	7	3	2
Ossiel	1	0	3	0	0
Maricruz	1	0	1	0	0
Total	62	1	76	30	21

Informant	Individual semi-structured interview
Maricela	1
Cristina	1
Mariana	1
Mario	1
Lino	1
Karina	1
Total	6

Appendix C Protocol of semi-structured individual interviews with participants

	Topic	Units of analysis
I1	Participant's account regarding his/her experience on reading in English	Initial question: Have you read in English during the week? What type of text(s)? Which was (were) the topic(s)?
		Content question: When did you begin reading academic texts in English? When did you read a BPCH text in English for the first time? And, in Spanish?
		Feelings, experiences, behaviours, opinions, values: When and why did you read them? What was your experience about it? Do you remember the first BPCH text? How did you read it? Then, what kind of texts in English have you read in the following courses? How do you feel about reading BPCH texts?
		Final question: Is there something about the topic that I didn't ask and you could share?
I2	Participant's account about his/her English language instruction.	Initial question: Have you read in English during the week? What type of text(s)? Which was (were) the topic(s)?
		Content question: Did you receive any English language instruction in the previous educational stages? Yes: What kind of instruction did you receive? How long did you study English? No: Why you didn't receive any language instruction? Have you ever studied English by yourself?
		Feelings, experiences, behaviours, opinions, values: What is your opinion about studying English? How do you rate yourself regarding your English use in comparison with your classmates?
		Final question: Is there something about the topic that I didn't ask and you could share?
I3	Participant's account about the way he/she reads BPCH texts in English.	Initial question: Have you read in English during the week? What type of text(s)? Which was (were) the topic(s)?
		Content question: As you read BPCH texts… Could you describe how/where/with whom do you read BPCH texts? Could you tell me the way your classmates and BPCH teachers use BPCH texts in English? What are the purposes of reading those texts? In general terms, how do you feel with the level of comprehension you get?
		Feelings, experiences, behaviours, opinions, values: How do you feel about the way you use BPCH texts and the level of comprehension you get of them?
		Final question: Is there something about the topic that I didn't ask and you could share?
I4	Participant's perceptions about the way they have developed literacy over time.	Initial question: Have you read in English during the week? What type of text(s)? Which was (were) the topic(s)?
		Content question: How frequently do you use BPCH texts in English? Do you observe any changes in the way you use the resources, reading strategies, previous knowledge? What elements did you draw upon to get meaning in initial reading in English experiences? And, now?
		Feelings, experiences, behaviours, opinions, values: Do you realise any change in the way you read BPCH texts? How do you feel regarding reading BPCH texts?
		Final question: Is there something about the topic that I didn't ask and you could share?
I5	Participant's account regarding the role reading in English plays into the BPCH community.	Initial question: Have you read in English during the week? What type of text(s)? Which was (were) the topic(s)?
		Content question: How do you prefer reading in English? Alone, in groups? At the library, at home? What are the purposes of reading those BPCH texts? Could you give an example of a reading in English experience and how you used the information in your training?
		Feelings, experiences, behaviours, opinions, values: Do you consider that for your classmates and teachers, reading in English is part of their day-to-day activities?
		Final question: Is there something about the topic that I didn't ask and you could share?
I6	Participant's account about how he/she perceives himself/herself as a reader of BPCH texts in English	Initial question: Have you read in English during the week? What type of text(s)? Which was (were) the topic(s)?
		Content question: What is reading in English for you? Does the information you get from BPCH text allows you to meet your needs? What are the main differences when you read BPCH texts in Spanish and English?
		Feelings, experiences, behaviours, opinions, values: Do you consider reading in English is part of your training? If so, to what extent?
		Final question: Is there something about the topic that I didn't ask and you could share?

Appendix D Sample of a text used in think alouds



Sorbitol

1 Nonproprietary Names

BP: Sorbitol
JP: D-Sorbitol
Ph.Eur: Sorbitolum
USPNF: Sorbitol

2 Synonyms

C*PharmSorbidex; E420; 1,2,3,4,5,6-hexanehexol; Liponic 70-NC; Liponic 76-NC; Meritol; Nivesorb; sorbite; D-sorbitol; Sorbital Instant; Sorbogem.

3 Chemical Name and CAS Registry Number

D-Glucitol [50-70-4]

4 Empirical Formula and Molecular Weight

$C_6H_{14}O_6$ 182.17

5 Structural Formula

6 Functional Category

Humectant; plasticizer; sweetening agent; tablet and capsule diluent.

7 Applications in Pharmaceutical Formulation or Technology

Sorbitol is widely used as an excipient in pharmaceutical formulations. It is also used extensively in cosmetics and food products; see Table I.

Sorbitol is used as a diluent in tablet formulations prepared by either wet granulation or direct compression.[1,2] It is particularly useful in chewable tablets owing to its pleasant, sweet taste and cooling sensation. In capsule formulations it is used as a plasticizer for gelatin. Sorbitol has been used as a plasticizer in film formulations.[3,4]

In liquid preparations[5] sorbitol is used as a vehicle in sugar-free formulations and as a stabilizer for drug,[6] vitamin,[7,8] and enzyme[9] suspensions. It has also been shown to be a suitable carrier to enhance the in vitro dissolution rate of indomethacin.[10] In syrups it is effective in preventing crystallization around the cap of bottles. Sorbitol is additionally used in ointments[11,12] and topical preparations and therapeutically as an osmotic laxative.

Sorbitol may also be used analytically as a marker for assessing liver blood flow.[13]

Table I: Uses of sorbitol.

Use	Concentration (%)
Humectant	5–15
Ion exchange	10–25
Moisture control agent in tablets	5–10
Oral solutions	25–35
Oral suspensions	70
Plasticizer for gelatin and cellulose	5–20
Prevention of 'cap-locking' in syrups and elixirs	15–30
Solubilizer for glycerin and propylene glycol	10–90
Tablet binder and filler	25–90
Toothpaste	20–60
Topical emulsions	5–19

8 Description

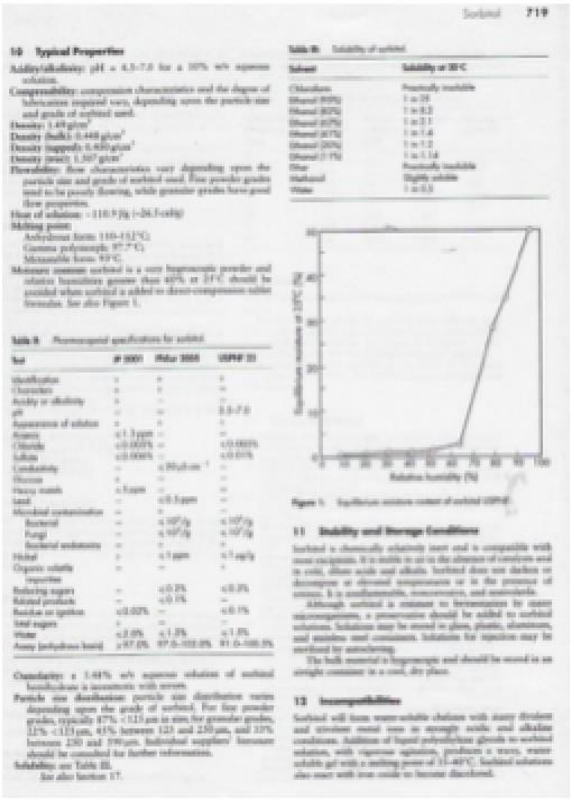
Sorbitol is D-glucitol. It is a hexahydric alcohol related to mannitol and is isomeric with iditol.

Sorbitol occurs as an odorless, white or almost colorless, crystalline, hygroscopic powder. Four crystalline polymorphs and one amorphous form of sorbitol have been identified that have slightly different physical properties, e.g., melting point.[14] Sorbitol is available in a wide range of grades and polymorphic forms such as granules, flakes, or pellets that tend to cake less than the powdered form and have more desirable compression characteristics. Sorbitol has a pleasant, cooling, sweet taste and has approximately 50–60% of the sweetness of sucrose.

SEM: 1
Excipient: Sorbitol
Manufacturer: SPI Pharma
Lot No.: 32G0B
Magnification: 100×

9 Pharmacopeial Specifications

See Table II.



10 Typical Properties

Acidity/alkalinity: pH = 6.5–7.0 for a 10% w/v aqueous solution.
Compressibility: compression characteristics and the degree of lubrication required vary, depending upon the particle size and grade of sorbitol used.
Density: 1.49 g/cm³
Density (bulk): 0.448 g/cm³
Density (tapped): 0.650 g/cm³
Density (true): 1.507 g/cm³
Flowability: flow characteristics vary depending upon the particle size and grade of sorbitol used. Fine powder grades tend to be poorly flowing, while granular grades have good flow properties.
Heat of solution: −110.9 J/g (−26.5 cal/g)
Melting point:
Anhydrous form: 110–112°C;
Gamma polymorph: 97.7°C;
Metastable form: 93°C.
Moisture content: sorbitol is a very hygroscopic powder and relative humidities greater than 60% at 21°C should be avoided when sorbitol is added to direct-compression tablet formulas. See also Figure 1.

Table II: Pharmacopeial specifications for sorbitol.

Test	JP XIII	Ph.Eur. 2005	USPNF 23
Identification	+	+	+
Characters	+	+	–
Acidity or alkalinity	+	+	–
pH	–	–	3.5–7.0
Appearance of solution	+	+	+
Arsenic	≤1.3 ppm	–	–
Chloride	≤0.005%	–	≤0.005%
Sulfate	≤0.006%	–	≤0.01%
Conductivity	–	≤ 30 μS cm⁻¹	–
Glucose	+	–	–
Heavy metals	≤5 ppm	–	–
Lead	–	≤0.5 ppm	–
Microbial contamination	–	+	–
Bacteria	–	≤ 10²/g	≤ 10²/g
Fungi	–	≤ 10²/g	≤ 10²/g
Bacterial endotoxins	–	+	+
Nickel	–	≤1 ppm	≤1 mg/g
Organic volatile impurities	–	–	+
Reducing sugars	–	≤0.2%	≤0.2%
Related products	–	≤0.1%	–
Residue on ignition	≤0.02%	–	≤0.1%
Total sugars	–	–	–
Water	≤2.0%	≤1.5%	≤1.5%
Assay (anhydrous basis)	≥97.0%	97.0–102.0%	91.0–100.5%

Osmolarity: a 1.44% w/v aqueous solution of sorbitol is isosmotic with serum.
Particle size distribution: particle size distribution varies depending upon the grade of sorbitol. For fine powder grades, typically 87% <125 μm in size; for granular grades, 22% <125 μm, 45% between 125 and 250 μm, and 33% between 250 and 590 μm. Individual suppliers' literature should be consulted for further information.
Solubility: see Table III.
See also Section 17.

Table III: Solubility of sorbitol.

Solvent	Solubility at 20°C
Chloroform	Practically insoluble
Ethanol (95%)	1 in 28
Ethanol (80%)	1 in 8.3
Ethanol (60%)	1 in 2.1
Ethanol (47%)	1 in 1.4
Ethanol (20%)	1 in 1.2
Ethanol (1%)	1 in 1.14
Ether	Practically insoluble
Methanol	Slightly soluble
Water	1 in 0.5

Figure 1: Equilibrium moisture content of sorbitol USP NF.

11 Stability and Storage Conditions

Sorbitol is chemically relatively inert and is compatible with most excipients. It is stable to air in the absence of moisture and in cold, dilute acids and alkalis. Sorbitol does not darken or decompose on elevated temperature or in the presence of amines. It is nonflammable, noncorrosive, and nonhygroscopic.

Although sorbitol is resistant to fermentation by many microorganisms, a preservative should be added to sorbitol solutions. Solutions may be stored in glass, plastic, aluminum, and stainless steel containers. Solutions for injection may be sterilized by autoclaving.

The bulk material is hygroscopic and should be stored in an airtight container in a cool, dry place.

12 Incompatibilities

Sorbitol will form water-soluble chelates with many divalent and trivalent metal ions in strongly acidic and alkaline conditions. Addition of liquid polyethylene glycols to sorbitol solutions, with vigorous agitation, produces a waxy, water-soluble gel with a melting point of 33–40°C. Sorbitol solutions also react with iron oxide to become discolored.

Sorbitol increases the degradation rate of penicillin in neutral and aqueous solutions.[15]

13 Method of Manufacture

Sorbitol occurs naturally in the ripe berries of many trees and plants. It was first isolated in 1872 from the berries of the Mountain Ash (*Sorbus aucuparia*).

Industrially, sorbitol is prepared by high-pressure hydrogenation with a copper-chromium or nickel catalyst, or by electrolytic reduction of glucose and corn syrup. If cane or beet sugars are used as a source, the disaccharide is hydrolyzed to dextrose and fructose prior to hydrogenation.

14 Safety

Sorbitol is widely used in a number of pharmaceutical products and occurs naturally in many edible fruits and berries. It is absorbed more slowly from the gastrointestinal tract than sucrose and is metabolized in the liver to fructose and glucose. Its caloric value is approximately 16.7 J/g (4 cal/g). Sorbitol is better tolerated by diabetics than sucrose and is widely used in many sugar-free liquid vehicles. However, it is not considered to be unconditionally safe for diabetics.

Reports of adverse reactions to sorbitol are largely due to its action as an osmotic laxative when ingested orally,[16–18] which may be exploited therapeutically. Ingestion of large quantities of sorbitol (>20 g/day in adults) should therefore be avoided.

Sorbitol is not readily fermented by oral microorganisms and has little effect on dental plaque pH; hence, it is generally considered to be noncariogenic.

Sorbitol is generally considered to be more irritating than mannitol.

LD_{50} (mouse, IV): 9.48 g/kg[19]
LD_{50} (mouse, oral): 17.8 g/kg
LD_{50} (rat, IV): 7.1 g/kg
LD_{50} (rat, SC): 19.8 g/kg

15 Handling Precautions

Sorbitol may be harmful if ingested in great quantities. It may be irritant to the eyes. Observe normal precautions appropriate to the circumstances and quantity of material handled. Eye protection, gloves, and a dust mask or respirator are recommended.

16 Regulatory Status

GRAS listed. Accepted for use as a food additive in Europe. Included in the FDA Inactive Ingredients Guide (intramuscular and IM injections; nasal; oral capsules, solutions, suspensions, syrups and tablets; rectal, topical, and vaginal preparations). Included in parenteral and nonparenteral medicines licensed in the UK. Included in the Canadian List of Acceptable Non-medicinal Ingredients.

17 Related Substances

Mannitol solution; mannitol, sorbitol solution 70%; xylitol.

Sorbitol solution 70%
Synonyms: sorbitol liquid; Sorbo.
Appearance: a clear, colorless and odorless, viscous liquid.

Comments: sorbitol solution is an aqueous solution of hydrogenated, partly hydrolyzed starch. For physical properties, see Table IV.

Table IV: Physical properties of sorbitol in water solutions.

Concentration (% w/w) at 20°C	Density (g/cm³) at 20°C	Viscosity (mPa·s) at 20°C	Refractive index	Freezing point (°C)
10	1.034	1.2	1.348	−1.1
20	1.073	1.7	1.361	−3.8
30	1.114	2.5	1.383	−8.0
40	1.155	4.4	1.400	−13.0
50	1.197	9.1	1.418	−26.0
60	1.240	26.0	1.437	–
70	1.293	110.0	1.458	–
80	1.330	900.0	1.478	–

18 Comments

Sorbitol may be substituted for sucrose to prepare 70–90% w/v syrups.

Several different grades of sorbitol, with different polymorphic form, particle size, and other physical characteristics are commercially available, e.g., Neosorb (Roquette Freres). Pyrogen-free grades are also available from some suppliers.

A specification for sorbitol is contained in the Food Chemicals Codex (FCC). The EINECS number for sorbitol is 200-061-5.

19 Specific References

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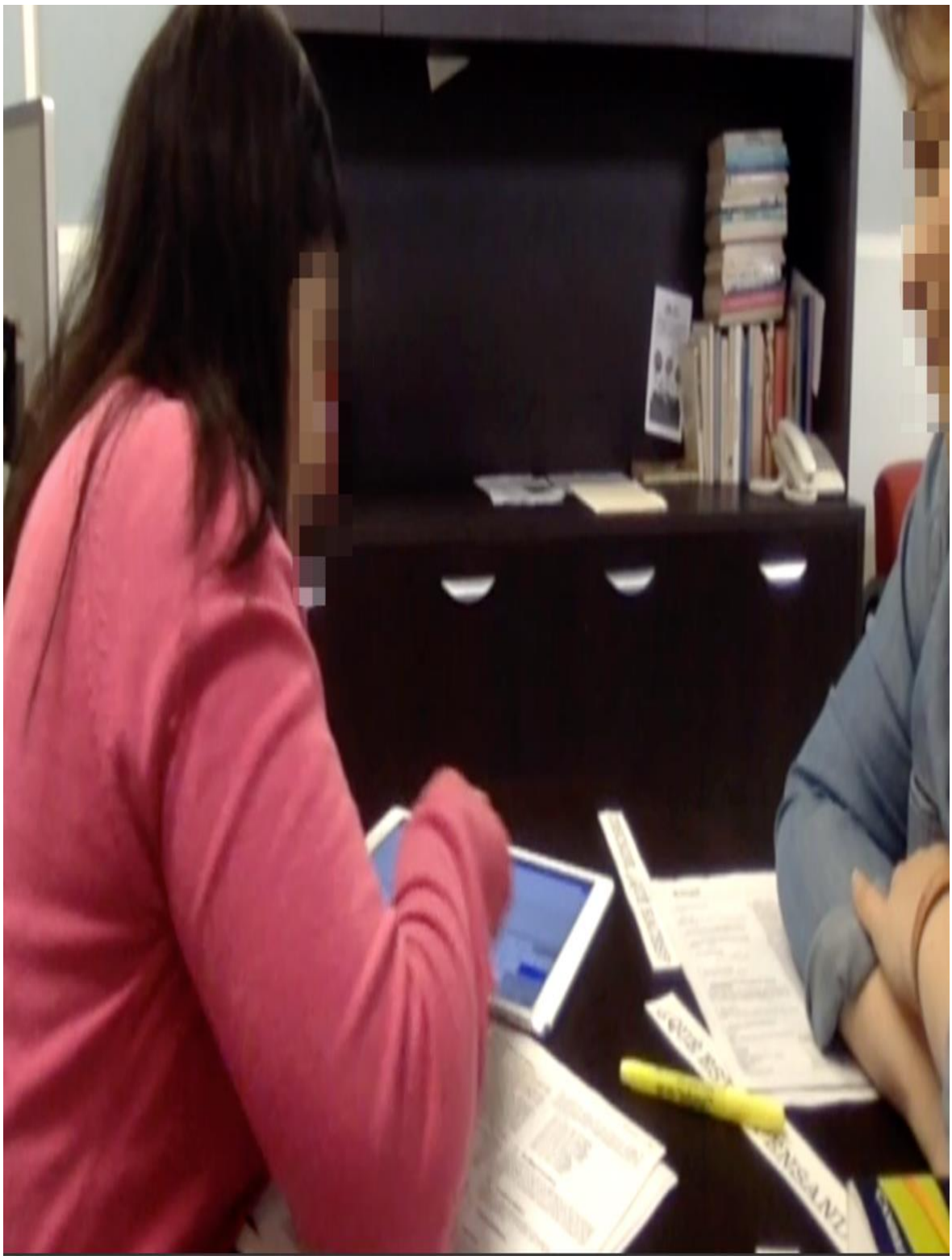
SC Owen.

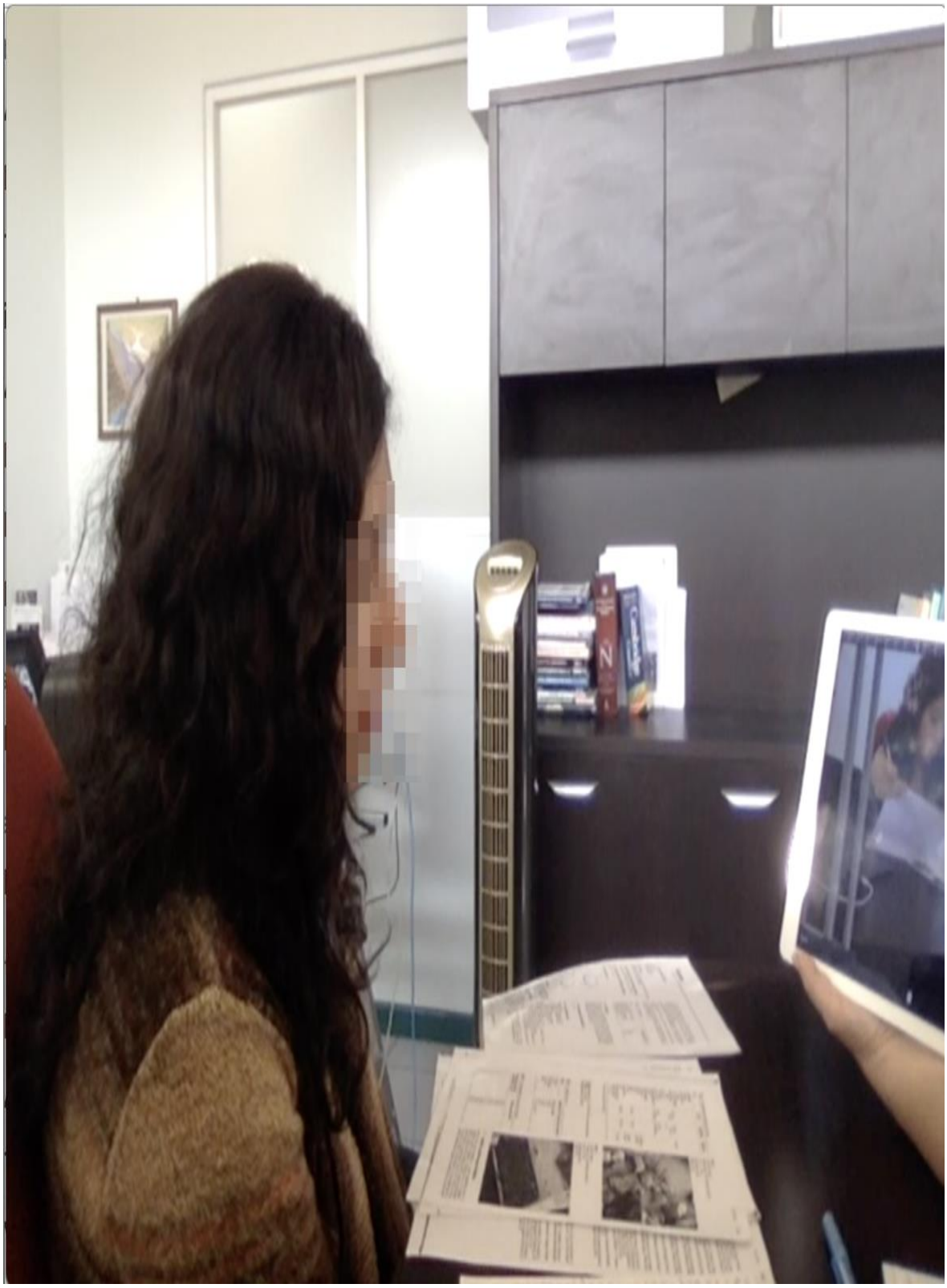
22 Date of Revision

17 August 2005.

Appendix E Implementation of the think alouds

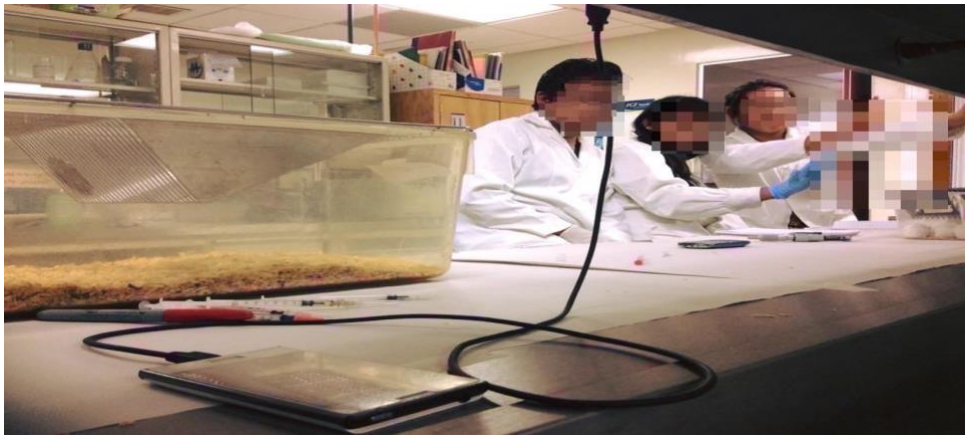


Appendix F Implementation of the stimulated recalls



Appendix G Sample of photographs that portray visible and non-visible components of the academic literacy

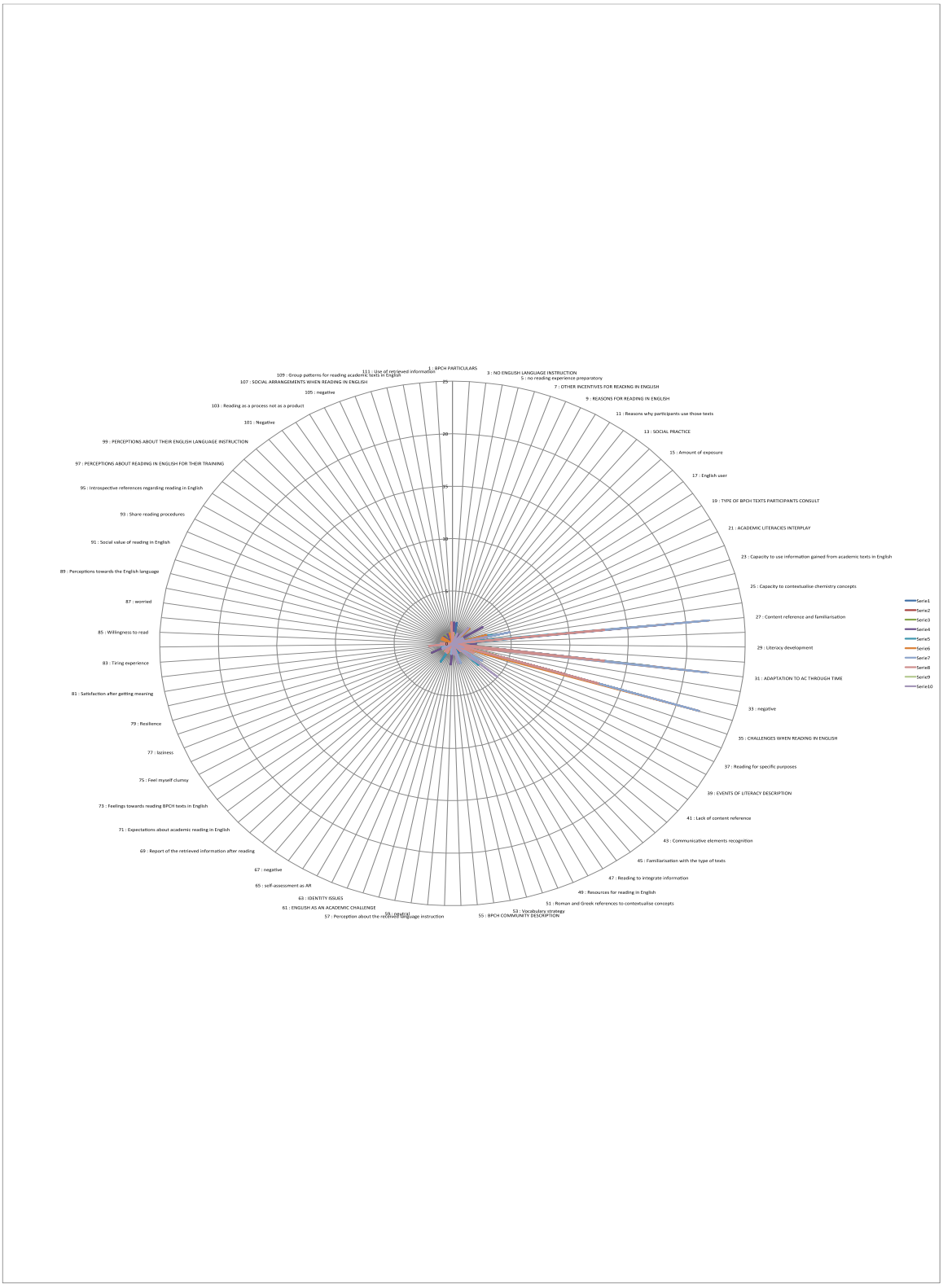
Photographs emphasised the role of reading in English for the BPCH community. The fact that participants linked reading in English, team-working and using the acquired information into broader training activities suggests two key points. First, the relationship between the process of acquiring the information and its direct use. Second, the position participants conferred to the social and situated practice.



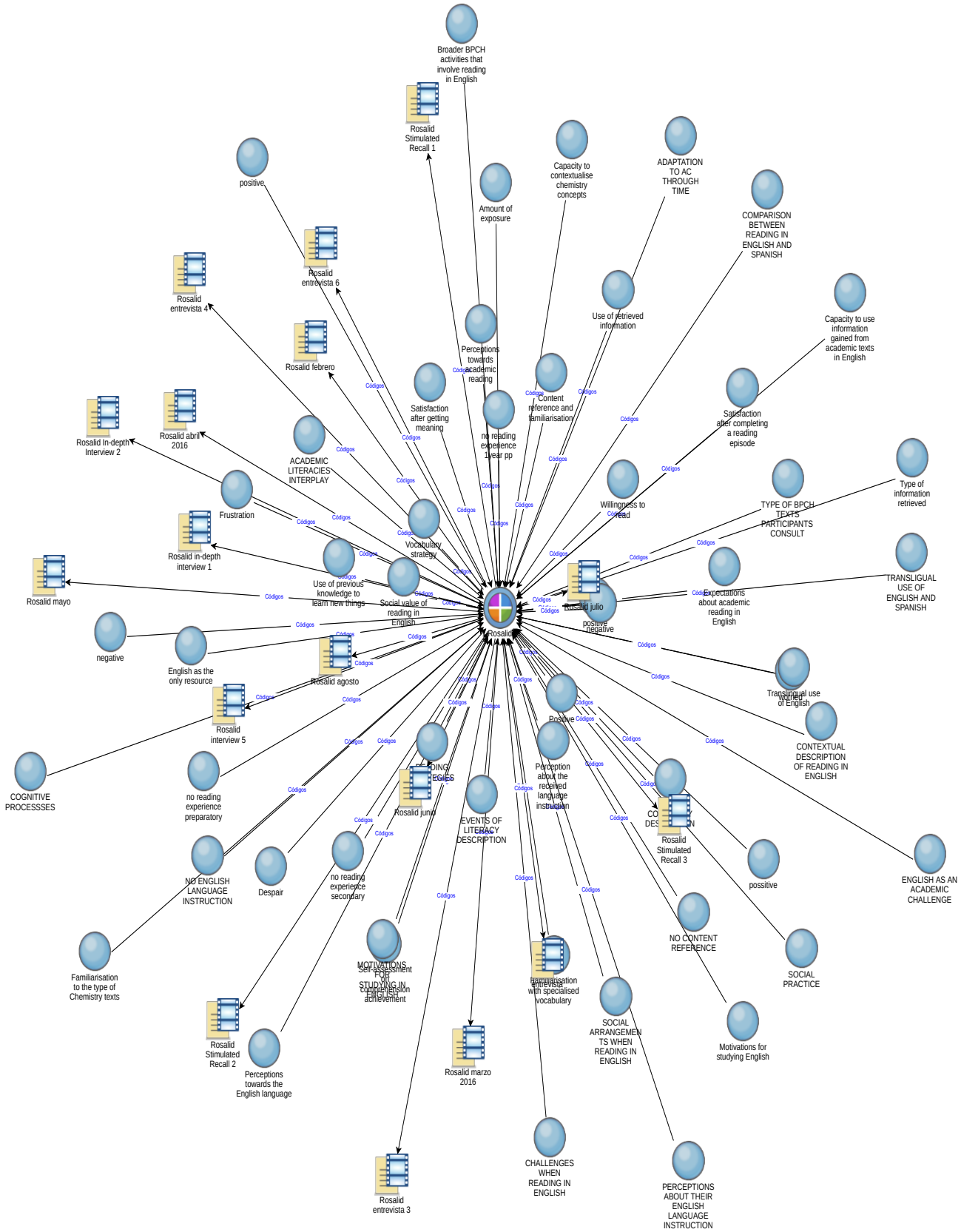
Appendix H Axial codebook (NVivo 12)

Categories and subcategories	Files	References
Academic literacies involved	34	42
Translingual use of English and Spanish	62	81
Use of digital devices for translation	58	76
Broader BPCH activities that involve reading in English	10	16
Use of information acquired from texts in English	18	37
Reasons that explain the use of academic texts in English	32	44
Type of BPCH texts in English the community consults	19	21
Identity issues	25	33
Negotiating positions in the group	21	46
Power relations among members of the community	5	6
Social arrangements to acquire and information in English	21	33
Group patterns for reading academic texts in English	37	63
Contextual description of literacy episodes	21	52
Adaptation to academic reading through time and experiences	47	63
Familiarisation to BPCH academic texts	61	87
Conceptualisation of academic reading in English as part of the training	12	12
Perceptions and expectations on academic reading in English	45	67
English as an academic challenge	27	39
Value to reading in English	10	19
Social value of reading in English	9	16
Comparison of the reading process in English and Spanish	19	21
Self-evaluation as academic readers in English	72	178
Opinions, perceptions, values and feelings after reading an academic text in English	82	137
Experiences after reading an academic text in English	24	76

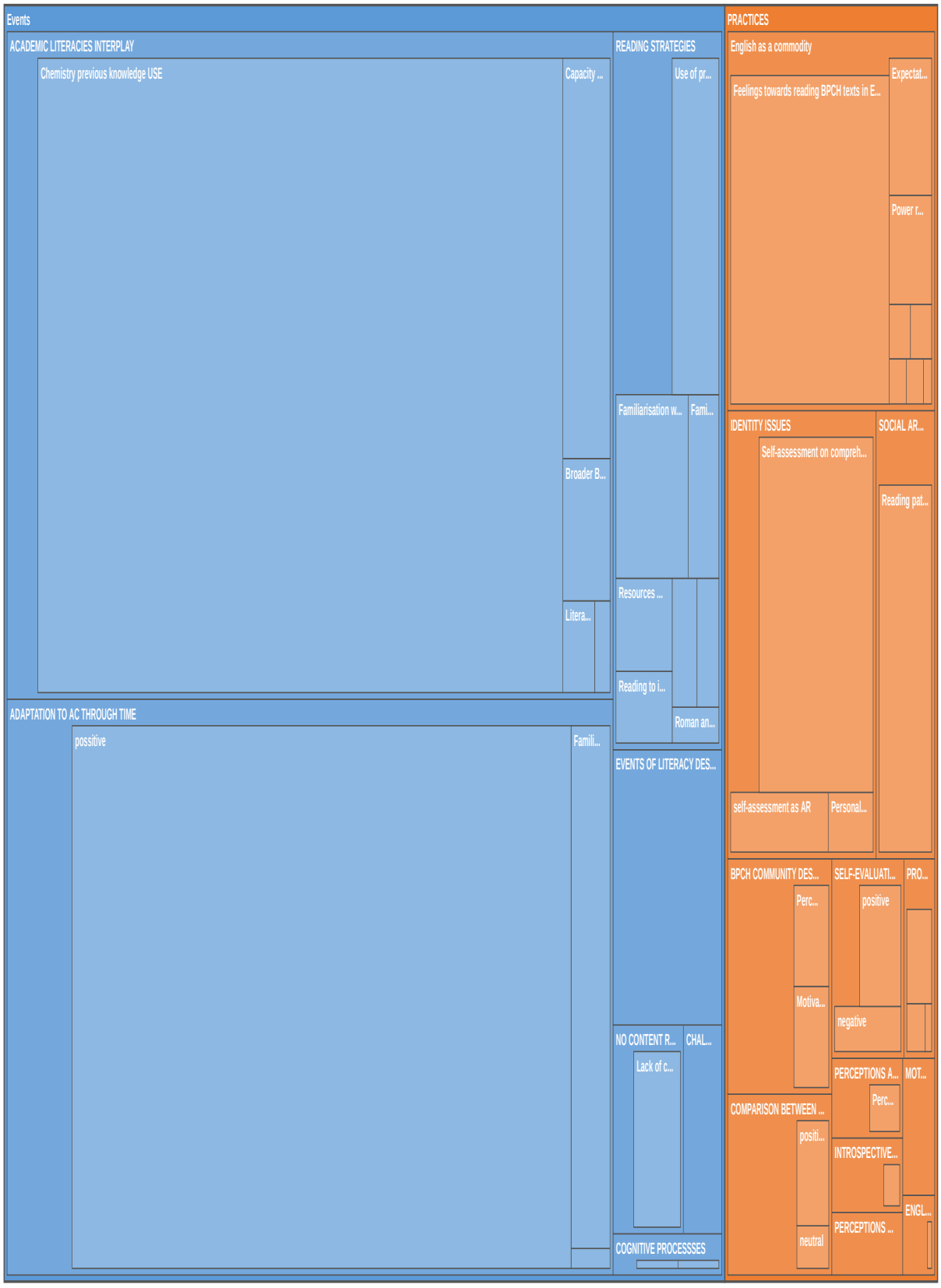
Appendix I Graphic representation of the support from BPCH knowledge to get meaning while reading in English: Andrea's case



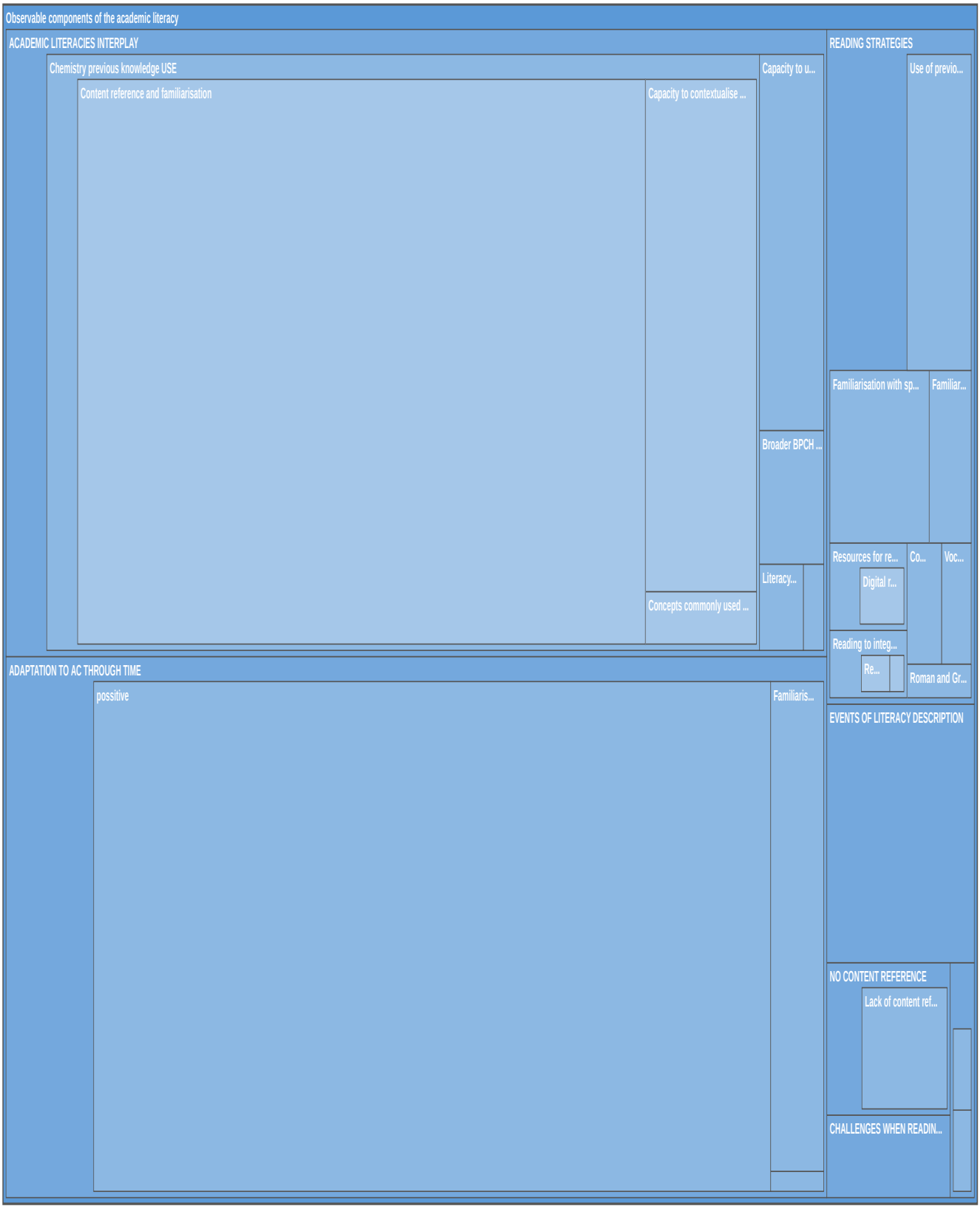
Appendix J Cluster of Rosalid's retrievals



Appendix K Hierarchy chart of literacy events and practices



Appendix L Observable components of the academic literacy



Appendix M Perspectives about the use of English (Spanish version)

Perspectivas en torno al uso del inglés	"En la actualidad, ellos [estudiantes] necesitan el inglés para una buena formación. También es parte de lo que deben cubrir para solicitar una beca ya sea en el extranjero o incluso a nivel nacional… Por no mencionar para su desarrollo profesional. Sé que sus horarios son de todo el día, y no todos pueden pagar clases privadas. Pero, es algo que deben enfrentar. Así es: ¿Hablas inglés? ¿Sí o no?" (Lino, profesor de QFB, entrevista individual)
	"Sé lo que ellos [estudiantes] sienten porque yo viví lo mismo. Incluso, en aquel tiempo, como no existía internet, nos teníamos que pasar las noches enteras pegados a los diccionarios. La cuestión es que, cuando yo era estudiante, consultábamos los libros que había en los estantes de la biblioteca, que casi todos estaban en español. Ahora, ellos ya no usan diccionarios. Se las arreglan para usar traductores en la computadora y otras aplicaciones que les ayudan a leer en inglés… Es un problema que no hemos encontrado cómo afrontarlo… Se supone que los estudiantes tomaron clases de inglés antes de llegar a la universidad, pera eso casi no les sucede. Sólo algunos estudiantes no tienen problema para leer en inglés. La gran mayoría no ha estudiado inglés… o muy poquito. Entonces, se niegan a usar el inglés. Poco a poco empiezan a aceptar hacerlo. Son muy listos. Muy seguido ¡me sorprenden con su capacidad para usar el inglés! (Mario, profesor de QFB, entrevista individual)
	"Yo creo que de una o de otra forma, ellos [estudiantes] enfrentan el inglés a su manera mientras están aquí estudiando. Hay un cierto rechazo. Algunos piensas que el inglés es Estados Unidos y aplica no sólo para los alumnos [frunciendo el ceño]. Pero, siendo honestos, no sé qué están pensando hacer cuando salgan y busquen un trabajo. Yo le digo a cada alumno: Si quieres ser un ingeniero químico con buenas posibilidades para el futuro, necesitas el inglés" (Karina, coordinadora académica, entrevista individual)
	"Desde el primer día, los maestros nos dijeron que nos preparáramos porque vamos a leer en inglés a lo largo de la carrera. Es horrible… No hablo nadita de inglés. No sé qué voy a hacer… Todo se me hace muy difícil… Entonces, ¡Ahora resulta que también tengo que hablar inglés! Ya le dije a mi mamá que tengo que tomar clases de inglés. Aquí, casi todos mis compañeros hablan inglés… ¡Yo necesito estudiar desde el primer nivel!" (Maricela, estudiante de 1er año, entrevista individual)
	"Cuando oigo la palabra *inglés*, simplemente me empiezo a sentir fuera de lugar" (Cristina, estudiante de 2º año, entrevista individual)
	"Estudié inglés tres años en secundaria y tres años en la preparatoria ¡Seis años! [mostrando seis de sus dedos]… Pero, siento como si hubiera estado dormida [riendo nerviosa]. No sé, pienso que ya no le temo tanto leer en inglés. Conforme pasa el tiempo, pienso que reconozco más, y me siento más segura. No voy a mentir, sigue siendo difícil, pero ya no es lo mismo. Ya no me toma tantísimo tiempo como antes. Pero… necesito hablar inglés. No sé si entrar a una maestría en farmacología o buscar trabajo. Sea lo que sea, voy a necesitar el inglés" (Mariana, estudiante de 4º año, entrevista individual)
	"Es como una pesadilla" (Rosalid, participante, entrevista 1) "No sé qué voy a hacer. Si me quedo aquí [en la capital], es muy difícil trabajar en un laboratorio de los importantes porque siempre piden hablar inglés. Quiero decir, no sólo leerlo. Si regreso a mi pueblo, no voy a encontrar otro trabajo más que en un laboratorio o algo así, si bien me va. Es una limitación de verdad eso del inglés" (Rosalid, participante, entrevista individual, 6)
	"Mis papás me mandaron a escuelas privadas desde el kínder hasta la secundaria. Para seguir estudiando, fui a una prepa pública porque no había otra escuela cerca de mi casa. Allí, no nos dieron clases de inglés. Me hubiera gustado continuar estudiando inglés. Entre ciegos, el tuerto es rey. Yo sé que debo regresar a tomar clases de inglés" (Andrea, participante, entrevista individual, 5)
	"Si tan sólo no existiera el inglés! Yo sólo quiero ser farmacóloga" (Zitlali, participante, entrevista individual, 3)
	"No sé qué me pasa. Cada vez que tengo que leer en inglés, me siento cansada… o más bien ¡como la tonta de la clase!" (Montserrat, pensamiento en voz alta, 2)
	"Quizá no es que no pueda, es que no quiero" (Miguel, participante, pensamiento en voz alta 5)

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