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The use of Web 2.0 tools in second language writing

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by

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ABSTRACT

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Elsa Guadalupe Perez Amaro

Literacy practices in modern society have changed over the last decade. With the development of web technologies and social media, Web 2.0 tools such as wikis, blogs and Facebook have expanded teaching possibilities in instruction of writing in second language. However, using these tools in education can be challenging since this learning process requires learners to be able to collaborate both face-to-face and online using skills such as negotiation, interaction, engagement, scaffolding, among others to successfully build a learning community. This multi-method study investigates student engagement through communities of practice (Wenger, 1998) within the context of L2 writing, expanding on the notion of new literacies (Coiro, Knobel, Lankshear, & Leu, 2008). The original contribution to knowledge is in the field of research in online collaboration for L2 writing and hopes to contribute to the field of 2.0 pedagogies.

The case study includes twenty-one university students in northern Mexico enrolled in a second language blended writing class. The data collection instruments included an online survey, social media group contributions, wiki-based samples of written texts, focus groups, and learning journals. Triangulation of the data collected showed that the majority of participants demonstrated effective integration of Web 2.0 tools in the planning and revising stages, whereas few participants struggled to negotiate and engage in the text development phase. As a result of collaboration, participants were able to produce better texts along the practice. Student engagement was measured through interactions, participation and contributions throughout the digital tools.

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List of Abbreviations

CEFR: Common European Framework of Reference for Languages

CoP: Communities of Practice

CW: Collaborative writing

ESL: English as a Second Language

IELTS: International English Language Testing System

L1: First language (mother language)

L2: Second Language

SEP: Public Education Secretariat

SLA: Second Language Acquisition

ZPD: Zone of Proximal Development

AI: Artificial Intelligence

DECLARATION OF AUTHORSHIP

Elsa Guadalupe Perez-Amaro

I declare that this thesis and the work presented in it is my own and has been generated by me as the result of my own original research.

The use of Web 2.0 tools in second language writing

I confirm that:

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Signed: **Elsa Guadalupe Perez-Amaro**

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Chapter 1: Introduction

In recent years with the advantage of Internet, some researchers have explored the benefits of incorporating technologies like Web 2.0 in second language learning environments. Some findings in recent studies show how online learning and instruction have positive impact on language learning. (Conroy, 2010) concluded that students are being supported in the language learning and academic writing with an internet-based instruction where they can use e-mails, bulletin boards, and online discussions to promote learner-instructor interaction show more positive academic outcomes.

In addition, the incorporation of new technologies in higher education has demonstrated a positive outcome in student's motivation towards learning (Shih 2011). One of the reasons for this is the implication of social collaboration in learning. Numerous studies in online instruction and technology have been influenced by social learning theories (Hrastinsky, 2008), along with constructivist theory that assumes that students act and reflect according to the environment using their experiential knowledge (Y. Woo & Reeves, 2007). In addition, there is documented evidence that demonstrates increasing motivation in foreign language learning by the use of computer-based learning (Barson & Debski, 1996).

1.1 Purpose of the study

The purpose of this research is to explore students´ perceptions regarding the use of Web 2.0 tools in their second language writing process. This study aims to provide an understanding on how the use of web technologies can enhance students' abilities to improve their writing skills. The research integrates wikis, blogs and Facebook groups to support the face-to-face instruction in a second language writing class. The contribution to knowledge is on the field of e-pedagogies and hopes to continue the conversation digital literacy practices in higher education contexts.

The study uses a multi method approach with different instruments for data collection that consisted of online survey, writing texts, Facebook groups interactions and blog entries, which are described in detail further on (see

Chapter 4). These methods helped to gain a holistic approach to the object of study, and to triangulate the data to support the findings. It is important to note that the qualitative part of the study was the main focus of the research, however, the quantitative data collected complemented the quantitative data.

The motivation that lead me to research in this area was mainly due to my experience as a language teacher. Learning and teaching EFL writing in Mexico implicates several challenges. On one hand, learners are more inclined to respond better to a more communicative approach, so skills like speaking are prioritized in instruction in K-12 activities, and most exams are more grammar-based. Written language differs from spoken language, therefore, there is a need to help learners develop their skill to write in English (Crawford, 2007). When entering the university Mexican students struggle with developing writing, this is due mainly because their low English proficiency which makes it extremely challenging to write in a second language, and learner's need to be skilled to retrieve and use information in different procedures to be able to be successful (R. De Silva, 2014a). It is very frequent for learners to imitate teacher's models or copy and paste information rather than creating new content.

Another challenge is that writing is usually practiced individually. This is because of the time that it takes to write, these tasks are often assigned for homework, leaving the learner without any resource available but their own skill. Technology can help overcome these challenges by providing a venue for learners to collaborate. These learning environments facilitate social interaction and allow participants to share content, create and be able to support based on collaborative learning (Hyland, 2002). Web 2.0 tools facilitate collaborative learning environments, and have proven to be effective in writing instruction (Khateeb, 2014; Roblyer, McDaniel, Webb, Herman, & Witty, 2010).

Exploring the impact of technology in learning, especially in online communities, is an interesting topic to explore. Another interest could be for further research such as how the collective knowledge construction, engagement and collaboration take place in this context.

1.2 Research contribution

The use of Web 2.0 in second language learning is relatively new in the Mexican context, especially in L2 writing. The few studies in this area have approached the mechanical use of text, accuracy, and meaning (Francis & Hamel, 1992).

My original contribution to knowledge is in the field Web 2.0 technologies in second language writing practices. This expands the notion of online collaboration and student engagement in a framework of learning communities. This research aims to provide an understanding on digital literacy practices and how this process can foster online collaboration, and student engagement, scaffolding, and creating a sense of community.

The literature discusses the concepts of learning communities, web 2.0 technologies used in education, especially L2 writing and critical issues regarding the pedagogical implications. There are broader implications addressed in this study from the reconceptualization of the teaching/learning dynamic (and the shifting role of the teacher as 'facilitator' in this process) to the impact of the learners in the development of learner autonomy, scaffolding, social (negotiation, interaction and engagement), cognitive (critical thinking, reflection), and digital skills (discriminate information, utilize different web applications).

This research is significant in the sense that it contributes to an understanding of how the web technologies can be used to foster student engagement and online collaboration, thus, re-shaping assumptions on the practice of technologies in L2 writing, and it is likely to promote positive teaching practices based on the student´s experience during the process of online collaboration. The expected outcome from this research may also contribute to support social practices in academic contexts, develop digital skills, and reshaped orientations regarding literacy. It also contributes to the notion of social learning expanding possibilities on new literacies and Web 2.0 affordances.

1.3 Background of the research context and rationale

The incorporation of digital technologies in second language learning has increased in recent years. Moreover, social media technologies or Web 2.0

have rapidly spread by means of the Internet and this brings new literacy forms and functions dependent of easy access, and instant connection. These new forms of communication have shaped the way people read and write in online environments. These changes in receiving or producing information are embedded in the concept of new literacies or digital literacies (Coiro et al., 2008), conveying meaning as messages in web-based applications, individuals, constantly transform, produce and sustain the resources of technology in literacy practices as they live and experience these environments (Kress, 2003).

One of the advantages as of these electronic tools is the easy adoption. The reason for this is their low cost and accessibility. A body of research supports social networking as part of educational contexts. For example, some studies in Spain examined the success of social networking in 130 university students in the Basque region, using social to support instruction. It was found that Facebook was on the top of applications used by students, a habit that has become a culture of "constant connection" (Mendiguren, Meso, 2012). Following the example of Spanish universities, Latin American universities also have explored the incorporation of web technologies in their academic activities.

In Mexico for example, this need to innovate traditional teaching methods in L2 is due to respond a language policy, and the evident need to expand employment opportunities because of the country's location. More than a decade ago, the National Education System (SEP) implemented the English as a second language program as part of the national curriculum. This intention was to improve students´ academic and professional skills in the English language to become more competitive professionals. This premise is also contemplated in the National Development Plan 2013-2018 that establishes second language instruction as part of an integrated curriculum to promote language skills as part of the comprehensive education from kindergarten to higher education. Similarly, language policy requirements for undergraduate and graduate programs have been established in higher education institutions especially in the northern states due to their strategic location. Technology and education go hand by hand in the curriculum across different disciplines. The

new language policy required that all students enrolled in bachelors and graduate programs demonstrate a proficiency level of B1 according to the standards for the Common European Framework of Language References (CEFR) or consolidated intermediate English level at the time of graduation (IELTS 5). Along with these integrations to the curriculum, a need to innovate in ESL instruction has become a requisite for quality education.

As a response to the demand, the Mexican government has allocated resources to update infrastructure in schools and universities' facilities to provide wireless Internet access. The World Bank reported in 2017 an Internet penetration in the country of 64%. However, the EF English Proficiency Index (2019), has placed Mexico in the 69 position of non-speaking English countries. It fell from a position of 18 (moderate) to 69 (low) in a period of nine years (EF, 2019). This represent a challenge for second language learning in addition to the lack of good practices in second language writing (Santos, 2010).

This situation brings opportunities to explore and implement new forms of learning. Although research experience of second language writing in Mexico has been mainly focused on the teachers' perceptions and the writing process in general. Studies in private universities such as ITESM (Monterrey Institute of Technology and Higher Education), have explored the adoption of Web 2.0 tools in second language learning using a Task Based Learning approach. In their study, it was found that student's response was "particularly high and self-transformation of knowledge was achieved (Alonso, Alcalá, & López, 2007). The same study showed that students increased the quality in their work, and motivation also increased, the teacher´s role changed to a facilitator because this approach fostered student´s autonomy. However, there are still limited studies concerning web technologies from the student´s experience and their affordances.

(Anderson & Mercer, 2004) claim that "the greatest affordance of the Web for educational use is the profound and multifaceted increase in communication and interaction capability" (p.42). Considering the above, and a socio-cultural approach where learners are able to connect, interact and create collectively new content, we can conclude that social networking helps participants to

acquire social and communicative skills and be able to engage in a participatory environment, besides formal learning in the classroom.

Another affordance of Web 2.0 is the action of discovering and sharing information with peers. This is done by using different tools such as wikis, Facebook posts and blogs. The content shared can be also modified and adapted, so more skilled group members can provide guidance and support for those who struggle to develop content. These actions lead to a participatory culture that promotes learning in a more dynamic way (Mcloughlin & Lee, 2007).

A scholarship for language education revealed that blogging enables students to achieve a range of cognitive and social learning outcomes, as well as developing reflective learning strategies (Birch & Volkov, 2007). Social media apps like Facebook are used in educational contexts as an effective and prompt way to facilitate communication between peers and teachers-student despite some arguments on whether it is an appropriate vehicle for formal teaching-learning activities (Lohnes & Kinzer, 2007). (A. H. Wang, 2010) also reports that learning approaches that provide new opportunities for students to share knowledge and access resources with one another have supported web-based learning.

The National Educational Technology Standards for Students define a range of abilities associated with digital technologies. Even though, such standards include technical skills, they also suggest that student's digital citizenship should be fostered by experiences related to communication, research, and critical thinking (VSTE, 2011).

However, there are always challenges and limitations to be considered when incorporating technology in the classroom. An example is the slow process of adoption, a reason for this could be the teachers' reluctance to change their teaching techniques, their lack of preparation in adopting technology as part of their everyday classroom activities, or the lack of infrastructure in some regions where wireless access is almost nonexistent (ibidem, p.198). In the case of the northern university in which the research takes place, the implementation of

open access to wireless Internet does not represent a problem for learners since all facilities are equipped with technology resources and free access.

Mexico is a place where the adoption of new technology is growing up fast, that 33% users use it for updating profile information; 24% use them to share content, (news, documents, and surveys) with other users; 13% for professional networking, and 11% for participating in discussion forums, and more than 80% are users of Facebook (Torres & Alcántar, 2011).

However, in the research area, there are very few documented studies on the use of technology in ELT curriculum in higher education contexts (Guzmán Tinajero & Rojas-Drummond, 2012). This brings an opportunity to explore and study the student's perceptions using technology in their academic activities and it hopes to contribute to the field of e-pedagogies providing an understanding on how these tools can be used to reinforce face-to-face instruction.

1.4 Type of study

This research used a multi-method approach. The method and design were considered the most appropriate because they allow multi-faceted explorations in real-life settings. The approach uses elements of Action Research (see Chapter 4). Both qualitative and quantitative data collection were used to be able to triangulate findings for their analysis (Cohen, Manion, & Morrison, 2000).

The theoretical framework used in this study derived from two learning theories, the social-constructivist learning theory and the community of practice, and their relationships to collaborative tools. A case study research was chosen for three reasons: 1) it provided a suitable approach to the research questions, 2) to support the theoretical framework proposed, and 3) to ensure triangulation from qualitative and quantitative data to achieve an adequate understanding of the focus of the research.

The case study included 21 university students enrolled in a second language academic writing course in northern Mexico. Participants proficiency was position in level B1 (CEFR) or IELTS 5. At this level students can express

themselves clearly and without much restriction, have a sufficient range of language to be able to give clear descriptions, express viewpoints and develop arguments without much conspicuous searching for words, using some complex sentence forms.

The methodology considers both quantitative and qualitative data collection methods are used to explore students' perceptions regarding technology in their academic life, enhancing their experience with L2 writing using collaboration tools, and foster student engagement. See section 3.3.1.

To conduct this research, it was important to explore student´s perceptions about the Web 2.0 technologies in the academic context in higher education. In the beginning, the instrument used to collect student's perceptions regarding technology was an adaptation of Brodahl & Hadjerrouit (2011) survey. The dimensions our survey included the familiarity with the Web 2.0 tools, the digital competence and frequency of use, along with collaboration among peers this is explain in detail in Chapter 4 section 4.8.1.1.

The students used Facebook groups to serve as a platform for communication and interaction and the weblogs to reflect on their practice. These particular web tools used in the intervention were chosen according to the results from the survey but also considering 1) the student's familiarity with the tools, 2) the easiness of use, 3) the accessibility. Facebook posts were analyzed using a rubric for participation, and the writings students produced over three different tasks were revised using an institutional rubric. For the qualitative data, a coding and thematic analysis were used, the detail description of the coding process is found in Chapter 4. In addition to the thematic analysis two other social media analysis were used to triangulate and validate findings: Network and Sentiment Analysis. These two analyses are associated with social media research and have proven to be effective to analyze media content.

A blended learning approach was used to deliver the learners activities, therefore, the intervention consisted in asynchronous and synchronous activities. In the asynchronous activities the tasks were designed to create an online learning environment where participants were able to use or develop some digital and social skills. Crating this participatory culture was important to

approach writing in a different way and to explore their perceptions and experience during the process.

1.5 Research questions

The main purpose of this research is to investigate to what extent the use of Web 2.0 tools can enhance student´s experience during the process of writing. Additionally, it explores the impact learning communities and its effectiveness to increase students' engagement and improve writing's kills as some authors claim (Brodahl & Hadjerrouit, 2011; Gunawardena et al., 2009; Järvelä, et. al, 2016; Moule, 2006).

The following questions address the main purpose of the study and hope to provide an understanding of the affordances of Web 2.0 and its potential to transforming learning. Moreover, the answers to these questions can shift teacher-center approaches into a more participatory environment where learners can take control of their own learning, all of which are linked to socio-cultural theory (Wenger, 1998; Vygotsky, 1978).

In line with the purpose of the study, the following research questions are proposed:

RQ1. How students perceive the use of web tools as part of their learning?

-How do they describe their experiences using Web 2.0 tools in their writing process?

This question is important because it explores to what extend the web technologies facilitate learning from the student´s experience, and whether they were aware of such improvement. To answer this question both qualitative and quantitative methods were used. The initial online survey provided a starting point to choose the tools to be used in the study. And later, the content analysis from the blogs´ entries provided an understanding on how the experience was.

RQ2: Is there any evidence of building a learning community or the development of a community of practice in student's work?

-How is the student's response to work collaboratively in online environments compared to face-to-face interactions?

This research question aims to explore evidence of key elements of forming a community of learning. This is important in the sense of community building, mutual accountability, interaction, engagement, socially constructed content, negotiation and generation of knowledge. Answering this question is relevant to the area studied in this research and to confirm assumptions on the benefits of online collaboration and the communities of practice in educational settings.

RQ3: How does the use of web 2.0 affect students' engagement in the classroom?

-How participation and engagement is promoted through Web 2.0 tools?

Student engagement is an important focus of research in blended learning environments. Student engagement is explored through different dimensions and methods to evaluate it. The interest focuses relies on using a new approach in L2 writing to promote participation and engage students in the tasks. The answer to this question is important because it provides an understanding on how effective digital technologies can be to promote student's learning and collaboration. This data collected will serve for analyzing teaching implications in this learning environments.

RQ4: How does collaboration using web 2.0 enhance writing skills?

-Are there evidence that

Online and face-to-face collaboration are addressed in the literature and are relevant to this research. It is important to explore to what extent Web 2.0 tools can facilitate collaboration and how they influence the learners' performance in L2 writing.

RQ5: Is there any evidence of text improvement as a result of collaboration?

This question is relevant as it examines the impact of web technologies in literacy practices in online contexts. And explore to what extent new methods in teaching writing can be successful in improving the participants own composition. The intention is to corroborate some other studies claims on the language proficiency improvement through the use of technology.

1.5.1 Instruments for data collection

To better understand how the above questions will be addressed and in line with the research design, the following instruments were used to provide both quantitative and qualitative data.

1. **Initial survey:** to explorer participants experience with the web 2.0 tools, the skill level, and usage.

2. **Facebook groups:** to explore students' participation and contribution in a shared space.

3. **Writings from the tasks:** to evaluate students writing using a rubric.

4. **Focus groups:** to gain more in-depth information on their experience during the intervention.

5. **Blogs:** used as a learning/reflective journal. A space provided for participants to self-reflect about their learning.

6. **Sentiment Analysis:** AI tool to analyze social media content.

7. **Network Analysis:** it is used to provide a visual of correlation of different aspects to consider in the research

1.6 Definition of key terms

There are important key terms throughout the study that are important to understand and are fundamental to support this research:

Web 2.0 technologies is a term used to describe a variety of online applications or websites that allow social interaction, collaboration, communication, and instant connection. This set of new tools such as wikis, chats, blogs, and online groups provide web users with new content, store data, visual and media resources to support communication. It is called the web 2.0 because it distinguishes from the traditional web 1.0 in the sense that it is not a one-way communication (like in a regular website) but provides forms of interaction. For example, social media such as Facebook promotes participation of the users through 'likes' comments or post information making it as two-way communication. Chapter 3 section 3.3 for further detail.

New literacies are the term given to new ways of receiving information (interactive magazine, e-book) with e-ink easy to read with links to related content, pictures or video. Writing practices have also changed to becoming more accessible with instant spell checkers, fast ways to reply or post a comment. Thus, changing the way literacy instruction is being delivered through web technologies. Literacy acquisition relies on the notion of adapting to the new forms of reading and writing as technology rapidly expands over the Internet. This research considers the contribution of (Coiro et al., 2008) of new literacies and their application in the educational context. See Chapter 3 section 3.2.

Communities of Practice (CoP) is a term originally attributed to Lave and Wenger (1998) and it is a group of people with a shared domain of interest, and they interact in a learning community where they share activities, reinforce identity and transfer or produce knowledge. The members of the CoP also share competences in a common practice. This learning theory also has moved from traditional settings to online environments in education (Gunawardena et al., 2009; Moule, 2006), see section 2.4

Student engagement in learning we must say that includes active participation, being competent as a learner and problem-solver. Emotional and cognitive engagement are the two most studied dimensions (Halverson & Graham, 2019), but there are also more studies that consider other dimensions such as behavioral and social engagement in educational settings and are related to collective engagement and self-regulation, (J. A Fredricks, Blumenfeld, & Paris, 2004; Järvelä et al., 2016). For this particular study it is been consider the dimensions of Fredricks et al. (2004) and Järvelä et. al, (2006). Section 2.4.1.1

Blended learning is the combination that uses computer-mediated as well as face-to-face instruction (C. Graham, 2006). The approach changes the roles of the learners in the learning process and move them from being passive receivers of knowledge to active constructors of their own knowledge. The role of a teacher also changes from being the sole instructor to become more of a facilitator (Sorapure, 2010). One of the benefits claimed in this approach is learner engagement. That is why this approach was chosen for this study.

Scaffolding is a teaching approach used in sociocultural theory (Lantoff, J., & Appel, 1998). that helps students to develop a stronger understanding, acquire skills and learn from a more advanced student or teacher. In learning communities and communities of practice scaffolding techniques are used. See section 2.1.2

Learning community is a group of people who share common goals and collaborate in different school tasks. Higher education has adopted this form of learning as find it effective to interdisciplinary instruction. In this study the learning community is form by means of community of practice in the educational setting in a blended learning approach. See section 2.3 for more detail.

Collaboration is an important dimension in this study from the initial survey to the findings chapter. Since collaboration in online environment is essential to build a learning community and improve practice. In addition, the literature studied shows that online collaboration and participation are evidence of student engagement and learning. See section 2.3

1.7 Thesis organization

This thesis is composed of eight chapters:

Chapter 1 includes an introduction to the contextual situation of the use of technology in language classrooms in higher education in Mexico. It outlines important key areas of the research and the purpose of conducting the study. The final part of this chapter provides an overview of the whole thesis organization.

Chapter 2 presents the existing literature related to learning theories and the relevance of these in the study in particular how they apply to the research context. The theoretical framework serves as a foundation of this study: the sociocultural theory and constructivism; communities of practice, community of inquiry and how those are related with the learning theories.

Chapter 3. It discusses the use of different Web 2.0 tools used in second language instruction, particularly writing and the nature of the writing process.

The discussion includes the effects of web technologies used in writing as well as a section on L1 and L2 writing.

Chapter 4. Presents the research methodology. It outlines the theoretical perspective in which this study is founded, the research design, the research questions, participants, and methods for data collection and limitations. Details on the research methods selected are detailed. The methodology used was carefully planned in terms of validity, inter-rater reliability and triangulation. Research ethics was also considered and was able to meet the required expectations using consent forms, anonymity and confidentiality.

Chapter 5 Presents the process of the intervention. It outlines the asynchronous and synchronous activities throughout the intervention. The role of participants and the teacher, the types of tasks and the teaching methodology and web tools with some samples of the student's works.

Chapter 6 provides the data analysis in relation the collected data. It shows the results from the different methods, the quantitative and qualitative analysis.

Chapter 7 presents a comprehensive discussion of the research interest, the triangulation of the instruments used, and a discussion of the findings with some other related studies and how this particular one contributes in the research gap.

Chapter 8 presents the conclusions with the pedagogical implications and further research suggested on the topic of second language writing using Web 2.0 tools within a community of practice. The limitations and proposed solutions can also be included.

Chapter 2: Theoretical Frameworks

2.1 Sociocultural Theory

The sociocultural theory represents the dominant paradigm for writing research today (Prior, 2006). Some studies explore the relationship between writers and their discourse communities. However, the sociocultural theory rejects the notion that human action is governed by a set of linguistic rules and norms of some discourse community. Instead, it argues that the activity is situated in concrete interactions. It enhanced the importance of peer participation and guided practice as one of the most fundamental aspects in activity settings where skills are shared to produce a common product or artifact (Anderson, Englert, & Stevens, 2006). This social activity is a form of learning where participants join a knowledge community (Vygotsky, 1978).

In a classroom setting, constructing knowledge or develop skills are made by group efforts in which people construct their knowledge by relating this process to their previous experiences in real situations associated to the social environment. They can understand the task and share decision-making goals, along with creating a sense of responsibility for the final product (Allen, 1984). In this context, learning occurs as learners improve their knowledge through collaboration by sharing information in real social environments. In these community practices, constructs as genres or modes of writing are influenced by the social context and are embedded within the conventions and expectations (Deane et al., 2008).

Vygotsky´s view on cognitive development is described as culturally based where there are different orders in mental functions, which range from the simplest to the more complex. In the lower level, he classifies vision, hearing, tactile and olfactory systems as well as natural memory and involuntary attention. The higher-order comprehends logical memory, planning, perception, problem-solving, and conceptual thought, which in his view, development of higher-order functions, can only be performed as they intertwine with determined sociocultural factors.

In addition, Vygotsky saw the transformation of elementary processes into higher-order ones as possible through the mediating function of socially constructed artifacts included tools, symbols, and more elaborated sign systems such as language. Children, therefore, go from dependency to interdependency and self-regulation in their learning by mastering semiotic tools, which he called mediation (Lantoff, & Appel, 1998).

2.1.1 Mediation and tools

Vygotsky argued, "human consciousness is fundamentally mediated mental activity" (ibid. 7). His argument was based on the idea that humans affect reality, transforming it. They established new conditions, which result in a change in them. Unlike behaviorists who argued a passive reaction by the individual, whose focus is on their mental activity, Vygotsky believed that psychological processes have to be explained as part of active participation in the everyday world. For him, humans, as active beings, had to act upon their surrounding world.

On his perception of tools, they allow individuals, in collaboration with other individuals to shape their world according to their motives and goals, and thus alter processes that, without human intrusion, would have taken a different course. He explained that the "tool" function is a conductor of human influence on the object of activity; it is externally oriented; it must lead to changes in objects. Tools are used, therefore, to accomplish something, to aid in solving problems that cannot be solved in their absence.

Vygotsky extended notion on instrumental mediation explained that psychological tools, which include schemas, mnemonic techniques, diagrams, and language as the most powerful semiotic tool, serve as mediators for the individual's mental activity. Because higher psychological functions are mediated, they become part of the individual´s control. However, to gain and maintain control over complex mental processes, the child has to acquire learning willfully. Two main features characterize this process: it originates outside of the individual and is directed by language.

The difference between the individual´s acting alone is capable of perform and when he is guided by a more experienced other is what is called the Zone of Proximal Development, and it is defined as follows: "it is the distance between the actual developmental level as determined by interdependent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86).

This ZPD expresses the social aspect of learning, as describes the tasks the learner can do but only with the help of a more experienced person. Therefore, students can learn alone but just to a certain level since they need to engage in a certain level of complexity that would require the assistance of a more knowledgeable person. Moreover, this ZPD is useful as a construct to understand the tension between individual learning and collaboration with others.

Vygotsky (1978) helps us to understand writing not only as a learning experience but also how writing structure´s human consciousness. For him, writing represents a system of semiotic mediation in human psychic development that implies a self-regulated process and self-directed towards previously established objectives. Conscientious action, therefore, will be directed to two objects of different levels: one for the ideas that want to be expressed and the second, the instruments of external expression, which is, by written language and grammar and syntactic rules. Thus, writing as a mediator enables and activates the development of other functions such as perception, attention, memory, and thought. These functions are part of the written composition.

In the sociocultural theory, cognitive learning increases through social interaction when a novice learner reaches out for assistance to a more experienced learner. This assistance is what is called scaffolding (Storch, 2011). Scaffolding can also occur among peers when working collaboratively (Donato, 1994). In constructivism co-construction of knowledge and interaction are essential for scaffolding. Evidence shows that even when support is no longer present, scaffolding has been demonstrated in independent L2 (p.51).

2.1.2 Scaffolding

McLoughlin & Marshall (2000) define scaffolding as a "form of assistance provided to a learner by a more capable teacher or peer that helps the learners perform a task that would normally not be possible to accomplish by working independently." When students experience scaffolding techniques, they move to a better understanding of the learning process and achieve greater independence. The term itself suggests that: teachers provide successive levels of temporary support that help students reach higher levels of comprehension and skill acquisition that they would not be able to achieve without assistance. Like physical scaffolding, the supportive strategies are incrementally removed when they are no longer needed, and the teacher gradually shifts more responsibility for the learning process to the student. In an online environment, the ZPD is often scaffolded by online tools, tutorials, and interaction between participants in a social network. Therefore, in this sociable interaction, the knowledgeable participant can create, by means or speech, supportive conditions in which the novice can participate in, and extend, current skills and knowledge to higher levels of competence (Lantoff, J., & Appel, 1998)

Six functions characterize scaffolding:

1. Recruiting interest in the task

2. Simplifying the task

3. Maintaining pursuit of the goal

4. Marking critical features and discrepancies between what has been produced and the ideal solution

5. Controlling frustration during problem-solving, and

6. Demonstrating an idealized version of the act to be performed.

(Wood, Bruner, & Ross, 1976)

This posture considers the expert providing revisions of a scaffold in response to the emerging capabilities of the novice, as an internalization of knowledge co-constructed in a shared task or activity (Wertsch, 1985). This concept is relevant to the study since it shows that collaborative work among language

learners provides the same opportunity for scaffolding. It helps as in expert-novice relationships in an everyday setting. In a study with second language learners, Donato (1994) demonstrated that they can provide guided support to their peers during L2 collaborative interactions. Also, he found that collective scaffolding might result in linguistic development in the learner as opposed to mere input crunching (p.53). Another benefit of scaffolding is that it can reduce negative emotions and self-perceptions learners may experience when attempting a difficult task without the assistance, direction, or understanding they need to complete it.

Scaffolding techniques in Vygotskian (1978) view is that cognitive processes can be inherited from the interaction between the less expert writer with the more expert where both combine their resources. In this, the novice takes the role of writing, and the expert provides support and ideas and helps with revising, all this supported by a social plane (p.209). From an instructional perspective, the teacher provides the setting and serves as a facilitator leaving the students in the role of experts and requires them to solve problems, make decisions about the text, and negotiate. At the same time, the teacher creates the space so learners can interact and get the benefit from their peers as well as from the instructor. Working with peers helps students externalize hidden concerns or fears and makes them more transparent during the interaction (Wong, 2006).

However, some literature argue that by defining the nature of a scaffold that has extended beyond common teaching contexts and has spread the role of computers, written artifacts, interactions and even the environments where these can one as potential scaffolds or technology-enhanced scaffolding (Malik, 2017; Shen, 2010). With the previous perspective, it could make it difficult to distinguish between scaffolding and just simple support and this can be confusing into what extent any tool can be considered as scaffold (Palincsar, 1998).

The sociocultural approach highlights that the particular communities influence deeply what sort of writing tasks will be taken, how are going to be structured, and how will they be received, and that such constructs as genres or modes of

writing exist in an entire complex of modes and expectations. However, Heath (1983) shows that literacy practices vary across classes within the same society and that cultural practices on the home or the community can reinforce or contradict the literacy skills and expectations learned at school.

2.2 Socio-constructivism

Similar to sociocultural theory, constructivism emerged as a theory of knowledge in response to behaviorism. This theory emphasizes how learners build their knowledge through the construction of cognitive structures based on experiences of a particular object in a specific context (Honebein, Duffy, & Fishman, 1993). In constructivism, learners are active rather than passive, and knowledge is not received from the outside, instead is an internal interpretation of what has been received through the senses (Anderson & Mercer, 2004). In this view, "Learning is a social, dialogical process of construction by distributed by multidimensional selves using tools and signs within the context created by the various communities with which they interact" (Honebein et al., 1993). Therefore, instead of assuming learning as one-way direction: from the teacher to the learners, learning began as a social process who share and build a learning community L2 together in order to complete a task (Pavlenko & Lantof, 2000; Vygotsky, 1978). Meaning is shaped, and knowledge is collectively constructed through the negotiation of meaning and self-reflection (Higgs, B., McCarthy, 2005).

In relation to learning, constructivism, and sociocultural theory's primary focus is on the activity's learners engage in. Social constructivism´s central idea is that learning takes place by constructing knowledge through social interactions with others, and through culturally meaningful activities (Dempsey, PytlikZillig, & Bruning, 2009). Knowledge then is built through collaboration and agreement (Järvenoja, Järvelä, & Malmberg, 2015). The role of the educator consists of select implementing and presenting meaningful activities that stimulate learners.

In constructivism students see learning as a process in which they actively construct new ideas or concepts based on current and previous knowledge. Ormrod (2006) claims that learning is formed through constructing our

knowledge from our own experiences. This is also known as the social process of construction of knowledge. Some benefits of this social process are that learners can work together to clarify and organize ideas, set goals and consider their peers opinions and recommendations, this provide opportunities to use what they have learned (p.232).

Bruner (1966), summarizes the constructivist view of learning in three fundamental ideas:

1. The learner is the ultimate responsible of his/her own learning process. Nobody can take away that responsibility. Importance to the activity should not be interpreted as merely an act of discovery, the learner is who decides what to learn or unlearn. The mental constructionist of the learner mediates teaching. The learner is not only active when manipulates, explores, discover or creates but also when listens to the explanations of the facilitator.

2. The mental constructionist activity of the learner is applied to content that already possess a high degree of elaboration, that is as a result of certain process of social construction. Thus, learners construct or reconstruct knowledge that in fact, has been previously constructed. For example, learners construct a system of written language, but this system has been already created, or learner construct mental arithmetic operations, but those operations already exist.

3. The role of the facilitator is conditioned by the application of specific knowledge in the constructionist activity (Perez, 2018). The role of the facilitator is not just merely to provide the conditions for learning, but to monitor the activity so the construction of the learner can be progressive.

Social constructionists see the interaction of the individualizing power of the mind and the collective social authority of language as reciprocal and as the essential dynamic from which we make meaning. This development of learning, influenced by other resources like peers, is significant because they socially construct learning environments (J. Q. Lee, McInerney, Liem, & Ortiga, 2010). Social constructivism is essentially a collaborative learning theory. In education,

collaborative learning is seen as a process of peer interaction where the teacher serves as the mediator (Brodahl & Hadjerrouit, 2011).

Vygotsky (1978) stressed that collaborative learning, either among students or between students and a teacher, is essential for assisting each student in advancing through his or her own zone of proximal development (ZPD), that is, the gap between what the learner could accomplish alone and what he or she could accomplish in cooperation with others who are more skilled or experienced. Wells (1999), refers to scaffolding as 'a way of operationalizing Vygotsky's concept of working in the ZPD'. There are three important features that give educational scaffolding its particular character: (1) the essentially dialogic nature of the discourse in which knowledge is co-constructed; (2) the significance of the kind of activity in which knowing is embedded; and (3) the role of artifacts that mediate knowing. The first step of scaffolding is to provide support with other regulation for learners' self-regulation or for exceeding their ability to do a task. Once learners build up certain knowledge or skills, removing or fading (gradual reducing) support is the second step for learners to work on independently.

2.3 Collaborative learning

Collaborative learning is defined as an educational approach that unites intellectual efforts in groups of learners working together towards a learning goal (Laal & Ghodsi, 2012a). Following Vygotsky (1978), we assume that collaborative learning, knowledge sharing, problem-solving, and empirically based materials will assist learners in their efforts towards acquiring foreign languages and developing a broader understanding of culture.

This instructional process serves to promote the dialog among students who collaborative can inform, question, and acquire writing knowledge through these discursive interactions instead of working isolated with a task. This collaboration helps students to acquire a level appropriation with the text that helps improve their practice. This meaningfulness of the shared task is important because it can be transformed into a collective engagement that facilitates learning (Järvelä et al., 2016).

Laal & Ghodsi (2012b) in their critical review about collaboration were able to identify several benefits encompassed in four major categories: in the social, it helps learners to develop social system support, to establish a learning atmosphere for cooperation, and establishes a learning community. In the psychological, it increases students' individual self-esteem, reduces anxiety, and develops positive attitudes towards educators since it is a student-centered approach. In the academic aspect, it promotes critical thinking and problem-solving skills. Students are more aware of their progress, and they are engaged and motivated. In the assessment category, collaborative learning is evaluated using different techniques: individual interdependence in relation to the group, process, product, and through interaction (Dobao, 2015; Laal & Ghodsi, 2012c).

We can say that collaborative learning serves to create learning communities. There are some components that characterize a community identified in the literature: a collective component has to do with the fact of having common goals and purposes that move the community to specific actions, and while performing these actions members have a shared a connection. In the personal level, building trust is important to foster mutual accountability, every member is part of the collective, and therefore, a sense of belonging is promoted and receives support from another member or the group as a whole. The members of the community manifest self-regulation, and social interaction, they have a certain culture within the community, rules, and behaviors and they share a social space (Duncan-Howell, 2007; Sharratt & Usoro, 2003).

For Bauman (2013), the term community includes an understanding of shared values: belonging, trust, engagement, and commitment. This social consideration has a more positive connotation than the term society since there are good and bad societies. But the communities are built through a cultural, shared interest that values collaboration (Carlén & Jobring, 2005). These same characteristics of unity and collaboration are present in emerging new technologies that claim that identity is constructed and crates key elements for forming a "cyberculture" or global villages or "virtual communities", which according to Rheingold (1993) are defined as "social segregations emerging from the Net when enough people carry on those public discussions long

enough, with sufficient human feeling, to form webs of personal relations in cyberspace. In education, these communities become communities of learning and are based on the model of Wenger (1998) of Communities of Practice.

2.4 Communities of practice

A community of practice (CoP) consists of people engaged in collective learning in a shared domain, thus learning becomes a collaborative process of a specific group. The term was first conceived in the collaborative work of Lave & Wenger (1991), where they argued that a community of practice is not a just a shared interest community, but the members of a CoP share different resources such as experiences, tools, ways to solve problems, skills, in other words, a shared practice. There are certain characteristics that should be present in a community to be considered as a community of practice.

A community of practice has a unique identity that is defined by a shared domain of interests, resources, where each member of the community possesses certain knowledge or expertise that they are willing to share within the community. For Wenger (1998), the community is a group of people who learn and interact together with a sense of belonging to the groups and mutual commitment. Interactions within the members of the community are essential to making them a community of practice.

The community is engaged in joint activities and discussions. They help each other by building trust and share knowledge (Keefer, 2010). Members of the community are practitioners. They develop a shared repertoire of resources such as experiences, stories, tools, and ways of addressing recurring problems. This takes time and sustained interaction.

The combination of the three aspects is what makes a community of practice. There are some considerations in an educational setting that can be implemented through the communities of practice: Internally, schools should organize educational experiences that ground learning in practice through participation in communities around subject matters. Externally: schools must seek to connect the experience of students to actual practice through outside forms of participation in broader communities outside the classroom.

Ongoing education for students serves the lifelong learning needs of students by organizing communities of practice focused on topics of continuing interest to students beyond the initial schooling period. In such communities, students collaborate as they acquire a common understanding of a shared knowledge domain (Jean Lave & Wenger, 1991).

2.4.1 Combining social theory with the communities of practice

The sociocultural approach to learning highlights that certain communities of practice influence on the type of writing tasks they are going to undertake, the structure and the delivery. Heath (1983) showed literate practices vary across classes within the same society and that cultural practices on the home or the community can reinforce or contradict the literacy skills and expectations learned at school.

There are several studies in which writing is based on the communities of practice with a special interest in knowledge construction (Englert, Mariage, & Dunsmore, 2006). Something that is fundamental in the community is language acquisition, which pertains to all skills, including writing. This allows effective engagement trough written language and direct feedback for text improvement. Through this interaction in the community, students are able to communicate their knowledge, concerns, request information, and rely more on those who are more experienced. Thus, scaffolding is present (Maybin, Mercer, & Stierer, 1992). Another benefit of social participation is that students engage actively in their own learning and consider texts as tools for thought and reflection, this is likely to develop a higher level of thinking and critical literacy (Alvermann, 2002).

If we consider this posture of writing as a social process, then we can assume writing is a process of knowledge that is regulated by social interaction. Thus, mutual engagement takes place in specific contexts and audience (Hyland, 2007). Therefore, the practice in the community becomes more significant and enables students to discuss issues about writing, where texts socially develop can result from these learning communities with a shared domain (Khateeb, 2014).

This form of collaboration in writing provides several benefits. First, it creates the opportunity for mentorship where scaffolding techniques may be used, so learning occurs in a more effective way among the writing members. Sometimes, the best professional development, teaching, or training that could happen would be to allow individuals working in the field time to simply sit down, brainstorm, and share writing process ideas for how to better create a proposal, report, or curriculum (p.91). Second, collaborative writing creates a stronger product because each of the collaborators can contribute their strengths as a professional and writer (Jones, Jones, & Murk, 2012).

However, Nagel & Kotzé (2010), explain that since learning in a community of practice sometimes can be incidental, we must also pay close attention to the notion of community building, social networking, and inter-personal relationships as other forms or opportunities for learning, practices, and experiences that may have transpired in a Web 2.0 community. This would be in the form of constructivism, where constructing knowledge in a community of practice, learning together and from each other, working collaboratively, and in the process, build learning communities.

For Faigley (1986), writing can only be understood from the perspective of society rather than a single individual, and for Geertz (1973), knowledge, talk, and writing depend on the actions of members on communities. The term "community" therefore, combines the participants and the text together. For this purpose, collaborative tools can serve as a knowledge platform of the community where they can share their knowledge with the group, post information, work together and open up discussions (Brodahl & Hadjerrouit, 2011). These tools can facilitate collaborative learning because they provide some key elements fundamental in the communities of practice, such as online presence, interactions, communication, participation, relevant content, and reinforcement of relationships.

In a research by Moule (2006), in online communities of practice, she monitored interaction from online discussion boards, interviews, and recorded online journals. She found that in order to form a community even in an online environment there has to be present a form of mutual engagement, joint

enterprise, and shared repertoire, for her, regular interaction of the members is the key to a positive function of the community. In her proposed framework, she adds an additional online learning dimension to the original framework from Wenger (1998). For example, in the joint enterprise dimension, the development of trust and support is added to the already existing constructs of negotiated enterprise, mutual accountability, and local response. In the shared repertoire dimension, the longevity in online communities is present in addition to the artifact tools, styles actions, discourses, and concepts. In the mutual engagement dimension, she added IT skills, confidence in using the web tools, access to an asynchronous discussion and technical support as part of the already existing engagement diversity, relationships, social complexity and doing things together, or in other words collaboration (p.138). See Figure 1.

In Figure 1, we can see how learning takes place within the community. If we examined the components, a part of being a member of the community is learning as doing the task, in other words collaborating, as they do, the members start feeling a part of the community and enforce their sense of belonging and mutual accountability towards the common goal. As learning takes place within the community, identity is enforced through their members by mutual accountability and the establishment of new social relationships, and lastly, all members create significant experiences, which empower them with a sense of meaning.

The following Figure can serve as a framework of this research in particular where important elements from learning theory and communities of practice have been merged to construct this holistic component in the community of practice as understood a way of being a community of learning.
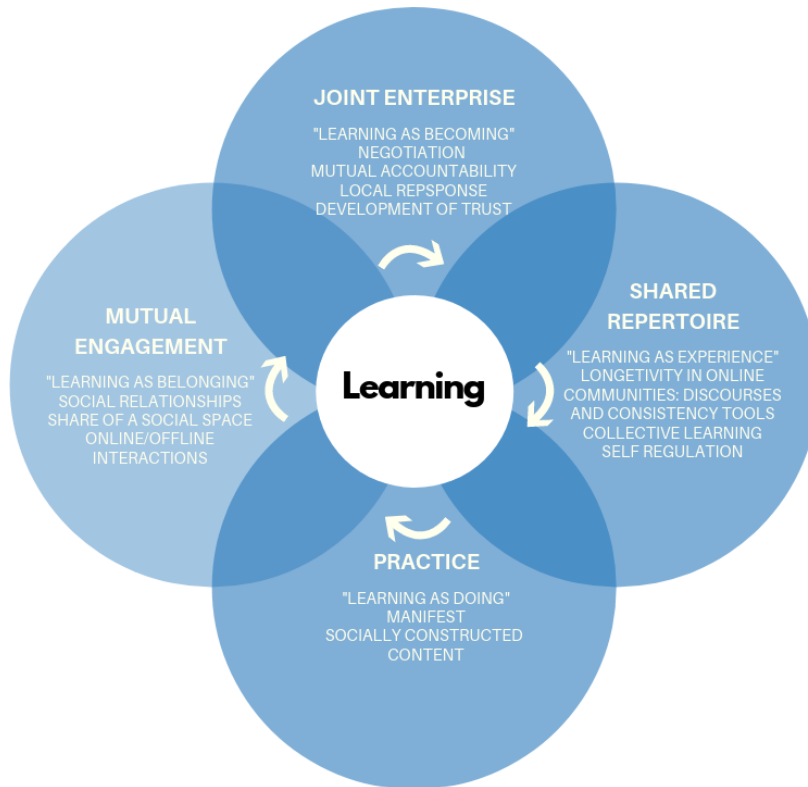
Figure 1: An adaptation of social learning and communities of practice Source: own creation

The important features of the above figure are the conception of learning as a community of practice where there are other important elements that can assure the members of the community. Some of the highlights in this model are:

2.4.1.1 Mutual engagement

One of the important concepts linked to collaboration is engagement. It has been associated with learning and academic success (Eccles, 2016). Multiples studies demonstrate that learners with a strong sense of their own competence are better prepared to solve difficult tasks and situations, rather than perceive them as a threat (Zimmerman & Schunk, 2011). Such students can be called engaged learners. Engaged learners are involved behaviorally, intellectually, and emotionally in learning tasks (J. A Fredricks et al., 2004; Järvelä et al., 2016). On the other hand, students who are not engaged, they show a lack of interest and are unmotivated (Järvelä & Renninger, 2014) or as some referred them as disengaged (Jang, H., Kim, E. J., Reeve, 2016).

Although disengagement is a growing construct from the self-determination theory, we are not going to include it in this study due to the amount of data

already categorized in the engagement dimensions. Perhaps, it will be covered in future contributions. Now, when it comes to finding a definition for engagement, there are several lines of thought that conceive engagement as an emergent property derived from a person´s experience with the activity, a notion of "flow", as a moment-to-moment type of engagement or it could also be perceived as a big elephant which represents the complexity of this construct Shernoff, et al. (2003); Eccles, 2016).

In this line, we find Frederick´s et al.´s (2004) concept of engagement that describes engagement as a multidimensional construct with behavioral, emotional, and cognitive dimensions. In this definition, behavioral engagement includes observable actions, for example, in the school context could be following the rules and classrooms norms along with the absence of disruptive behavior. It also refers to involvement in learning academic tasks with some characteristics such as effort, persistence, concentration, asking questions and participation in class discussions (p.62). In addition, the presence of positive reactions to teachers and peers is also considered as part of this type of engagement.

Emotional engagement can be measured with items related to interest, enjoyment, and the perceived value of learning (Fredricks et al., 2004; Wang, Fredricks, Ye, Hofkens, & Linn, 2016). Cognitive engagement is the willingness to internally engage in demanding tasks using strategies (Järvelä et al., 2016). This type of engagement has been measured with items about the swallow or deep learning strategies, self-regulation, and persistence (Wang et al., 2016). There is a later dimension added to this construct, which is social engagement. Social engagement refers to learning that involves social practices, such as interactions in a group learning activity (Wang et al., 2016; Eccles, 2016; Shafea, 2017). For some, this fourth dimension is embedded in the emotional dimension, and it is called socio-affective (Eccles, 2016). Fredricks´ (2004) contribution with these dimensions was to attempt to delimit engagement and provide a way to measure it at the individual level. On the other hand, Järvelä´ et al.´s (2016) research contemplates these dimensions, but they are measured as a group level, that is what they called collaborative engagement.

For example, in a study with adolescent's academic success in science, Wang & Eccles, (2013) measured multiple dimensions such as behavior, cognition, and emotion using 45 self-report surveys in the school context. In these reports, they used different scales to different dimensions of engagement that worked across the basic (behavioral, emotional, cognitive, and social). The majority in survey measures (9 out of 14) focused on general engagement rather than specific subject areas. Although many researchers have contextualized student engagement as a multidimensional construct, many studies have failed to study or determine the unique contributions from each dimension, as well as the general construct of engagement. Therefore, it is unclear whether to separate each dimension from the general construct. This difficulty makes it hard to measure them simultaneously.

Measuring engagement can become an ample way yet ambiguous to determine the characteristics designated for each dimension. However, investigating engagement in online learning environments is an interesting theme to research today. That is one of the reasons the present study can be considered an appropriate contribution to the current trends of investigating collaboration and engagement in virtual environments. In order to measure student´s levels of engagement, this study is contemplating the four dimensions to measure to what extent Web 2.0 technologies can promote student´s engagement. Thus, studies have demonstrated that in classrooms where students have strong relationships with their teachers and peers and where students receive clear feedback and support for autonomy, the engagement is higher (Fredricks, 2004). For example, in a study conducted with collaborative tasks, interaction plays a key role, because it is through the interaction with other peers that students get involved in collaboration and responsive interaction among the group members. Not only that, but it is found that through this interaction students can develop a sense of belonging and can shorten bridges of communication. It also provides a venue for cognitive and socio-emotional exchanges that manage co-construction of shared understanding (e.g., negotiation skills, conflict solution, shared understanding, and knowledge construction) (Roschelle, 2992 cited by Järvelä, et al., 2016). With this new

construct of collaborative engagement that measures students' interactions in collaboration, we open an umbrella on the applications and measures of engagement. Even when researchers have similar conceptualizations regarding student´s engagement, there are differences in the content of items in their instruments. Therefore, it makes it difficult to compare their findings (Jennifer A Fredricks, Filsecker, & Lawson, 2016).

2.4.1.2 Interaction

Digital technologies are used in education to promote interaction between participants. Even when the interaction has been conceived as part as education, it is difficult to assign a clear definition of the term, since the term 'interaction' includes forms of communication that take place through technologies of various kinds (telephone, the Internet, presentation technologies, etc.). Interaction between people and artifacts, insofar as they address learning, are also relevant. Thus, the focus is not exclusively on face-to-face interaction. Wagner´s (1994) defines interaction as "reciprocal events that require at least two objects and two actions. Interactions occur when these objects and events mutually influence one another" (p.8).

Interaction has different functions, for Sims (1999), learner control, facilitating program adaptation, various forms of participation, and communication help for meaningful learning. For some others like Wenger (1998), interaction is essential in a community of learning, since the value of other person´s view usually gain during interaction is a key component for learning in constructivism (Jonassen, Davidson, Collins, Campbell, & Haag, 1995).

Järvelä et al. (2016) claim that interaction is part of the cognitive and emotional dimensions of engagement. She identifies two types of interaction, the task-focused cognitive and the socioemotional interaction. The first one refers to a metacognitive level of discussion among the members in the community of learning as they are working collaboratively. The second is characterized by emotional discussions, a noticeable expression of positive or negative emotions in a community. Cognitive interaction comes from collaborative learning and extends to behavioral engagement since it involves collaborative and responsive interaction between group members (Fransen, Weinberger, &

Kirschner, 2013). Therefore, cognitive and socioemotional interaction complements collaborative engagement (p.3). In her study on collaborative engagement with 43 college students, Järvelä et al. measured the group interaction through video recordings. It was found that during collaborative learning, students showed more of the cognitive and social and emotional interaction. This is relevant since, in this investigation, one of the aims is to explore students' engagement through measuring interactions across different Web 2.0 contexts.

Learning should be interactive to be able to achieve higher levels of learning, social presence and to develop personal meaning. For Heinich, Molenda, Russel, & Smaldino (2002), learning is a result of development of new knowledge, skills and attitudes as students interact with information and the environment. Interaction also contributes to the formation of a community, where members receive online materials and process information. In this context, participants of the community interact with the content, with peers and instructor to confirm ideas, negotiate, and apply what they are learning. Social presence is an important element that is shared among different models of learning communities as Communities of Inquiry (see section 2.5).

2.4.1.3 Negotiation

Participation among the members of the community is based on negotiation and renegotiation of the meaning in the shared domain (Wenger, 1998). This collaboration and contextual negotiation of meaning are constant in this social practice. To become a member of the community requires learning how to collaborate, understanding common goals, and shared knowledge. In a learning community, students come together as a community of learners to share knowledge and competences; thus, at the same time, generate a socially constructed content.

Negotiation of meaning in a social networking environment takes place as individuals advance their knowledge of a particular subject or process, develop a community with a common history, and create a new cultural, historical process (Gunawardena et al., 2009).

2.4.1.4 Knowledge construction

As mentioned earlier, co-constructed knowledge is important within the community of practice. In the classroom setting, knowledge is developed by group efforts and shared skills according to previous experiences. In this way, members of the community are able to understand and undertake the task with a sense of responsibility (Allen, 1984).

Sharing knowledge implies giving and receiving information. In face-to-face communication, one can gain knowledge through the help of another member in the community who possess the knowledge or expertise. This facilitation of information can help in the creation of new knowledge in the recipient and in the community (Sharratt & Usoro, 2003).

Some authors outlined five developmental stages in co-construction of knowledge in collaborative learning environments including: sharing and comparing information, identification of inconsistency in the information, negotiation of meaning through social interaction, testing and modification, and agreement and application of newly constructed knowledge and meaning (Anderson et al., 2007; Gunawardena et al., 2009). Digital technologies can facilitate the communication process to support the co-construction of knowledge in the learning community. Among students, content appropriation is important to make the student a producer, thus, contributing to the learning process (Ebrahim Rahimi, Van Den Berg, & Veen, 2015).

2.5.1.5 Socially constructed content by means of collaboration

During the practice, community members can share competences, knowledge, and interact on a regular basis. Online collaboration is also present using web technologies since members are in constant interaction through social networking, which facilitates communication. Community members become active participants motivated for the opportunity to engage and become active creators and distributors of knowledge (Terry & Garrison, 2007).

In online communities of learning, students have access to all sorts of information. They are able to participate in discussions, comments, replies, podcast, wikis, and blogs (Razak & Saeed, 2015). This exposure to knowledge enables students to become more critical in the selection of content, and they

increase their capacity to acquire competencies in a participatory micro-content and recombine it with new student-generated content and ideas (Mcloughlin, Brady, Lee, & Russell, 2007).

Socially constructed content and collaborative learning are concerned with what the community produces. A collaborative environment within the community can provide a supportive scaffold for learning and content creation (Duncan-Howell, 2007).

2.4.1.6 Mutual accountability

Every member within the community has a responsibility with the rest of the members. Skills like problem solving and negotiation are present in the community. Trust is an important facilitator for effective communication. Researchers in social perspectives claim that people coordinate their activities with other peers to be able to accomplish more than they will do working individually. Collaboration is about the members' engagement and mutual responsibility in the production of knowledge, but this knowledge requires a social structure to distribute activities and organize the involvement of participants within the community of learning. In online communities, members must also know how to communicate and collaborate with technological tools (Carlén & Jobring, 2005).

2.5 Community of Inquiry

Introduced by Peirce (1966), Lipman (1991) and Dewey (1938) originally reserved to scientific community and now implemented to educational settings, the Community of Inquiry (CoI) is defined as a group of people united in the examination of an area of common interest via a process of dialog-based inquiry. Such a community reconstructs experience and knowledge through critical analysis of the subject matter (Dumitru, 2012).

This type of community emphasizes social quality and contingency of knowledge formation especially in the sciences where participants used a conceptual inquiry model to solve problematic situations. It was Dewey who later used this model in educational settings. But it wasn't until late 90's that these ideas of community expanded to online learning environments. In this context, the components of a CoI included the social presence, cognitive

presence and teaching presence. These three elements responded to provide direction to the use of Computed Mediated Communication to support the educational experience.

Figure 2: Community of Inquiry Source: CoI group Canada

Some categories outline for social presence are emotional expression, open communication and group cohesion Garrison et al. (2000). Social presence refers to the learners' ability to project their personal characteristics into the CoI and they present themselves as authentic as they are. In the model, social presence refers to student-student, or teacher-student presence. In this setting teacher-student presence plays an important role in the facilitation, design and direction of cognitive and social processes to produce meaningful learning outcomes (Ling Lim, 2007). However, the constructivist orientation of CoI considers teaching presence as by the re-definition of students' roles and through students' interaction. Teacher roles outlined in Anderson, Rourke, Garrison, & Archer (2001) contemplate instructional design and organization, facilitating discourse and direct instruction in a computer conferencing setting. In the constructivist student-centered approach in communities of learning, the social presence among students thought their interactions is relevant for this particular study.

In social presence, there is emotional expression where learners can use humor, emotions, and self-disclosure than can enhance identity. Social presence can also help in group cohesion by asking questions, compliment,

and agree with the rest of the group. in social media this is an important element to keep the learning community going in a shared objective. Online written communication is a form of social presence in CoI. Web 2.0 tools facilitate this social presence.

Sometimes teacher social presence is more predominant than student-student social presence (Terry & Garrison, 2007). In contrast, in the community of practice, members of the community can be active or peripheral participants but had little social presence from the educator. The roles are not as well defined as in a CoI since the conception of a community in a CoP is seen as collective. But there is a classification of participants depending on the active or peripheral participation (mostly observing with limited participation). Another difference is that members in a CoP share similar characteristics, their share a domain of interest and are able to share their competences as well that in most cases such competences are similar. In a CoI the participants are not always homogenous.

Cognitive presence refers to the extent to which participants in any type of CoI are able to construct meaning through continuous communication. In this line this element is both shared by the CoP and the CoI since members of such communities are able to construct meaning through interaction and participation. And finally, the last element in online CoI is teacher presence or teacher immediacy (Andersen, 1979) which refers to all verbal and non-verbal behaviors that can reduce physical or phycological distance between learners and educators. Teachers role is to regulate learning, set the climate to enhance educational experience and promote interaction towards a goal or direction. Students may benefit from teacher scaffolding as the teacher provides instructions on the tasks or do some modeling of the tasks.

2.6 Understanding the theoretical model

Once studied the models above, which are different forms of learning communities, it is important to notice that both bring some important characteristics to this particular study. For example, CoI emphasizes the teacher presence as a form of scaffolding. Scaffolding is clearly defined in the CoI and little addressed in the CoP. In the CoP scaffolding techniques can be

described as a means of providing assistance and transfer skills once trust is earned among the members of the community. One element that is important to incorporate in the current online community model is the role of the teacher that in this study is considered in terms of support and facilitation of learning, from designing the curriculum and facilitating discourse communication (see Chapter 5). As a form of scaffold, the web tools serve this purpose as well as the student-student scaffolding to improve writing skills and receive social support from an expert to a novice writer throughout the intervention.

The social aspect is one of a great interest in this particular study and it is in relation to the knowledge construction and engagement. Online written communication is analyzed to explore engagement, interaction, scaffolding and elements of community support that are present in both models. With this we can conclude that CoI contemplates elements of CoP, social theory, and learning communities and that are aligned with the affordances in the collaborative learning with technology, furthermore, these tools and their impact in other CoI models can be interesting to explore for further research. For this particular study, the focus relies on the communities of practice as the main learning community model. However social presence characteristics will be discussed in the following chapters during the discussion as well as scaffolding provided by peers and teacher. From the CoP, the discussion leads to the domain, and mutual engagement, and how this through the three dimensions proposed by (J. A Fredricks et al., 2004; Järvelä, S., Renninger, 2016). The purpose of the study and in alignment with the contribution to knowledge explained in Chapter 1 led to choose this particular learning theory combined with socio-constructivism.

Summary

This chapter provides a theoretical framework to understand and support the research described in this thesis. The main theories addressed include social theory and social constructivism; Vygotsky's zone of proximal development (ZPD); and collaborative learning. Along with these theories the proposed framework includes de Communities of Practice and Community of Inquiry as a form of learning communities, being the first the main model used in this

research. This chapter also illustrates the elements shared among different models of learning communities such as student engagement, interaction, negotiation and knowledge creation along with scaffolding are addressed in detail and are important to provide a notion of learning trough collaboration in writing contexts.

Chapter 3: Writing and the Web 2.0

This chapter is a review of the existing literature related to the use of Web 2.0 tools and second language writing. It starts by providing a view on the digital learning environments and new literacies, specifically the use of Web 2.0 tools in education, and how these tools foster collaboration. The next important area are the writing approaches, which include the process approach and process approach and their relationship with L1 and L2 instruction. The view of writing from a social standpoint is analyzed as it relates to collaboration and digital learning. Literature of digital tools such as wikis, blogs and Facebook in relation to collaboration and writing as support of collaboration and the affordances in education.

3.1 Digital learning environments

Internet technology in higher education has changed from being primarily used to distribute course materials, communicate and evaluate, to enhancing educational processes that support collaborative student learning (Maloney, 2007; Nelson, Christopher, & Mims, 2009). Digital learning is associated with all the resources provided by the technology used as any instructional practice. In addition to traditional multimedia, like videos and audios, digital learning environments allow students to interact and collaborate, providing a richer experience (Lodge & Lockyer, 2019). As these technologies evolve, students' learning becomes more interactive and fuller of visually attracted content, thus, enforcing critical thinking, negotiation, and engagement. At the same time, this brings new forms of instruction with several implications (Edwards-groves, 2012).

An important thing to consider when using digital technologies is that a learning environment enriched by technology should enable students to manage their learning. In a pedagogical model made by Rahimi et al. (2014), he proposes that students create their learning environment by 1) producing and transferring knowledge, 2) socializing to keep control and look for support, and 3) make decisions to manage web technologies. In this student-centered learning approach, the teacher becomes more of a facilitator, creating meaningful activities instead of lecturing. Moreover, social skills are also reinforced through

interaction and active communication (p.60). Additionally, during the students' practice, they develop different types of competences. For example, when working in an online environment, students need to search, evaluate, and create new content by using the web tools. Therefore, knowledge is created in collaboration.

In a study with higher education students' perceptions regarding technologies, Waycott, et. al (2010), identified several benefits students reported of using technologies in their academic work: Communication though text messages was facilitated with their lecturers because it was less intimidating than talking to them face-to-face. Another benefit was the convenience of having access to information resources anytime, anywhere. Receiving and submitting assignments online was another benefit reported, along with facilitating interaction with their peers through web technologies. However, in the same study, some students felt that specific tools poorly replaced the face-to-face instruction (p.1208), and few of them felt inadequate for not using technology effectively.

Considering the above, learning approaches in digital environments should be carefully planned. Scardamalia & Bereiter (2006) claim that in order to develop the required skills for learning, students should participate in designing and developing their learning environments. Moreover, student´s participation in designing and developing their learning environment would help them to define the appropriate technology-based learning activity, and at the same time, they will be more likely to engage using Web 2.0 technologies, thus helping them to explore their learning potential and enrich their educational practices (Ebrahim Rahimi, van den Berg, & Veen, 2015).

This teaching implication is a shift in traditional teaching methodologies, changing the role of the educator, of a facilitator. It also changes students' perceptions on the use of social media and roles as a means of learning. Educational institutions should also change their understanding of the role of technology since web technologies have been seen merely as the application of software during the teaching process as a complement rather than an integral part of the instruction (Edwards-groves, 2012; Razak & Saeed, 2015).

Moreover, certain limitations that can make this implementation difficult such as accessibility of wireless Internet in classrooms. However, implementing web technologies in education goes beyond providing schools with technological resources and teachers training, it is about adopting these set of tools to build a platform of change and principles with a whole range of possibilities to connect and adapt the educational community to the new knowledge society (Purdy, 2010).

In a student-centered learning model, students should be in control of their learning process and should participate in the creation of knowledge in order to acquire higher cognitive competences. They also should socialize to benefit and learn from the exchange of ideas and opinions and receive support. They make decisions for personal endeavors to manage web technologies. These choices of learning resources can be translated into online communities and networks, Web 2.0 tools, and content (E. Rahimi, Van den Berg, & Veen, 2014).

3.2 The new literacies

The new learning environments fostered by technology have opened the possibilities in literacy´s teaching and practices. The Internet makes it possible to spread out new information from person to person, using new technologies such as blogs, wikis, and social networking technologies. Traditional literacy has been transformed by using digital texts, e-ink, hypertexts, and digital writing tools. Thus, literacy is no longer static, but it has become a rapid and constant process of change of the ways we read, view, write and analyze information (Coiro et al., 2008). These new trends on how people communicate have access to information, establish relationships, and acquire knowledge is changing social literacy practices. A new field of research has emerged as a result of these changes in literacy, and it is called the new literacies.

New literacies are conceived as new social practices and understanding of reading and writing using web technologies. The digital literacy concept is part of the new literacies trend in education by Coiro, Hobbs, & Ri (2016), and it is defined as the ability to use digital technology, communication tools or networks to locate, evaluate, use and create information. Beyond this definition, there are specific skills that define a digital literate: the ability to understand and use

information in multiple formats, the construction of knowledge by retrieving information from the web, creating and sharing content, playing digital games, searching in databases, chatting in chat rooms and communicating in social networks (Hargittai, 2010).

New literacies foster student´s skills in reading and writing and have become a platform where students are exposed to new opportunities of learning, collaboration, and form relationships through knowledge-sharing groups, chat rooms and social networks (Eshet, 2012, p.271). This is because students are already engaged in digital activities outside the school, especially with Web 2.0 interaction, therefore, educators must find ways of using this experience to enhance learning and promote participation.

New literacies are multiple and multimodal. They benefit from different approaches and perspectives. Literacy cannot be encompassed as a single construct that is suitable to all contexts, but rather multiple views of understanding of exploding technologies and literacy practices (Coiro et al., 2008). There are two views of how to approach online literacy practices in university students: a) Evaluative studies concerning the effective integration of digital technology across the university and/or as component of campus life and b) studies that document and evaluate the integration of a particular digital technology or digital interface function into a course at college level.

The second approach is relevant for the present study since the interest relies on the evaluation and experience of implementing three Web 2.0 technologies in the writing process. As will be further discussed, the integration of web technologies in literacy practices, especially second language writing are the ground foundation of this investigation. Literacy practices will not be discussed in this research since its focus is on writing using digital tools.

3.3 Learning using Web 2.0 tools

Recent studies suggest that this new generation of students learn differently from the previous generation, and they are dependent on the Web for accessing information and interacting with others (Briggs, 2009). Social media and Web 2.0 applications offer are promising for use in the educational setting,

and more considerations and evaluation studies are needed in order for "pedagogy 2.0" to be established.

Social technology, also known as the social Web or Web 2.0 includes chats, wikis, blogs, social networking sites where people can easily share knowledge and socialize online. Users in these types of environments become more open to express opinions and receive feedback or take criticism from others (Mondahl & Razmerita, 2014). Because of their low cost, accessibility, and easy to use, Web 2.0 has become the wearable technology that is more appealing than traditional software in teaching and learning environments (Brodahl & Hadjerrouit, 2011).

This technology has changed from being primarily used to distribute course materials, communicate and evaluate, to enhancing educational processes that support collaborative student learning (Maloney, 2007; Nelson, Christopher, & Mims, 2009). Web 2.0 is a kit of tools that are being used for personal social interaction but that in recent years has had active participation in education. Considering that Web 2.0 tools are potent mediators between students and the world around them, educators, may motivate students to continue learning outside the classroom.

Moreover, students use technology to enhance learning, promote creativity, interact with peers and experts, and develop strategies to solve problems. However, different studies argue that even though students are familiar with Internet technology, the so-called "digital natives" (Prensky, 2001), show limited evidence of extensive contributions with Web 2.0 resources, especially in young learners (Buckingham, 2007).

Users of networking tools are no longer passive users; they are active participants that create, support and belong to significant local and global communities that inform, communicate and generate knowledge and content (Perez, 2018). In education, these tools foster collaboration.

3.3.1. Facebook

Facebook (FB) is considered as one of the most popular platforms for social media connectivity and collaboration among students. In a study with university

students Roblyer et al. (2010) found that students are more open using Facebook or similar social network tools to support classroom work than faculty members. Other studies show that students using social network technologies in their academic work are more engaged and involved in different activities such as posting comments, answer questions, support one another and participation in an online community (Click & Petit, 2010).

Facebook is used in educational contexts as an effective and prompt way to facilitate communication between peers and teacher-student despite some arguments on whether it is an appropriate vehicle for formal teaching of learning activities (Lohnes & Kinzer, 2007). Another example is the Web 2.0 video conferencing that provides students and educators the opportunity to interact with experts (scientist, engineers) who can help in making real-world connections with the curriculum. Wang (2010) also reports that web-based learning, supported by learning theories enhance new environments where students can access and share knowledge and resources.

Much has been said with the use of social media in educational settings (Laire, Casteleyn, & Mottart, 2012; Storch, 2011). Facebook was the most used social media network. Nevertheless, studies on Facebook have proven to be successful in literacy practices (Warhol, 2014). McCarthy (2010) suggested that Facebook was the ideal host site for a blended learning environment. In a first-year elective course for 120 architecture students, 95% of participants agreed that the inclusion of Facebook helped them to develop peer relationships. Most (92%) appreciated the interactive discussions with peers in the virtual classroom. This matches the findings in adult literacy classroom where a Facebook page served as a venue for the group's interaction and communication among peers. Additionally, this interaction allowed students to post pictures and videos related to their reading and writing topics (Warhol, 2014).

In terms of writing, Facebook has been a platform for students to write, but this writing is different from the writing done in school for academic purposes since it is more informal in nature. Shih (2011) found that using Facebook for peer correction can result interesting and effective for college level in second

language writing. In the study, students expressed that they were able to find writing mistakes and to correct them easily using Facebook. They mentioned that this accessibility reduced their stress and caused less environmental harm. In another study with EFL students, Facebook proved to be effective in engaging discussions with their peers and teacher regarding grammar and writing knowledge (WASOH, 2014).

Despite the positive experiences reported using social media in education, there are also some drawbacks. In a study by Mao (2014), using high school students' perceptions of social media in education. It was found that participants' use of social media was mainly for leisure and social connections. Even when Facebook was the most used tool by teachers and students, it was reported as an example of poor social media use in the classroom. Students used Facebook to socialize with others instead of academic purposes. Some teachers find it difficult to incorporate social media tools since they can be used for personal purposes and don't know how to evaluate interaction and participation. The National Council of Teachers of English (NCTE), proposes a rubric to monitor interaction among Facebook users. The categories comprise content, graphics, posts, pictures and friend comments. The level of interaction depends on the number posting frequency participants use to communicate an idea and answer or reply to a comment (see Figure 16). Part of this rubric was adapted to monitor interaction in the present study. Interaction is a manifestation of student engagement (Järvelä et al., 2016). Student engagement is an important topic to discuss in this study since is one of the elements that are important in the learning community of practice.

Most participants agree that using social media helps them learn better and be creative; it makes learning "fun, meaningful, and interactive." Fewer participants had the opposite belief; social media is not suitable for learning. Some of the benefits cited by the participants of the use of social media are that they can get help from their peers with homework; they are able to look for information for class projects and work collaboratively. However, they also mentioned that there are many things that can be improved, for instance, using social media for more than just submitting assignments.

3.3.2. Blogs

The term weblog or blog refers to a personal webpage with brief paragraphs on topics expressing opinions, personal diaries entries, and information called posts. These posts are available in chronological order in a journal format, and everyone can see them. Most blogs allow visitors to add a comment in a blog entry (Anderson, Caldwell, & Heaton, 2016).

A scholarship for language education revealed that blogging (the action to write posts) enables students to achieve a range of cognitive and social learning outcomes, as well as developing reflective learning strategies (Birch & Volkov, 2007). There are studies where blogs can serve to take away isolation and anxiety. In a study by (Mcloughlin et al., 2007) participants reported their teaching experiences in a personal blog of 200 to 300 words, they were asked to provide feedback, written and orally, on their peers' posts, and record their experience that was shared later in a debriefing session. Findings showed that it was a positive and beneficial experience for the participants. With this tool, they were able to create an online community that "enabled different forms and levels of mentoring". It also helped them to manage emotional issues during their practicum (Mcloughlin, Brady, Lee, & Russell, 2007).

One characteristic of a blog is that displays a series of entries in a chronological order which feature allows visitors to post responses (Tess, 2013). In L2 writing, blogging provides an alternative to writing assignments. Each student can own a blog, and the chronological order of entries creates an archive for his or her personal work that can be used to receive responses or to self-reflection. In a different study that explored students perceptions of using blogs and wikis in L2 writing, it was found that one of the advantages of blogging is the sense of ownership of their writing, whereas wikis provide the space where students seek consensus and learn to share a community attitude (Kavaliauskienė & Anusienė, 2010). Alsamadani (2018) investigated the effectiveness of blogging for college students' individual and group writing skills. Participants had to write individually and in a group before and after using the blogs to test if it helped with their writing skills. Results revealed that individuals and groups' writings improved in terms of content and style. By being in groups, participants were in

contact with different perspectives, which resulted in more interesting and engaging ideas. One thing that seemed to help them was seeing how blogging writing materials were presented. In terms of language mechanics and word choice, the groups' writing samples improved more than the individual work. In addition, working in a group seemed to have better results than working individually.

Blogs have different pedagogical applications; for example, they can be used to share stories, to reflect about their own learning, disseminate information, or solicit engagement with students, (Downes, 2004). A blog affords a space for students to record and reflect on what they have learned and externalized how they understand it. A blog is a tool which can aid us in remembering and reflecting on what we have learned. It also enables us to share our understanding with others while gathering feedback.

3.3.2.1 Blogs as learning journals

Learning logs or reflective journals are personal records of student's learning experiences. Teachers can prompt these reflections using questions about specific content, assignments, activities, and ideas. These logs can be submitted to the instructor for feedback or can be kept monitoring to enhance the student's perceived learning.

In an investigation about the use of blogs to enhance students' perceived learning in university students, it was found that the majority of the participants reported that their blog experience was positive and enhanced their overall learning, in particular helping them think about concepts outside of the classroom. This confirms the claim that reflecting can foster students' critical thinking skills (Rethlefsen, Piorun, & Prince, 2009). However, even when the overall blog experience was positive, Halic et al, (2010) found that only approximately one-fourth of them valued their peers' comments on the blog (p.211).

The potential use of blogs used as reflective journals have demonstrated to encourage reflective engagement and peer support trough interaction (Hall & Davison, 2007). Moreover, one of the advantages of using blogs in writing as reflective journals is that they allow students to give each other comments and

feedback. It is an unregulated text that captures qualitative information that serves to compare past and present behavior. Holly (1989), mentions that journal writing can include different dimensions of the experience: what happened? What are the facts? What was my role? What did I feel about the task? (p.6).

In a proposed method of creating reflective journals and learning logs in higher education, it is suggested that students capture all formal and informal events which will prove useful when the time comes to return to the reflective journal or learning log for review. The key to reflective journals and learning logs is to see the progression over a period of time and to gain a sense of achievement.

There are different levels of formality in a journal, some can use a structure where the student can set personal targets or negotiate them with the tutor or the tutor can provide prompts to promote reflection, here are some examples of prompts:

Describe the situation (the course, the context): Who was involved with the situation? What did they have to do with the situation?

Reflect, think about What are your reactions? What are your feelings? What are the good and the bad aspects of the situation? What have you learned?

Analyze, explain, gain insight: What was really going on? What sense can you make of the situation? Can you integrate theory into the experience/situation? Can you demonstrate an improved awareness and self-development because of the situation?

Conclusions: What can be concluded in a general and specific sense from this situation/experience and the analyses you have undertaken?

Personal action plan What are you going to do differently in this type of situation next time? What steps are you going to take on the basis of what you have learned?" (RMIT, 2006).

These prompts can help the student reflect and provide some guidance to promote self-awareness in the overall experience or learning. However, student's motivation to write an entry can be influenced by assessment.

Avoiding assessment is suggested to liberate the writer in terms of feeling less inhibited to express their true feelings. But at the same time, when students are expected to produce large written output it is difficult to see how can they achieve that without the incentive of assessment (Hall & Davison, 2007). In their study, Halic et al. (2010), found that some students prefer to read their peers' entries than actually writing their own.

However, one appealing aspect of writing in blogs is personalization. Each blog can have an original design. This feature is well appreciated by users who find it appealing as they can portray personality traits online. Blog owners can enable comments to reply or not. The overall experience in educational settings is positively perceived to promote writing (Godwin-jones, 2008). Although there are some limitations in the implementation such as the informality of the space, time constraints and the limited digital competence from learners (Yunus, Lau, Tuan, & Salehi, 2010). Blogging tends to be more carefree in terms of composing.

In the context of English as a foreign language (EFL), blogs promote self-expression, and cultural awareness. Some studies argue that blogs can be easily integrated in the EFL writing environment through the use of portfolios (Arslan & Şahin-Kızıl, 2010). Moreover, in a study with EFL intermediate students, the use of blogs to enhance writings skills helped them improve their writing performances and was perceived positively by participants (Aydin, 2014). According to Hyland (2003), to identify the different writing genres with specific social contexts helps to complement the process of writing. Some of the genres forms are quite fixed therefore, the instruction of written genres should include *scaffolding* so these strategies can facilitate the writing process especially with EFL students (Boas, 2011). In her study she identified some advantages of using blogs in the writing process, especially in the pre-writing and peer review stages and when the topics selected are relevant for the students (p.7).

The pedagogical affordances of blogs in education, go beyond the tool, for example, blogging entitles editing and typing which are no affordances but enablers of affordances that are embedded in participation and interaction

(Mcloughlin & Lee, 2007). Other affordances include linking texts and multimedia, support group work, sense of authorship and collaboration (Writing & Networks, 2005). For this particular study, the blogs were intended to be used as reflective journals where the output information was used to triangulate the student experience with the web 2.0 tools and promote peer feedback.

3.3.3. Wikis

A wiki space is a platform where teachers can have a private or public virtual classroom. It is a supporting tool for face-to-face learning, using a blended learning approach. Blended learning is a form of multimodality. It is suitable to enforce online collaboration and expose to media and online content. This approach provides learners with online and face-to-face activities to assure the continuity of interaction within the community of learning.

Like any other social networking tool, a wiki provides a medium for the writing process that promotes different stages of collaboration and scaffolding. Learners can help each other in organizing, composing, and revising content and form to ensure a good quality text. Some anecdotal reports show that wikis hold great potential for supporting online collaboration and community building (Lee, 2013).

In a study by Cote Parra (2015), he explored the types of interactions that foreign language pre-service teachers experience while using a wiki as a supporting tool for a face-to-face research course. Participants made voluntary contributions to the suggested activities. These contributions were definitions, brief explanations of research designs, summaries, and personal insights on research papers (p.141). Through these interactions, participants were able to build their knowledge on the class' topics, to learn how to use the wiki, and to improve their foreign language competence. Since they were EFL learners, the wiki provided participants with an opportunity to use the target language naturally, by asking and answering questions (p. 144).

In different studies conducted in university students regarding a Web 2.0, it was found that wikis were the most used platform to develop writing tasks. Also, findings showed that students enjoy and find wikis useful for their writing

assignments (Liu, Wang, & Tai, 2016). In a study with university students in Saudi Arabia using wikis in L2 writing, it was found that choosing authentic tasks, creating a collaborative learning environment and reinforcing collaborative writing was a very efficient way for L2 writers. With the collaborative tasks mediated through the wiki space, the majority of them showed better text, with better grammar, lexis, and content (Khateeb, 2014). Similarly, in a study with preparatory students in Turkey, using wikis for peer editing and commenting on essays. Participants had to submit weekly journal entries answering twelve open-ended questions, and semi-structured interviews, findings showed that they improved their writing skills, and were able to share ideas, respond to critical feedback, and gained confidence, additionally, they were highly motivated (Turgut, 2009).

However, in a study with wikis and blogs in higher education students, Kavaliauskienė & Anusienė (2010) found that participants preferred weblogs instead of wikis in their writing assignments claiming that weblogs were easy to use and edit. Moreover, some students like the fact that they could personalize their blog, adding colors, pictures that reflected their personal style. One of the students mentioned feeling happy that nobody wrote a negative comment on his blog. On the other hand, students reported having many difficulties using wikis. One student reported that wikis are "unpredictable," while others mentioned that the information was difficult to find and edit and that previous entries have disappeared. Overall, the effect of wikis on writing instruction was negative.

The effective uses of Web 2.0 tools in education are still in development. There are diverse forms of teaching and learning supported by the web today. The above are some examples that illustrate some applications of the tools to enhance students' learning. These affordances have helped students to access knowledge easily and share anytime anywhere. Web 2.0 provides an opportunity for educators to facilitate knowledge, engagement, and interactive learning. At the same time, the challenge is to effectively create learning opportunities despite social implication (Al-Mukhaini, Al-Qayoudhi, & Al-Badi, 2014).

3.3.3.1 Effects of wikis in peer correction

Peer correction is also known as peer review, peer feedback, peer response, peer evaluation, and peer assessment (Atasheneh & Naeimi, 2015). In online environments, this is known as e-feedback (Tuzi, 2004; M. M. Woo, Chu, & Li, 2013). Feedback is the activity of reading and providing feedback to each other's papers. This social action is a form of communication designed to accomplish social and learning goals (Hyland & Hyland, 2006).

Electronic feedback or e-feedback is oftentimes related with two conceptions one that is automated feedback received through a web-based application where the writer submits the manuscript and gets immediate feedback, some examples of these applications are Grammarly, MY Access, Check My Writing, among others. Most of these online automated feedback applications only check surface errors such as grammar and spelling at a micro-level. On the other hand, electronic feedback can also be mediated through an artifact, for example, a Web 2.0 tool, such as the wiki (J. Liu & Sadler, 2003).

Peer revisions with wikis as a means of communication and to facilitate different versions of the written texts have demonstrated to be effective in second language writing. Unlike automated feedback, wikis foster students' interaction, self-regulation strategies, and personalized feedback. It also contemplates other aspects besides surface correction, such as culture implication, content, and two directions in scaffolding (Calvo, O'Rourke, Jones, Yacef, & Reimann, 2011). An example of this is a study with Spanish students where peer feedback went beyond assessing language since it focused on the interactions, the camaraderie, and productive scaffolded (De Guerrero & Villamil, 2000).

Other studies exploring the students' revision behavior using wikis, demonstrated a variety of strategies in planning, writing, and revising their essays. Students engaged in both content changes as well as formal revisions; they were able to solve issues and share knowledge (Razak & Saeed, 2015). This supports findings from other studies in which students focused not only on grammatical accuracy and lexis but also on discourse (Donato, 1994; Storch, 2005; Swain & Lapkin, 1998). The type of feedback delivery is important in L2 writing. In a small-scale study by Pifarré & Ros (2011) with seven wiki writing

sessions using the adapted version of (Faigley, L. & Witte, 1981) to measure the type of corrections (see Appendix 6) to support students' use of composition and revision strategies. It was found that a wiki could enlarge young writers' experience of the process of composition and revision both through their own efforts and by observing the process in others. Additionally, he claimed that wikis support students' understanding of the processes of composition and revision. Thus, a wiki environment seems to benefit collaborative writing and promote successful revision behavior.

However, in some other studies that have used wikis as a form of peer correction, it was found that despite that students showed good collaborative skills and enjoyed the sharing of ideas, there were issues such as collective authorship and unwillingness to correct each other mistakes were present (Kost, 2011). From a pedagogical scope, peer review helps raise students' awareness of audience considerations (Leki, 1993), and at the same time, they may help learners develop analytical and critical reading and writing skills (Nystrand, 1989).

There are some educational affordances in the incorporation of Web 2.0 technologies. The term 'affordances' is attributed to Gibson (1979) that used it to describe 'an action possibility available in the environment to an individual, independent of the individual's ability to perceive this possibility' (Hippler et al., 2001). This term refers to the properties and characteristics included in an object, that could be a tool or environment which affords a particular action. For example, a pencil can afford writing.

In educational technology this term has been widely used to explain the potential capability of technology to support pedagogical approaches (Burden, 2012). In his research Burden identifies three Web 2.0 affordances: collaboration, participation and practice, and knowledge construction. It is important to consider these contributions are important in this study since as explained in chapter 2 memberships in Communities of Practice (Wenger, 1998), develop such affordances which are powerful forms of social learning.

The above is consistent with Bransford et al. (2000) description of "how people learn" framework that serve as a foundation for online learning environments.

The four components: student centered, knowledge centered, community centered and assessment centered that are interconnected.

Collaboration in online communities of practice involves social interaction and promotes trust among their members. When members feel they are part of the community, they are able to ask and receive assistance. This form of scaffold helps members to transfer knowledge, skills, and develop competences related to the shared domain. The practice is enriched as a result of the collaboration and active participation and elements such as identity, enculturation, bricolage, are reinforced as a result of this. Moreover, knowledge construction promotes openness, digital expression, narratives and use an application of socially constructed content.

For this particular investigation the above three tools have been considered to be implemented in the L2 writing process and they will have the following purposes in the study: Facebook will serve as a platform to promote students' interaction and communication, Weblogs are going to be used to post reflections as learning journals and the wiki space to upload and revise drafts from the writings tasks during the intervention.

Facebook was chosen due to its connectivity and familiarization. It was important that students felt open to participate in the writing process using the Web 2.0 tools. As a result of the survey this social network tool was the most suitable. The wikis had been a part of academic life in the participants, and blogs were intended as a space for reflection. This multimodality fostered new creativity and to plan, present and drafting and designing (Edwards-groves, 2012), keeping the fundamental writing skills and extend them through the use of technology.

3.4 Understanding the writing process

Writing has different meanings. It can refer to the process of tracing letters on a surface, and also to the system of letters (abstract set of signs) used for recording language (Tolchinsky, 2006). The term is also referred as the process of producing any prose, novels, poetry, and narratives. Even though writing has always been conceived as a structured, sequenced process, planning-writing-

reviewing, it involves the use of many processes and sub-processes (Archibald, 2001b).

Research shows that writing is not a stage process. Flower and Hayes (1981) model sees writing as "non-linear," explanatory, and generative processes whereby writers discover and formulate their ideas as they attempt to approximate meaning. Therefore, planning, drafting, revising and editing do not occur in a linear sequence but are recursive, interactive, and potentially simultaneous, and all work can be reviewed, evaluated and revised, even before the text has been produced at all (Hyland, 2014). In their research, Flower and Hayes used a protocol analysis to be able to identify writing processes and sub-processes, as well as the organization of those sub-processes. Their contribution changed the perception of writing as something linear and sequential, and it was determinant to evaluate writing in a more comprehensive way, not just reduced to the product itself but also the process of text development.
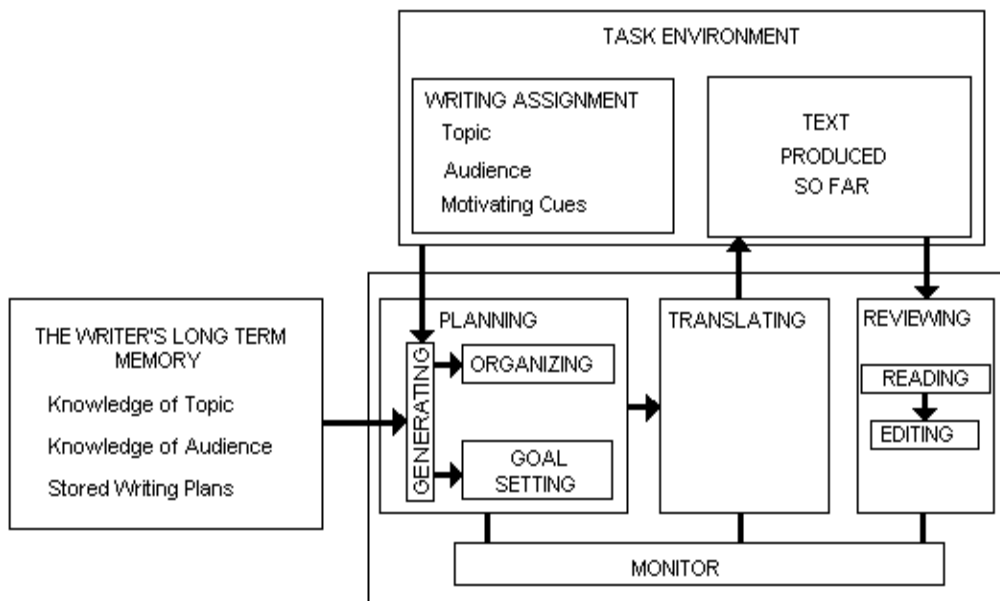
Figure 3: Flower and Hayes (1980) Model of writing

In Figure 3 we can see how the model is divided into three main parts: the task environment, which is the rhetorical problem (the topic, the audience, and the exigency); the writer's long-term memory, which is the knowledge the writer has about the topic, audience and his or her writing plans; and the writing process (planning, translating and reviewing).

The task environment starts with a rhetorical problem, the problem is any given task or assignment, where the audience, topic, and exigency are defined, but it is more complicated than that. It involves not only the rhetorical situation but also the writer's goals and motivation (p.371). In their study, one of the purposes was to differentiate the cognitive process an experienced writer had compared with the novice writer. Using this protocol analysis to collect evidence and support their theory. The results showed how experienced writers set goals and sub-goals and regularly give themselves instructions on how they would like to proceed compared with novice writers. Also, the evidence showed that experienced writers spend more time in the *planning* stage that in the writing itself. In contrast, less expert writers tend to focus more on the task and stylistic aspects. Flower and Hayes argued that writing process is a process of discovery, and that does not end in the planning, but it is a constant when the writer is producing text. In their *protocol analysis, they* established a set of writing tasks where participants had to record out-loud goals, ideas, and thoughts as they were writing, including planning, developing and revising ideas considered for the task. They verbalized anything that went to their minds as they were writing. With all this detailed information on the sub-processes the writer experiences, they created a model that included the following assumptions: first, the process or writing is understood as a set of thinking processes which the writer organizes in a hierarchical order; such organization depends on the goals of the writer.

The way in which the process of writing was seen has changed from seeing it as a linear process into suggesting it is a more flexible process; writers may go from one stage to another whenever it is necessary.

The long-term memory is where writers often retrieve information to generate ideas, this information can be clear and organized, but sometimes this could be dispersed, fragmented, or contradictory. All those elements are comprehended in the writing sub-processes: planning, translating, and reviewing. The planning stage includes the goal setting, generating ideas, and organizing information where established goals in two ways: first by generating high levels or long-term goals and the supporting sub-goals, secondly, by changing or redirecting the

main goals based on experience. So, the writer's abstract plan (representation) of his goals, his knowledge of the topic, and his current text are all actively competing for the writer's attention (p.369); Translating which is putting ideas into writing or transcribe them into prose. The writer's primary purpose is to translate those thoughts into words with meaning, thus, using a formal demand of syntax and lexicon. Finally, the reviewing process, which has two sub-processes: *evaluation*, which provided for specific appraisal of the written text, and can lead to new cycles of planning and translation, and *revision*, which referred to the actual changes. These sub-processes can take place at any time during the development of writing.

However, some authors consider the Flower and Hayes Model poor in some parts, for Zimmermann (2000); the translation phase becomes short in providing details on how the sub-processes are achieved. Moreover, the model contains no information as to possible optional alternatives. He renamed and redefined this phase as the "formulation phase" in which Zimmerman argues that the writing process is not a largely linear sequence of stages but that the sub-processes may occur in a random order for example in repair sequences, during revisions, especially in connection with L2 problem solving (p.84). He considers writing and revision as complementary components. However, studies in language feedback suggest that revision is a complex activity, and that involves so many elements; thus, it should be investigated separately (Hyland & Hyland, 2006).

Another model for L1 composition is Bereiter and Scardamalia's (1987) that explains how cognitive elements are important in the composition process. They explain that humans have the ability to acquire expertise, to develop abilities and generate knowledge. They argue that writing is a skill difficult to acquire, and the levels of such skill may vary between individuals. However, people can also redirect their oral abilities to produce prose. Their study was based on two models. The first comes in a natural way of writing, and it is called *knowledge telling.* The other involves going beyond normal linguistics attributes, and it is normally accomplished by social interaction, this model is called *knowledge transforming.*

Knowledge telling provides a natural and effective way to generate text by putting together all the ideas, phrases in the paper. This becomes a solution to the less expert writers (L1 or L2) who struggle to generate text without external support. They use available knowledge and rely on existing oral production as their source. In the knowledge-transforming model, they problematize the writing topic and then attempt to solve it.

In order to expand in the Flower and Hayes model in the revising aspect, these authors came up with the compare, diagnose and operate (CDO) in the evaluation and revising process in their 1983 model. Most writers go to their mental process of reviewing what they planned to write, instead of the actual text on the page, they explained that when revising, writers first "compare" their mental text with what they have written. Then if they see a problem, they "diagnose" what needs to be changed and, after considering revision options, "operate" on the text to complete the revision (Becker, 2006).

They investigated how participants wrote and reviewed their sentences. They used cards to evaluate and provide comments and suggestions. Finally, the students had to rewrite their writing according to what they feel they feel needed to improve. From this experiment, 74 percent showed that the CDO process made it easy to write. However, the revisions did not show any improvement in their writing.

When more focused on the process of CDO, children used a color code to evaluate essays in seventh-grade children. One color was used when they detected the problem and the other when they were unsure. They used 16 diagnostic cards. Instead of rewriting this time, the students offered suggestions on improvement. Again, their planning strategies improved but did not show any improvement in the writing.

Bereiter and Scardamalia (2013), based all these strategies in the Knowledge Building theory. This theory describes what a community of learners needs to accomplish in order to create knowledge. The theory addresses the need to educate people for the knowledge age society, in which knowledge and innovation are pervasive. They see learning as an internal, (almost) unobservable process that results in changes in beliefs, attitudes, or skills.

On the other hand, knowledge building refers to the process of creating new cognitive artifacts as a result of common goals, group discussions, and synthesis of ideas. These pursuits should advance the current understanding of individuals within a group, at a level beyond their initial knowledge level, and should be directed towards advancing the understanding of what is known about that topic or idea. The theory "encompasses the foundational learning, sub-skills, and socio-cognitive dynamics pursued in other approaches, along with the additional benefit of movement along the trajectory to mature education" (Bereiter, Burtis, & Scardamalia, 1988). Considering this, we can argue that in a social environment, knowledge construction is viable due to the interaction and exchange of the participants. Interaction plays a key role to demonstrate student engagement which is particularly relevant in this study.

Later modifications from the Flower and Hayes original model were created in 1987. They added two new sub-stages, which had to do with the interactions and evaluation process during the revision phase. See Figure 4.
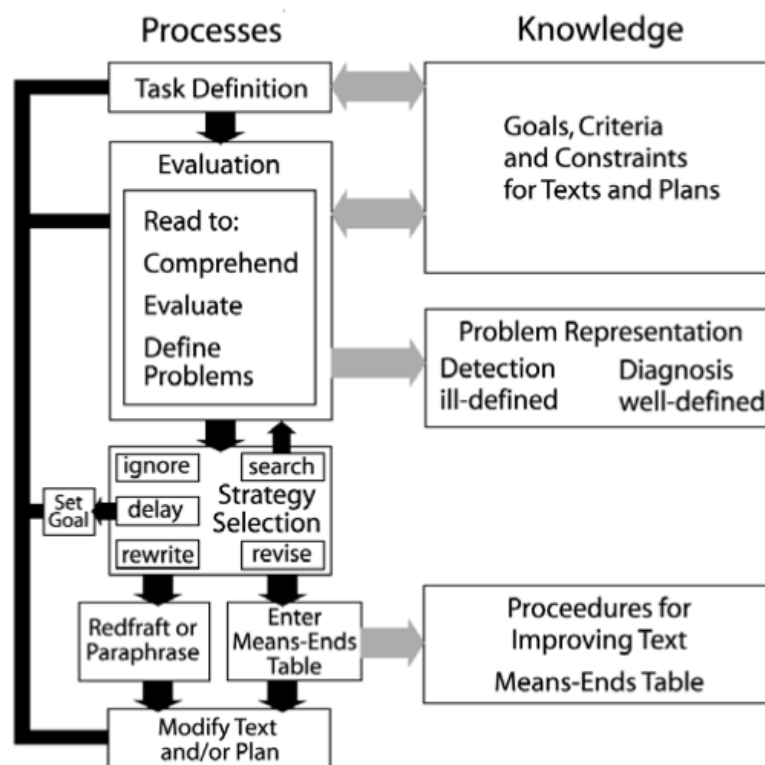
Figure 4. Flower, et al. model of key interactions between processes and knowledge used during revision (24). ©1986 by the National Council of Teachers of English.

From this research, Flower et al. explain that it is evident that the diagnostic skill is often the most important factor in successfully revising texts, both on a surface and global level. In fact, there is an evident advantage an expert writer has over the novice, when following one of the two basic reviewing strategies: Detect/Rewrite and Diagnose/Revise. Choosing the rewrite option is the simplest solution to problematic text but can also overload working memory if the writing task is complex since the writer must juggle various planning and translating ideas before beginning to compose any new text (Becker, 2006).

Kellogg (1996), suggested that the construction of a hierarchically organized outline prior to writing is associated with a higher quality final product than is the construction of an ordered list of ideas and that this, in turn, is associated with higher quality final text than a simple clustering strategy. He saw the effectiveness of the outlining strategy as a consequence of the fact that it enables writers to organize their ideas better prior to writing. It also helps them to devote more resources to formulating these ideas effectively in text. Novice or beginner writers (either in L1 or L2) rely mainly in the knowledge-telling strategy, a simple approach to composition (Khateeb, 2014).

3.4.1 Writing composition in L1 and L2

Different studies have compared L1 composition with second language composition. O'Brien (2004) makes a distinction on two types of learners: the ones who write in a second language within a language in a community and those who have no daily access to the language, therefore, it is considered as a foreign language. For the current study, the term second language writing will be used to describe learners whose first language is not English despite their full or null access to the culture and language outside of the language classroom.

What are the pedagogical implications in teaching writing? First, the level of language proficiency is not necessarily related to the improvement in L2 writing (Archibald, 2001b). However, there is evidence that writing can help improve in different areas. Cumming et al., (1989) support the claim that there is a strong relationship between expertise and competence used in L1 and the quality of L2 compositions.

For second language learners, the free composition was primarily used by reproducing previously learned materials. Thus, writing was considered merely an orthographic representation of speech since letter writing was considered the highest literacy need for most people. Even nowadays, writing represents a need. Recent studies show that literacy skills in the K-12 level show that only 24% of students are met or above the proficient level of writing. These findings have led education systems to swift their approaches looking for an improvement in this area (Graham & Sandmel, 2011). In Latin American countries the approach is similar, the predominant focus is on the productive skills is oral proficiency, although in recent years after research and studies regarding L1, L2 and FL writing, writing has become a beacon in second language learning (Silva & Matsuda, 2003). Therefore, higher education institutions have adopted into the curriculum more second language writing courses to enforce this skill. Authors like (Wolff, 2000) argue that writing is an important tool for learning a language "probably the most efficient L2 learning tool we have" (p.111).

There is a relationship between writing abilities and second language acquisition (SLA). Studies demonstrate that a good L2 writer requires an understanding of SLA in general. Therefore, linguistic competence influences somehow the writing performance (Carson, 2001). Moreover, written composition in second language uses cognitive processes to produce a *comprehensible output* that is integral to their language acquisition (Swain & Lapkin, 1998).

Considering that writing in the first language is a complex activity itself, (Archibald, 2001a), second language writing requires new skills that can even lead to a fundamental reorganization of communicative competence with sufficient level of lexical, syntactic and spelling knowledge in the target language. These become essential for developing text using in the writing process stages and accomplish writing goals as in the first language. Learning how to write is not as easy as the natural process of speaking, writers have to rely on words to express their meaning. Writing helps learners through grammar reinforcement, provides vocabulary and idioms. They also have an opportunity

to expand and go beyond their ideas, so they become more involved in the new language (Raimes, 2015).

In second language composition, there are different theoretical models for writing. These models have adopted some directions developed to describe composing in the writer's first language, the rationale behind this is to examine the processes involved in text production, apart from specific linguistic constraints, and then to apply that knowledge to L2 research (Grabe W. & Kaplan, 1996). In composition studies, it was found and compared similar common elements as the cognitive processes developed by Flower & Hayes, (1981) and Bereiter and Scardamalia (1987). One of these elements is that they adopt a process approach to the description of text production, the different sub-processes such as planning, formulation, and revision interact among them in a recurrent way (Roca de Larios & Murphy, 2001).

Similarly, Börner's model of L2 writing (1987) adopted significant features of the Flower and Hayes model with some additions to the L2 context. He integrates aspects such as the L2 teaching, the learners' background in L1 and L2 (including, for example, genre awareness) and their L2 or interlanguage competence. He does not attempt to differentiate the subcomponents of the translating stage to potential sub-processes. Instead, the model focuses on linguist issues L2 learners need to overcome, such as expression, grammatical synthesis, orthographic aspects.

3.4.2 Differences and similarities in L1 and L2 writing

It was first assumed that L1 and L2 writing were similar processes. Under this premise, researchers began to investigate L2 writing using L1 writing processes as a framework. However, it was revealed than writing in L1 and L2 was not exactly similar. For example, Silva & Matsuda (2003) examined the compositions in both L1 and L2 of undergraduate college students with an advanced level of proficiency in English but from different backgrounds and L1. It was found that in the planning stage, L2 writers dedicated more on time and attention to generating material and less on planning, resulting in an overproduction of ideas that never made it into the text. Organizing ideas was difficult for L2 writers who did less goal setting. The translating stage was more

difficult, less fluent, and less productive. L2 writers spent more time going back to an outline or prompt and consulting a dictionary; pauses were more frequent, longer, and time-consuming. L2 writers wrote at a slower rate and produced fewer words of written text. Moreover, L2 writing involved less reviewing, less re-reading of, and reflecting on written texts. The revision focused mainly on grammar and spelling and less in mechanics. Although Silva found many differences between L1 and L2 writing, in the revision stage, he noted that revision strategies used by the writers were similar in the L1 and L2. For this author, L2 writing process differ remarkably from L1 writing. He argues that one should not be considered as the base for the other.

In contrast, O'Brien (2004) suggests that L1 writing knowledge and strategies are transferable to L2 writing. In this line, early studies that examined the writing process of advanced ESL students found out that experienced and novice writers' understanding, and performance were very similar in L1 and L2 writing process. Experienced writers spent more time planning and revising the text, whereas novice writers spent more time editing the use of language at an early stage of the process. Likewise, Raimes (1985), explored only novice ESL writers, and the results demonstrated that their L1 and L2 writing process were very similar.

Berman (1994) compared the compositions of one hundred and twenty-six secondary EFL learners. They were divided into three groups: the first one received L1 essay writing instruction, the second group received L2 essay writing instruction, and the third group received no instruction. The results showed that students transfer their writing skills from their first language to their second language, and he argues that the writers' proficiency in the target language made this transfer easier.

Another study by Kubota (1998) investigated the patterns used in L1 and L2 composition and whether the quality of the text was affected by those patterns. The participants were 22 university students in Japan. They had to write two essays, one in English and the other in Japanese. They were evaluated in terms of organization and in the case of the L2 writing, language use was considered. Results showed that the writing patterns across half of the

compositions were similar in terms of organization. Kubota concluded that the quality of the ESL writing was affected by the L1 writing ability, the proficiency in the target language, and students' writing experience.

Taking a slightly different approach, Beare, S., & Bourdages (2007) examined the compositions of experienced bilingual writers (ENG–SPN). Half of the participants were native Spanish speakers, and the other half were native English speakers. The purpose of the study was to explore whether bilingual writers employ more language-switching strategies during L2 writing rather than in L1. They found out that bilingual writers use the same strategies when writing in both languages. Language-switching strategies were not extensively used in L2 writing due to their high level of proficiency, and the generation of ideas using the re-reading strategy in their L1 and L2 were significantly similar. However, since the population of this study was rather small, there is a need for further investigation on this matter. In the same study they found that language proficiency was a determinant in the positive effect in the students' composition. In contrast, Silva's (1983) advanced ESL participants showed different levels of writing ability, and in (Van Weijen, Van den Bergh, Rijlaarsdam, & Sanders, 2009), language proficiency had no significant effect on the strategies used nor in the overall quality of the text.

3.4.3 Teaching and evaluating writing

Teaching writing in L2 is one of the most neglected skills due to different factors. Roca De Silva (2014) explains that L2 composing is more difficult, more constrained, and less effective. In general, L2 writers do less planning and have more difficult setting goals and organizing the materials. They also produce a more simplistic structure in the composition.

Researchers have taken as a base L1 writing models in order to explain the process writing in a second language (Zimmerman, 2000; Chenoweth & Hayes, 2001). However, many empirical studies concluded that L2 writing models tend to pay more attention to the translating/formulating sub-process, which includes more a linguistic focus (O'Brien, 2004).

Murray (1992; as cited in Albdelhak, 2014) explains that the process-oriented approach focuses on what the writers need to do in order to accomplish the writing task rather than the resulting product. With this approach, writing is seen as a skill that students need to master through practice with the help of activities such as planning, drafting, and revising. In this case, linguistic knowledge is not the most important aspect of the writing process (Badger & White, 2000). There are three identified stages in this approach: pre-writing, writing, and re-writing.

In the pre-writing stage or planning process, the writer engages in activities such as brainstorming, researching, group discussion, goal setting, and assessing ideas to compile information. In this stage the writer should consider the audience and the purpose of the writing task. Writers access their long-term memory in order to retrieve information that will help them understand and achieve the task at hand. This process may overlap with the writing stage or translation process. Writers may go back from writing to revise the ideas written so far and add or eliminate specific ideas to improve their composition.

There have been many studies that show that skilled first and second language writers spend more time planning and revising the content and ideas instead of worrying about the grammar accuracy Krashen (1984); Zamel (1983); as cited in Barnett (1992). For example, Becker (2006) found that adult learners of German who dedicated some time to brainstorm before writing were able to produce better writings. In addition, other studies have demonstrated that L1 pre-writing activities can facilitate organization and coherence (Friedlander, 1990). On another hand, L2 beginner level of proficiency writers borrow ideas from their L1 whereas more expert writers are rarely refer to their original language, only to prevent any breakdown in their composition process (Cumming, 2001).

In the writing stage, also known as drafting stage or translating process, the writer starts developing the topic of the written text. In other words, creating a draft of their composition. What is important in this stage is to present ideas and link them in a coherent way instead of worrying about grammar or spelling. However, there is not enough information as to how writers translate their thoughts into written language, either in their L1 or L2. Research that

investigates this process uses techniques such as think-aloud protocols or collaborative talk to obtain the data. This writing stage may overlap with the final stage of the process. While putting into written text their ideas, writers may be already evaluating and revising the whole composition.

In the re-writing stage or reviewing process. The writer revises and evaluates the text and makes the necessary changes in terms of organization, syntax, and mechanics until it is ready for publication (Sun & Feng, 2009). It is a complex process that can happen at any time throughout the writing composition.

Writers need to choose appropriate strategies that will help them detect discourse or linguistic issues in the composition. However, writers may face some problems. To detect typographical errors, for example, the writer must be able to process different types of linguistic information (Levy, 2015). Moreover, writers require a good level of reading comprehension for "purposes of reflection, evaluation, or error detection" (Deane et al., 2008). Once they have detected the possible problems, they go back to the text and re-write it. Thus, writers go back to previous stages at any given point in order to assess and correct aspects they believed need improvement. This demonstrates the recursive nature of the process of writing.

In this approach, teachers facilitate the process to students helping them discover ideas, plan revise, and edit. In contrast to the product-based approach, the process-oriented approach is learner-centered. By focusing on the process rather than the product, students have more freedom to express their ideas fluently, without worrying too much about grammar and spelling. On the one hand, Yeh et al., (2014) argue that when students are faced with too many corrections, they struggle to absorb and incorporate them into their composition, affecting the process of writing. However, when students received comments based on the content of their writings, they are more likely to express more interesting ideas and produce more extensive texts.

Ferris (2004), however claims that grammar correction in L2 writing has positive effects. She analyzed several studies that focused on error correction in second language writing and came to a conclusion that, while it is true that there is not enough evidence to support either the efficacy or inefficacy of error correction,

they are helpful to make predictions that may justify its use. She claims that adult learners need the corrections to avoid fossilization and to make progress in terms of accuracy. Students that receive feedback will be more likely to self-correct, and they may appreciate feedback and take it as motivation to improve.

One of the advantages the process writing approach is that students become aware of and gain control over the cognitive strategies involved in writing (Cumming et al., 1989). Another benefit is that students have a better response than other traditional methods (Pennington, Brock, & Yue, 1996). It has been demonstrated that learners improved their performance in terms of the composition length and quality of organization (Gallego de Blibeche, 1993); and students devoted more time on the pre-writing stage, which improves their compositions grades (Akyel & Kamışlı, 1997).

Graham and Sandmel (2011a) meta-analysis of 29 studies conducted with students in grades 1 to 12 reported that the process-oriented writing approach improved the quality of writing of students in general education classes. However, there was no significant improvement in the quality of writing of struggling or at-risk writers (p. 403).

In the context of higher education, Alodwan & Ibnian (2014) results showed positive effects of the process approach in the students writing skills in EFL. Their writing improved in terms of "ideas and mechanics of writing" (p. 152) thanks to division on the stages in the process of writing. In addition, Puengpipattrakul (2014) investigated if the process writing approach was useful to develop students' socio cognitive skills by exploring 24 undergraduate Thai students' writing tasks and their opinions about the approach. Participants were divided into six groups, and within each group, they were divided into competent users and less competent users. Results showed that the writing process approach, through group writing, was useful to improve students' writing skills as well as their socio-cognitive skills. It also helped with changing the learning atmosphere in the classroom from competitive to collaborative, and students became more aware of their learning process.

3.4.4 The social aspect of writing

Cognitive models of writing had placed writing as a solitary process where writers struggle with their thoughts. Some of these theories had implications in the way writing was taught. It was argued that learning to write required learning to produce "autonomous" texts (Kroll, 1981). However, during the eighties, these ideas were confronted, viewing language and writing as a more social and interactive process (MacArthur, C. A. and Graham, S. & Fitzgerald, 2008). Even Flower and Hayes, in their cognitive model, argued, "What is missing here is the connection to social context afforded by the recognition of the dialectical relationship between thought and language (p.223). Moreover, (Faigley, 1986) argued that in a language community, people acquire specialized kinds of discourse competence that enable them to participate in specialized groups.

Scaffolding techniques in Vygotskian (1978) view is that cognitive processes can be inherited from the interaction between the less expert writer with the more expert where both combine their resources. In this, the novice takes the role of writing, and the expert provides support and ideas and helps with revising, all this supported by a social plane (p.209). From an instructional perspective, the teacher provides the setting and serves as a facilitator leaving the students in the role of experts and requires them to solve problems, make decisions about the text, and negotiate. However as mentioned in Chapter 2, the teacher can provide scaffolding when directing the activities and modeling. At the same time, the teacher creates the space so students can interact and get the benefit from their peers as well as from the instructor. Working with peers helps students externalize hidden concerns or fears and makes them more transparent during the interaction (Wong, 2006).

Interaction is a common element enhanced by collaboration. Collaborative learning environments urge students who are working alone to achieve their assigned roles

as they interact with their peers and practice negotiation, interdependence, and construction of knowledge in a shared task or product (Augustsson, 2010).

3.4.5 Collaborative writing

Collaborative writing is the collaborative learning principles used in literacy practices. One identified benefit of collaborative writing is that students can observe how other peers think, and they can adopt others' thinking strategies and writing styles (Dale, 1994). Collaborative writing can also be understood from the view of Wenger's (1998) communities of practice where mutual engagement is fundamental for a learning community.

Research has shown that L2 writers tend to revert to L1 when composing in the target language (Roca de Larios et al., 2001), especially during collaborative tasks. In a study conducted with university students in Malaysia, it was found that during the process of collaboration, students were able to learn how to write from their peers, share knowledge and deal with decisions and disagreements (Yong Mei Fung, 2010). It is important to keep the motivation among the group members despite their language abilities.

Some of the challenges related to collaborative writing have to do with equitable distribution of responsibilities among participants, the assumptions of writing skills that depended on the background of each one of the members, that could lead to anxiety and negative aspects while collaborating (Khateeb, 2014). This is important when designing the activities and roles in a collaborative environment.

In online learning environments collaboration is facilitated through the incorporation of technology in the learning process. New technologies forms of writing bring opportunities to develop cognitive skills and social interactions, but the actual effects of the technology depend on complex interactions among the technology, the social context, and individual users (Coiro et al., 2008). When incorporating writing and technology into the language classroom, some studies have demonstrated that students with a high digital competence show a positive attitude regarding digital tools (Brodahl & Hadjerrouit, 2011).

Incorporating digital resources for learning is essential to contemporary education because of the eminent presence in everyday life. Technology will always change the nature of literacy practices in society, considering the

cognitive and social skills needed to become fully literate. We can think of writing itself as a technology, a combination symbols and various physical means of production, that makes it a possible representation of language (MacArthur, C. A. and Graham, S. & Fitzgerald, 2008). Writing enhances the development of more abstract thinking, but the actual impact on cognitive processes depend on the social context of use. This general principle applies to new technologies as well.

In the case of higher education, a study of wiki-based collaborative writing found that students' perceptions were positive in regard to the online learning environment. Elements such as mutual engagement and peer assistance were present and perceived as effective in the process of writing. Additionally, findings show that collaboration in online environment using Web 2.0 can take away fear and bring confidence in student's work, (Chao & Lo, 2011). These findings match with other studies by (Chen et al., 2005) that introduced the use of blogs and wikis in an engineering course in the form of e-portfolios and reflective writing. The study reported that the integration of both tools increased the engagement of the students and enhanced their learning.

Collaborative writing is a strategy that is important in this research because it provides key elements to explore in the learning community during the production of text. Looking at the characteristics of experienced writers in terms of providing assistance to less experienced writers, and to analyzed if through collaboration this exercise of producing text becomes an activity of discovery. Moreover, through the wiki space and other social networking tools, it is easy to monitor the constant revising and editing phases each text is exposed by the members of the community. The educational affordances of using technology in online environments include the interactivity as one of the five components to contribute to the success and pedagogical quality (Mao, 2014). According to Gagne, Wager, Golas, & Keller (2004), technology affordances are "the properties or functions of technology that extend our learning and perceptual capabilities" and they can be economic, social, cognitive, or affective. Web 2.0 tools have an interactive nature that can enhance social interactions and increase quality engagement (p.2). In this study educational affordances were

considered in the instructional design in the intervention chapter and discussed in the final part of this research.

Summary

The topic of this research has been inspired by several disciplines: learning and technology, digital literacies practices, the process writing approach, L2 writing, collaborative writing, and digital tools. The intention in the sections and sub-sections is to provide some insight on how the new literacy practices in writing have become more socially connected by different web tools. Based on the reviewed studies, it has been shown that Web 2.0 tools have been positively adopted in educational settings. Moreover, these practices and experiences have re-shaped traditional writing instruction and the role of the teacher and students in the process of learning. Detailed literature shows how wikis, blogs and Facebook bring importance to the social aspects of writing during the interaction with peers and are then beneficial in the overall writing experience.

Chapter 4. Methodology

4.1 Introduction

This chapter introduces the framework of the research design in relation to this study of Web 2.0 in second language writing. A mixed methods design was selected for this study since it provides a more comprehensive data collection and analysis procedures from both strands of qualitative and quantitative data (Creswell & Clark, 2007). The design, methodology and methods were chosen in alignment to the aims of the study. One of the primary purposes of the study is to enhance students' collaboration and engagement in the L2 writing process using web tools in a blended learning context.

In blended learning environments models for learning communities such as communities of practice Lave & Wegner (1991) or communities of inquiry developed by Garrison, Anderson and Archer (2001) have served as frameworks for a large number of studies that examined social interaction, the element of "presence" as it relates to cognition, and its relation with student's physical presence in face-to-face contexts and his/her presence in instruction mediated by technology (wikis, blogs, Facebook groups). The theoretical basis

for this study are the sociocultural theory and constructivist approaches to learning (Vygotsky, 1978) in the Communities of Practice. These theoretical frameworks are important since in they envision learning as a social action, which are precisely the foundation of collaborative learning.

According to research, effective learning environments include three important factors: they are student-centered, knowledge-centered, and community-centered (D. H. Jonassen, 1991).The community-centered lens includes the social component that is relevant in this research since it considers how students can work together in an online learning context to create knowledge collaboratively. In learning communities, it can be observed how members of the community both support and challenge each other to effectively construct knowledge. Observations then are made about the extent students contribute to the social network groups, interactions and comments on material, how they respond to questions and their reflections on practice.

4.2 Research Questions

1. How students perceive the use of web tools as part of their learning?

2. Is there any evidence of building a learning community or the development of a community of practice in student's work?

3. How does the use of web 2.0 affect students' engagement in the classroom?

4. How does collaboration using web 2.0 enhance writing skills?

5. Is there evidence of text improvement as a result of collaboration?

The research questions in this study are related to the aspects discussed in the literature and they are linked to one of the main aims of the current research project which is to explore engagement, collaboration and knowledge construction with the use of web technologies in L2 writing. The original research questions were more focused in the writing process, however, as the project developed different theoretical issues emerged as of importance of engagement, community of learning, and collaboration that became more evident during the project. The theoretical perspectives were important to design of the methods and analysis to answer each question. The three main areas the RQs are focused on are the web tools in relation to learning, the

learning community formation which deals with engagement, participation knowledge sharing and finally, the text improvement as a result of the experiment was important to determine whether this new approach to teaching writing resulted an effective way for instruction in higher education settings.

4.3 Theoretical perspective

The researcher uses epistemological assumptions that lead the actions for finding knowledge and has some influence on the methodology and methods of the research process. These assumptions influence the way certain phenomenon can be perceived or studied (Denzin, 2000). Social theories can be studied in multiple variants; there are basic beliefs in positivism, which is one of the central components on social research (Ritchie, J. Lewis, 2003). Science is given in what is observed by direct experience, this scientific observation in social context argues that no social fact can have a scientific meaning unless is connected with some other scientific facts, so in experimentation, positivists study the events and measure them in an orderly way, then they make comparisons all these under a principle of verifiability. This methodological approach relies in the deductive logic for testing hypothesis and the ability to be replicated (Khateeb, 2014).

Constructionism in the view of Berger & Luckman (1966) argue that all knowledge, including the most basic, common sense knowledge of everyday reality, is derived from and maintained by social interactions. Therefore, meaningful realities are contingent with human practices, being constructed in and out of interaction between human beings and their world within their social context (Crotty, 2003). For constructionists meaning is not discovered but constructed by human beings as they engage with the world they are interpreting. Therefore, instead of focusing on the individual mind, the collective generation of meaning is shaped by conventions of language and other social processes (Gergen, 1996). It is a deductive approach that relies in interpretivism, it argues that all research is interpretative (Denzin & Lincoln, 2000, p.19), thus, reality is assumed by a set of beliefs on how the world should be understood; what is unique about human nature since it conceives knowledge as something that is socially constructed; that is to say, reality is

being continuously constructed through observations and the pursuit of knowledge (Cohen et al., 2000). It is determined by social context and constructed out of interaction between human beings and their world (Crotty, 2003; Pring, 2000)

The development of themes and categories into patterns, theories, or generalizations suggests varied end points for qualitative studies. For example, in case study research, Stake (1995) refers to an assertion as a propositional generalization-the researcher's summary of interpretations and claims-to which is added the researcher own personal experiences, called "naturalistic generalizations" (p. 86). As another example, grounded theory provides a different end point. Inquirers hope to discover a theory that is grounded in information from participants (Strauss & Corbin, 1998). Lincoln & Guba, (1985) refer to "pattern theories" as explanations that develop during naturalistic or qualitative research. Rather than the deductive form found in quantitative studies, these pattern theories or generalizations represent interconnected thoughts or parts linked to a whole.

As interpretivism is part of a qualitative methodology, the methods used in this research were designed to discover the participants perceptions using web 2.0 tools in the process of writing, to explore through different writing tasks and instruments of qualitative research such as focus groups, learning/reflection journals, levels of engagement, participation, identity and collective learning. There are some instruments that are of a quantitative nature, such as the initial survey, the rubric to evaluate the text production but these were used mostly as complementary to the qualitative ones as one phenomenon can be studied from different perspectives.

4.4 Research Methodology

This investigation uses and values multiple perspectives such as learning as a complex social activity (see section 2.5). Using one approach is not sufficient, therefore, the researcher includes the mixed methods paradigm that combines quantitative and qualitative methods to provide a comprehensive view of the problem under investigation. As mentioned previously in Chapter 1, this multi-method approach includes some elements of Action Research (AR). Action

research has been defined as "a comparative research on the conditions and effects of various forms of social action and research leading to social action" (Lewin, 1944). It also aims to provide a solution to an educational, community problem or issue. This is done by practitioners in educational contexts.

According to Burton and Bartlett (2005), educators or practitioners are concern with an identified issue in the field of education. In this study, the problem identified was the lack of engagement for learners in the L2 writing process. An improvement in this process was sought by adding technological tools to enhance and facilitate learning. Initial data collected served to diagnose and to further implement an action plan. The first cycle elements of AR in this study helped to design the tasks activities during the intervention. Critical reflection was present, with the participants contributions through blog entries and focus groups as explained in further sections of this chapter.

The action research process includes identification of the problem, set up a plan of action, implementation, evaluation and reflection (Carr & Kemmis, 2009). These elements generally can be completed using a cycle. In this study, the instructor/researcher based her decisions after the completion of the first cycle. This helped to design the activities and strategies implemented during the CoP model of L2 writing.

4.4.1 Mixed methods and action research

Mixed methods research seeks to provide a more comprehensive answers to the research questions. The integration of mixed methods with action research may help "provide a comprehensive assessment of the problem, develop a more solid plan of action and conduct more rigorous evaluation of the action/intervention implementation through informed integration of multiple data sources" (Ivankova & Wingo, 2018). Action research can be considered the focus of the insider since practitioners use it within their communities, Herr and Anderson (2005) argued that this insider view may create challenges due to the openness as insider/outsider researcher, therefore, a good solution to this can be to bring both perspectives to the inquiry process, since AR should always be collaborative and participatory, especially in this mode of teaching (Picciano, 2015).

Some of the advantages of using mixed methods in AR are that it can establish a scientific methodological framework where each step is treated as an individual phase of the research processes and at the same time, it creates boundaries between the initial and ending phases. In the first **diagnosing phase** the practitioner/researcher needs to conceptualize the problem and rationalize the way to investigate the phenomena. In this case, using mixed methods can aid providing both strands of data. For the **Reconnaissance** phase where a plan of action is developed. Both qualitative and quantitative (factor analysis and focus groups) data help on the design of the intervention and generated more through interpretations of the assessment results. During the **acting phase** collections of data were made from the entries, the discussion in the groups, and samples of texts in the wikis that helped during the **evaluation phase** to integrate a more comprehensive interpretation of the findings to make decisions for further research and to refine in a more depth certain aspects that were important in this investigation. An example for this is the student's engagement which was studied in detailed and provided a richer data in the study. Performing certain elements of AR using mixed methods helped with the overall conceptualization and comprehensiveness of the data. There are empirical studies called mixed methods action research MMAR that is more systematic and provides methodological steps that could be explored in the future.

4.5 The practitioner/researcher

Since the researcher also was the practitioner, several considerations were taking in account to not affect the validity of the findings. In blended learning educational approach, the role of the instructor changes from the main participant with passive learners to the role of a facilitator making the student's centered learning the main focus of the intervention (Graham, 2006). Due to the nature of online environments, the main role of the instructor was facilitating student participation and learning according to the learning objectives of the course. This was done by providing prior training on the web tools and creating the learning spaces. Once the intervention stared, interactions of the instructor with participants in synchronous environment, were about the clarification of the assignments, resolving general questions and concerns.

During the asynchronous activities, the role of the instructor changed as a researcher observer non-participatory. The researcher had access to the social network groups and blogs but did not participate or post a comment in the groups. This was important to ensure validity and to not affect participants during the process.

Involvement in the intervention was too little in terms of instructor orientation to student's actions. The tasks selected allowed student's interaction more freely and with little to no support from the instructor. This was important in the instructional design to ensure research ethics and validity.

Other instructor tasks were to download completed assignments though the final scores were announced after the intervention. To ensure validity several steps were undertaken by the instructor/researcher:

1. All participation and interaction with the use of the web 2.0 tools were un-assessed and did not have any effects in the participant's final scores.

2. The face-to-face sessions were used also as a space for collaboration and working in groups the instructor was there to monitor student's participation but not to actively participate in their discussions.

3. Using un-assessed tasks as they were used for research purpose only and did not affect the learners' grade.

Being a researcher and instructor at the same time might bring some limitations and ethical dilemmas, as to what extent the influence of the instructor might affect the findings. Yet several actions were considered to minimize any possible influence as above mentioned. The researcher was the most suitable person to conduct the experiment as she was familiar with the context, and the learner's experience. This type of action research collaboration was important to establish a suitable environment for learning where participants felt free to interact with their peers. This became important when designing the activities during the intervention.

There is always a concern with qualitative findings in terms of validity, but as Agar et al., (2004) argue, the qualitative data collection with the in-depth contributions on a personal level from participants provides enough level of

validity and reliability. To ensure validity in the qualitative findings, the researcher used sentiment and network analysis to triangulate the findings see section 3.8.1.7, as well as other sources of data since mixed methods in action research help enriching credibility and validity in the study from an informed integration of both qualitative and quantitative data sources (Dick, Stringer, & Huxham, 2009).

4.6 Research ethics

Ethics in social research are codes of conduct based upon a set of principles that need to be observed by the researcher to take appropriate precautions. According to Robson (2002), there are several questionable practices in social research: involving people without their knowledge or consent, coercing them to participate, withholding information about the nature of the research, invading their privacy, not treating participants fairly, or with respect (p.33). These ethical dilemmas need to be taken serious by the researchers performing studies in their own institutions. In order to address those issues, in this specific research, a consent form was delivered to all participants (see Appendix 1) and filled out previously to start the investigation. They were informed of the nature of the research and were willing to participate.   This was important to make of their knowledge the purpose of the study, their rights during the intervention, and validate the data collected by the instructor/researcher.

Other ethical considerations were undertaken as anonymity was important. Frankfort-Nachmias (1992) describes the need for confidentiality of participants´ identities. A participant is considered anonymous when the researcher or another person cannot identify the participant from the information provided (Cohen et al., 2000). To ensure participant´s anonymity, all names, embedded in social media in this study were taken out or covered so that participants' identities were protected. These ethics considerations were applied throughout the intervention, the data analysis and the findings. To achieve anonymity, participants were assigned a code or number to avoid exposure. The files with participants´ information was password-protected

Research ethics in online environments encounters difficult issues that need to be considered such as confirming the authenticity of the respondents and

responses (James & Busher, 2007). In tasks of digital writing. For example, the researcher must determine what is public or private in online settings. Is all online information to be considered as "text"? Also, the view of the internet as a place or a space? If it is a space the researcher must consider location, author, rights. Is it is seen as place then the term community are more appropriate? The object of study is the text or the person? And to what extent the researcher interacts online with participants. Considering the above, the following section details the role of the researcher/instructor.

4.7 Process for data collection

The research consists of three stages: preliminary phase, which is a diagnose initial survey to determine some characteristics of the students in regard to usage of Web 2.0 tools, occurrence, and application, as well as the skill level. The second stage consisted in two focus groups, one performed just after the first writing task, and one almost at the end of the intervention. A class observation and the learning logs from the students as well as the written texts. They with the objective to examine university student's interactivity in an online community to analyze levels of engagement, knowledge building and sense of belonging through participation and contribution. It is a longitudinal study where there is an intervention with the different stages previously mentioned.

Table 1: Process for data collection

Initial phase	Second Phase	Third phase
Initial survey	Writing tasks using a wiki online writing media	Student's reflection Sentiment Analysis Network Analysis
FB Groups creation	Focus Group 1	Focus Group 2
Learning blogs		

The research design in this investigation considers both quantitative and qualitative paradigms of research methods in applied linguistics. Both qualitative and quantitative methods are used to embellish qualitative finding (Steckler, McLeroy, Goodman, Bird, & McCormick, 1992). The triangulation design model as part of the mixed methods or multi-method design is used to validation purposes and gain complementary information on the phenomenon of study.

4.7.1 Case Study

Case studies use detail information about a particular participant or a small group of participants than a large group representative of a much larger group or society as a whole. Case studies recognize and accept that there are many variables operating in a single case (Cohen et al., 2000), and they generally require more than one tool for data collection. The case study is about student´s level of engagement, participation, and collective knowledge generation using collaborative writing Web 2.0 technology tools. The case study is based on a series of research questions and uses both quantitative and qualitative data collection methods. The case study draws from a theoretical framework associated to learning theories and linking them with Web 2.0 technologies. The case study includes students from a higher education context in northern Mexico.

This method was chosen because it provides a suitable context for the research questions and explores certain elements that according to the literature review are fundamental in building a community. The methods used to collect both quantitative and qualitative data and their triangulation to achieve validity were aimed for an adequate understanding on the elements involving collaborative Web 2.0 writing tools in achieving student´s engagement, participation and knowledge generation.

Even though, there are a lot of potential for Web 2.0 in higher education, there has been limited empirical evidence regarding the social aspect of the Web 2.0 in collaborative activities. Thus, the importance of this study, sought to investigate how emerging Web 2.0 technologies can foster student's engagement, participation and knowledge generation considering the online community of practice.

4.7.2. Triangulation

Triangulation refers to using more than one method to collect data on the same topic (Morse, 2003); this is a way of assuring the validity of research through the use of a variety of methods. It involves different types of samples as well as methods of data collection. However, the purpose of triangulation is not only to

cross-validate data but rather to capture different dimensions of the same phenomenon (Denzin & Lincoln, 2008).

The intent in using this design is to bring together the differing strengths to cope weaknesses of quantitative methods (large sample size, trends, generalization) with those of qualitative methods (small N, details, in depth) (Patton, 1990). The design used a sequential QUAN – QUAL design. The first part of the analysis deals with the quantitative part of the study and the second part with the qualitative data.

This design and its underlying purpose of converging different methods have been discussed extensively in the literature (e.g., Jick, 1979; Brewer & Hunter, 1989). This design is used when a researcher wants to directly compare and contrast quantitative statistical results with qualitative findings or to validate or expand quantitative results with qualitative data see Figure 5.

(a) Triangulation Design

QUAN		QUAL

Interpretation based on QUAN + QUAL results
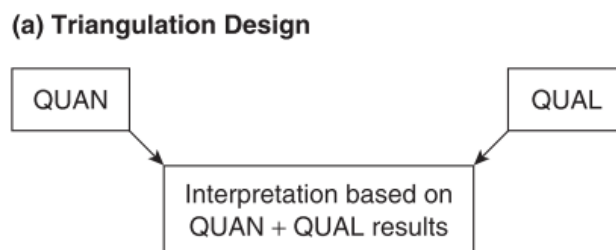
Figure 5: Triangulation Design (Source: Creswell, 2006 p. 65)

The triangulation design for data is distributed as follows:

Table 2. Data collection methods according to approach

Quantitative	Qualitative
Initial Survey	Focus Groups
Facebook Interaction rubric (adapted)	Thematic Analysis from the learning journals
Writing rubric	Network analysis
Pieces of writing	Sentiment analysis

In this study, qualitative methods were used to provide a better understanding of the participants' perceptions towards collaboration in online environment with L2 writing tasks. This was important in the study to 1) understand to what extent

participants were aware of their own leaning, 2) to what extent they feel that collaboration help them to improve their writing skills, 3) to explore whether participants were engaged in the different tasks and 4) if they able to create a community of learning.

Quantitative methods were also adopted in this study to provide support with the following 1) exploring previous experience with technology in the classroom using an online survey, 2) classifying the forms of interactions from the Facebook groups, 3) to evaluate the pieces of writing produced during the intervention.

4.8 Data collection methods

To better understand and answer the research questions presented in this study, Table 3 exhibits the research questions, the data collection source and the method to analyze in order to answer the questions.

Table 3: Research questions and methods

Research questions	Data Source	Analysis Method
RQ1 Perception of learning using the web tools	Logs from the personal blogs, Initial survey	Thematic Analysis using Nvivo 12, Factor analysis
RQ2 Evidence of building a learning community or CoP in student's work?	Logs from blogs, Focus groups	Content and Thematic Analysis Sentiment Analysis
RQ3 Web 2.0 and students' engagement in the classroom?	Logs from blogs Facebook interactions	Network analysis Facebook rubric
RQ4 How collaboration using Web 2.0 enhances writing skills?	Initial survey, logs from blogs, FB interactions	Factor Analysis, Content analysis, Facebook rubric
RQ5 Evidence of text improvement through collaboration	Texts produced during the tasks Logs from the blogs	Writing rubric Content analysis

The data collection took place over the period of the 12 weeks course. The design of the course was divided into three main learning activities or writing tasks, during which the students were asked to work in: a) classroom (face-to-face, online) b) computer lab (both face-to-face), and c) home (online). During these learning activities, they work both individual and collaboratively. The study focuses in three main phases for the completion of each task.

4.8.1 Instruments

4.8.1.1 Survey

A combination of qualitative and quantitative data collection methods was used, to document the initial phase; there was an initial survey to explore students´ demographics, perceptions, digital competence, frequency, and the use specific Web 2.0 tools in the academic context. It was an online survey since students are familiar with online content and platforms. It was administered using Google Forms. Since it was an online survey, anonymity was considered so that participants' responses would be treated confidentially. This survey served as a reference for the future intervention planning. The survey was open to responses for 3 days. Using the Analytics of the platform, there was a general summary of responses from each item. A total of 21 respondents were documented. Some stated benefits in other studies similar to this one using a web-based survey are:

- Low cost compared with paper printing/copy.

- Human error is reduced when entering or processing data.

- Time saving, friendly interface to answer and send promptly.

- Reduction on researcher analysis time.

- Higher response rates.

- Respondents can answer over time.

  (Watt, 1997; Dillman 1991; Glover and Bush, 2005)

The survey had a five-point Linkert scale: Strongly Agree, Agree, Neither Agree or Disagree, Disagree and Strongly Disagree) divided into three sections (see Appendix 1). In the first section, students had to state their own digital competence, to what extent they have worked with these digital tools, elements of collaboration with peers in academic assignments and reflection. The second section was about skill level, estimating how often the students performed certain tasks using the Web 2.0 tools was estimated with three categories: Very Skilled, Moderate Skilled and Basic Skilled; the frequency of use in the three main Web 2.0 tools (wikis, blogs and FB groups) use this range: from 3-5 times

a week, 1-3 times a week, and Almost never. At the end, there was the Sex category and Age Group category: 17-19, 19-21, and 21-24. This survey format was adapted from a survey elaborated by Brodahl, Hadjerrouit & Hansen, (2011). Although the survey they used was focused on some other skills and items in collaborative writing.

4.8.1.2 Phase 2 & 3 Focus Groups

A focus group is part of social research and there are many definitions. (Powell et al. (1996) define a focus group as "a group of individuals selected and assembled by researchers to discuss and comment on, from personal experience, the topic that is the subject of the research", learning about people's experiences and perspectives (Morgan & Krueger, 1998). It is a form of qualitative research where there is a moderator who guides the conversation of a theme or issue for analysis, (Krueger, 1997). The purpose of the focus groups was to form the initial basis for the object of study that would then be validated in the cluster analysis. The focus groups contribution to this study was to inquire into the students' experience with the new tools, their challenges and benefits they sought out during each one of the tasks.

In focus group 1 participants were given a prompt (RMIT, 2006) to consider their experiential use of the writing Web 2.0 tools, just after participants completed the first writing task. Participants were given a choice to respond entirely in their L1 (Spanish), in English or in any combination of the two, and the researcher-instructor served as a moderator. The focus groups are suitable for participants to express freely on a theme (Finch and Lewis, 2003), this study provided the opportunity to collect additional data with regard to participants experience using the web 2.0 tools, their benefits and/or challenges as well as the opinions on their use in a second language writing activity. Since the moderator provides an atmosphere of trust and encouragement to converse or discuss, participants felt comfortable sharing without deviating from the topic.

The second focus group took place almost at the end of the intervention. It was intended to conciliate or re-think assumptions and enrich the experience through reflection and exchange of ideas. The second group was made of seven participants, both groups were mixed (female-male), and follow two types

of strata (one for the writing experience using technology) and the community but both conversations were recorded using an Android phone as the main device. The audio was transcribed and translated into English, it is important to mention that participants were felt comfortable speaking in their native language, although they were prompted to speak in English. Once the participants started responding to the questions, they soon switched to Spanish to better express themselves. Therefore, the scripts of both audios were transcribed into Spanish, and later translated into English (see Appendix 5). The data collected from these two groups will be used to partially answer some research questions, and triangulate information.

4.8.1.3 Interactions in social networking

There have been studies that examine how social media websites, and Facebook in particular affect´s students EFL learning (Conroy, 2010; R. C. Shih, 2011). Using a blended learning model, some researchers found that students´ entries or posting of their English writing assignments, facilitated their peers' work, and feedback, it also showed significant improvement in paragraph organization, vocabulary, spelling, grammar, and content (Kao & Craigie, 2014). Moreover the "like" feature in the Facebook expressed appreciation for other´s work and/or participation (p.18). Other studies showed that participants enjoyed using these social media tool to organize ideas, thoughts, facts, and promoted discussion, negotiation, comments and questions (Mazer, Murphy, & Simonds, 2007).

Many reports show that Facebook is the leading social network embraced by professionals and students (Edwards-groves, 2012; R. C. Shih, 2011). The social media groups in this particular study were created with the purpose of having an online venue to interaction and participation. Facebook was chosen because in the Initial Survey, respondents demonstrated a high level of frequency of use, familiarity with the tool, and the instant connectivity were some of the factors to determine its use for the writing activities planned. In the writing process, the FB group was intended to easy the writing planning stage, however it was used throughout the entire intervention during all stages of the

different tasks. The plan to see the interaction among the members of the social network group was through classification according to the type of contribution.

The FB group was not public, but every team granted access to the researcher. This type of informal scenario, served for information exchange, posting articles to help on their task. It was observed a high activity rate of its members. There was a total of four FB groups that changed in every task. The reason for this was to foster collaboration in a diversity range of students, despite their affinity for working together.

The rubric used to evaluate students' interaction within the FB group was adapted from the rubric of the NCTE standards for literacy. The rubric used for this study has the following criteria:

Table 4. Facebook interaction rubric

CATEGORY	5 Fully Engage	3 Somehow Engage	1 Little to no interest
Posting Frequency	Posts on wall five or more times on a weekly basis using the target language.	Posts on wall 3 times on a weekly basis using the target language.	Posts on wall 2 or less times on a weekly basis using the target language.
Response Frequency	Responds 5 or more times to 5 different classmates' posts, including but not limited to comments on your post in the target language.	Responds 3 times to other posts	Responds 2 or less times to other posts
Message Content	Posts are continually unique and relevant to the task. It posts media material, articles, videos, etc.	Posts are usually unique. Adequate level of detail and creativity. Generally informative	Response provides little to no information.
Participation As doing	There is a cognitive and socio-emotional participation, it shows interest in other people´s contribution, negotiates, discuss content.	It posts "likes" as a sign of interest and appreciation but does not go beyond that.	Rarely post anything of his/her classmates work.

The frequency in the posting reveals consistency in social interaction among the members of the teams during the activity. This interaction is classified by frequency, of posting new content, responses to peer's posting, the type of content, and interest manifested through emojis and other forms of appreciation to the peer's work.

In a collaborative situation with sociability tools such as Facebook, interaction is an observable way to measure student's engagement (Järvelä et al., 2016). Social network analysis looks into how people interact and relate to each other

in their social networks. This analysis is derived from the network theory (computer science) that explains that certain conducts can be better understood by diagramming and mapping how people or groups share information or interact (Prell, 2012).

4.8.1.4 Learning journals

Reflective journals are personal records of students' learning experiences. Entries in journals and learning logs can be prompted by questions about course content, assignments, exams, students' own ideas or students' thought processes about what happened in a particular class period. In the forms of online journals, blogs have been used to create and share content in the web. One of the key benefits of using blogs as a reflection or learning journal is that they provide the opportunity to personalize their own blog, the ability to comment on what they wrote, and externalize it as how they understood the task, felt about it, and perhaps a personal action plan (Homik & Melis, 2006).

In this particular study, the blogs created in WordPress served to reflect on student´s practice. They were able to express the process they followed to generate texts, their feelings, the experience of working with other classmates, the challenges and describe their experience.

4.8.1.5 Reflective/learning writing

Before commencing each assignment, training was provided to students on the use of blogs for academic purposes. Even though, only a very few participants were active users of blogs, everyone showed to be enthusiastic to learn about it. The first step was to open an account in WordPress. Prior to this, they received six hours of preparation in the use of this tool. In addition, they received training on reflection writing. The first stage for using a blog consisted in the first writing tasks (see lesson plan 1), students had to analyze different texts and be able to write a 500-word post in their personal blog. The content must have been original and according to the task. This activity was individual on nature, but as it was posted for all to read, their classmates were able to provide feedback or comments.

The intention of this first learning activity was to familiarize the students with the use of the blog, to build confidence and provide a learning atmosphere where they got freedom to express their feelings, and experiences. Posterior to this practice, participants were able to use the blog in a more reflective way; thus, it became the venue to express themselves with regard to the other two assignments provided. The overall experience was positive, although some students found it difficult to use the blog, and it took some time for them to get use to the interphase. It was also noted that very few students had difficulties in expressing their feelings for fear as to be exposed, but progressively as they continued using the blog, this sentiment became less obvious.

A total of 116 entries were collected as the blog´s source of data during the 12-week semester. The first entry as mentioned above, was their first writing task. It consisted in a 500-word blog post where participants had to read and create a post with original content. The objective of this first task was to become familiar with the use of blogs, and to create effective entries. The review of this students used an institutional writing rubric (See Appendix 3) was made in order to check authenticity, each blog entry was reviewed by a peer using an online plagiarism checker to curate the content. The evaluation of the first blog entry was of quantitative nature. The rest of the entries were more of a free writing, they consisted on a reflection of their following tasks 2 and 3 (see Chapter 4). In order to analyze those entries in a more holistic way, I used a scale for coding reflection as expressed in Chapter 5. The code categories included: engagement, enjoyment, scaffolding, and some community features such as mutual accountability and self-perceived learning. Students were asked to annotate their perception of leaning, accomplishment and to reflect on the different writing tasks using the web tools. The coding and categorization will be analyzed using Nvivo version 12.
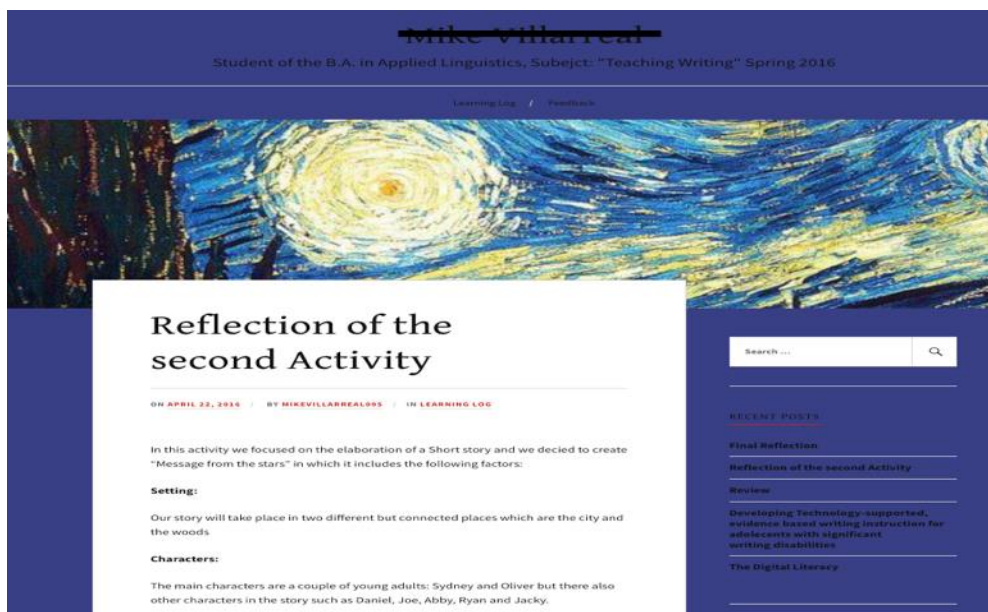
Figure 6. Example of a learning/reflection blog

4.8.1.6 The pieces of writing

During the semester in a 12-week instruction timeline, there were a total of three writing tasks to perform as part of the intervention. The first task was a blog entry of 500 words. They had to look for information related to the topic and select the information and elaborate a blog entry. The students receive a tutorial regarding the use of Wordpress and they created their own personal blog and were able to use it for reflection and activity one purposes.

The second task was a short story made in a web application called Storybird. There were teams of 4-5 participants. The assignment consisted on writing a story related to love. It must have a minimum length of 1200 words. They were provided with instructions and demonstration on how to use the app and create a story with the art provided.

The third task consisted in elaborating a web tutorial of 700 words. There was a webpage in Wix every team had the assignment to cover one of the tabs section in the website. In addition to the witting rubric for evaluation of their texts, it was evaluated the creativity in putting together all tools they learned during the semester. Appendix 7 shows an example of a video tutorial from one of the teams.

Each task was designed to be compelling and take the participants from a lower level of difficulty to a higher level. The activities were intended to be highly engaging not just in adapting the way to communicate with their peers and use. It is a different approach to help students go through the writing process with the help of web technologies. A new tool for each assignment was used in addition to blogs, wikis and FB groups. This method had the aim to foster critical thinking, negotiation and collaboration.

4.8.1.7 Sentiment and Network analysis

Online social media most often uses networking. These social networks derived from a theoretical model that traditionally is used to study relations between individuals, groups, and organizations (Wasserman & Faust, 1994). Social network analysis helps to visualize actors and relations in terms of their networks. These actors are usually represented by nodes and edges. These networks can be constructed and visualized using Sociograms which are the most common to portrayed strengths or types of relationships in a network. To measure the degree in a centrality and eigenvector centrality between actors can be measured according to their closeness. The strength in the closeness centrality thicken the line in the network as seen in in Figure 5.2.5 In this study, network analysis was important to portray the participants relationships with the important themes in the study such as engagement. The visualization was made through a sociogram that was produced by an application called Gephi, an open source software for network analysis and visualization (see section 6.4.6.3).

Since social media can be analyzed by a variety of state-of-the-art techniques including web crawling, text analysis, computational linguistics, and other algorithms, online content from social media sites can be gathered and analyzed using many different approaches depending on the goal of the analysis and specific themes.   Sentiment analysis is a contemporary way to analyze content in social media. It was used first to track consumer behavior in the Internet and explore users' opinions over a service or product. The aim of sentiment analysis is to define automatic tools able to extract subjective information from texts in natural language, such as opinions and sentiments, so

as to create structured and actionable knowledge to be used by either a decision support system or a decision maker (Pozzi, Fersini, Messina, & Liu, 2017). Sentiment Analysis analyzes large amount data using a review search opinion and it relies on a corpus algorithm that classifies the user's perception in data mining and rank them as Negative, Neutral or Positive, (Pang & Lee, 2008). Application of sentiment analysis have moved to other contexts besides business consumer behavior. For example, in literature, sentiment analysis has been used to identified author's voice towards a specific topic.

Due to the current technological progress, the new methods of extracting information from Facebook posts or contributions in social networks represent an emerging challenging sector for big data (p.11). But at the same time deep learning strategies such as sentiment analysis is an emerging way to perform research in these social contexts. The information can be classified from an extract at a sentence or document level and it can infer the positivity or negativity of a sentence (Agarwal & Nayak, 2018). That is the reason the researcher considered important to use Sentiment Analysis to ensure that the participant's perception interpretation was not solely done by the researcher but with an external procedure to ensure validity.

Summary

This chapter is a central chapter in the thesis since it presented the design, the methodology and methods for the research design and the theoretical foundations. It described the different methods with their implications and the Mixed methods action research elements that were relevant for this case study. Having a solid plan of methodology, method and design was key for the success of the study and it provided a great variety of data that served to triangulate information and provided a comprehensive and systematic approach utilizing both qualitative and quantitative data. The role of the practitioner/researcher was also important to be included with the challenges and implications in terms of validity. The last part of the chapter describes a very contemporary form of analysis for social networks which is very important since new social practices with technology need a more detailed and easiness

to access such data, to help the researcher in the analysis and visualization for triangulation purposes and enrich credibility and validity in the study.

Chapter 5. The Research Intervention

This chapter describes the organization of the writing tasks to explore the Web 2.0 in the collaborative writing context. It explains the setting where the intervention took place, the participants, development of the tasks with some samples of students' work and evaluation.

5.1 General description

The intervention took place during a regular course of Applied Linguistics, the course was entitled ESL Academic Writing. This course consisted of 12-week instruction 4 hours a week in the face to face modality and 3 hrs. of online work. This writing class aimed to enhance writing skills among university students, especially into the writing process in second language. This course is part of the curriculum of the BA in Applied Linguistics and it is a continuation of the Study Skills course in the fifth semester. The purpose of the course was to develop a practical understanding of relevant topics in the writing process in different genre and/or contexts (in this case media and Internet), and to prompt students to reflect in their work individually as well as collaboratively. The instruction context considered the "technology-mediated" instruction or "blended learning". Some of the advantages using this type of instruction are the increase on learner engagement, not just academically but also socially, efficient communication through digital technologies, the formation of an online learning community, among others. This enables teachers into a continuous learning monitoring process while students act and reflect within an environment, enhancing reflection, abstraction, and increase in experiential knowledge (Uzunboylu, Cavus, & Ercag, 2009).

5.2 Defining the objectives of the course

The course is part of the curriculum in the undergraduate degree in applied linguistics. One of the enrollment requisites consists of a language proficiency proof in intermediate level. The course is designed as part of the writing core. It is intended to improve learners' general academic writing. Additionally, students are expected to:

- Use the writing process phases during the tasks using collaborative learning.

- Be able to use the Web 2.0 tools to facilitate communication between members of the teams and collaboration.

- Provide and receive feedback from their peers.

- Actively participate in the assignments using the tools. This is a different approach from the conventional way of developing their writing.

5.3 Participants

The participants for this study were selected from a group of university undergraduate students enrolled in the BA in Applied Linguistics. There was a total of 21 university respondents. They were chosen through a homogenous sample since they shared some common characteristics: all are enrolled in the fifth semester in the BA in Applied Linguistics, their level of proficiency in second language is similar (B2), there were 16 females, and 5 male students. Seven in an age range of 19-21 years old, and 14 in 21-24 years old. Group assignments were based on students' background information, knowledge, and their group work skills, as evaluated by their teacher/researcher. These selections were made based on the students work whom I had been working with the students for three semesters and knew them very well. This arrangement resulted in five total groups of participants.

It is important to mention that the class members were not entirely homogeneous in the sense that, even though they had the same proficiency level, there were two participants that had lived in the United States for several years, while the rest had learned English in a Language Center here in Mexico prior to enter to the undergraduate program. This influenced the role assignments within the teams, as the ones born in the USA were frequently asked to review the drafts and provide ideas while the ones native Mexican wrote the drafts, in most cases.

Implications in the classroom: the venues required wireless Internet access since the participants performed the tasks in a blended learning environment. The university provided unlimited wireless Internet access to every facility, this

helped performed some of the activities that took place in the classroom using technology. For the activities, they had to do outside the classroom. They all had Internet access at their homes and/or smartphones.

5.4 Materials

The course materials were accessed through a class Wiki: PBworks the site name was http://writingtande16.pbworks.com. PB works is a web-based application that was used as a platform; it is supported by password protection to prevent any unnecessary intrusions. The use of this platform has been used in other studies in ESL blended learning context (c), the PB wiki was used for peer editing, uploading drafts, and final versions of the texts before uploading into the different Web 2.0 tools.

With respect to training on the PB wiki, most of the participants had already used this as a platform for classes during their studies in the BA since their first semester at the university. (See Initial Survey Responses). This was one of the reasons why this platform was chosen for this particular study.

I have used Wikis for my class assignments. [Please answer the following questions:]

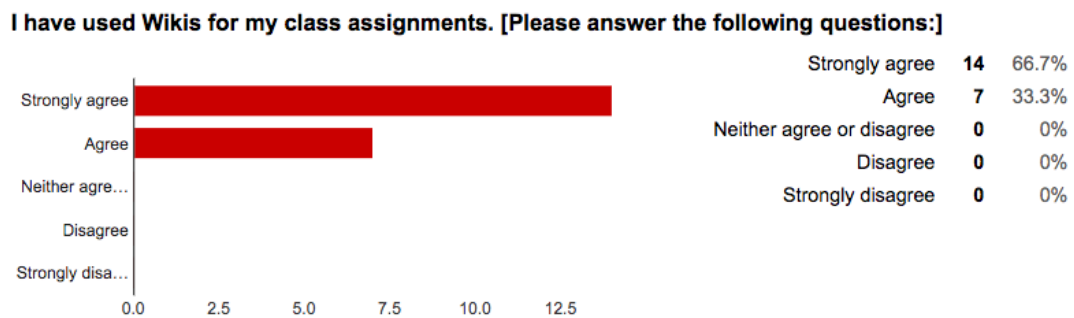|		
Strongly agree	14	66.7%
Agree	7	33.3%
Neither agree or disagree	0	0%
Disagree	0	0%
Strongly disagree	0	0%

Figure 7: Sample of a survey result

Based in the results of the initial Survey the suitable platform to use for its accessibility and familiarity among students was a PBworks. Here is an example of the platform:
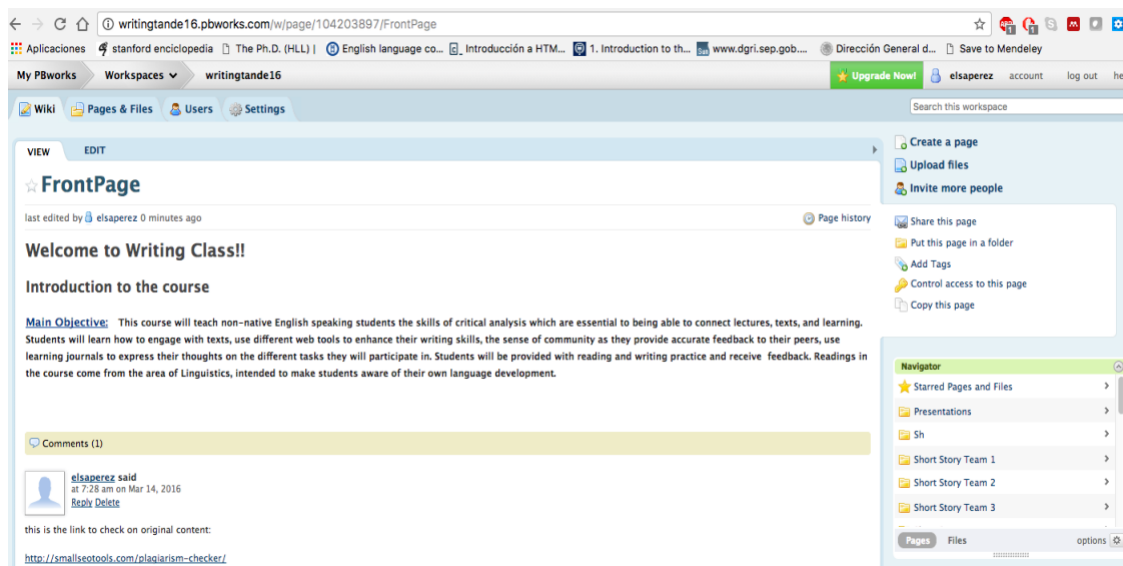
Figure 8. Interface of the PB wiki class

Despite the above, I still provided some training about creating folders and uploading materials for feedback. The wiki served as a communication panel between the students and the teacher to collect all their writing tasks before they were used in a web tool such as Wordpress, Storybird or the webpage.

On the use of a personal blog in WordPress, more training was provided. This tool was not very popular among the students. So, the use of the reflecting journal in a blog was a novelty for them. For some this increased their motivation to write online and become fearless to express their feelings and be more open to feedback. In a very few others, this seemed as a complex task to do (see Focus Group A1).

The following part was the online storybook (Storybird), and the production of original media content. These activities were designed accordingly to the class syllabus. One of the main objectives with these writing assignments with Web 2.0 tools, was that additional of improving their writings skills, it was the construction of a community of learning, identify the sense of belonging and mutual engagement, and collective knowledge creation among its members. The variables directing this study are exploratory of nature and interpretative.

5.5 Description of the course modality

The course was delivered using blended learning: face-to-face and online. The synchronous activities were mainly focused in planning and revision, and the

asynchronous activities were to negotiate, communicate and production phases. This dual modality facilitated the monitoring of the contributions of each member of the team and monitoring of the participants as they used the web technologies during the tasks to explore collaboration, engagement, practice, and mutual accountability, knowledge generation and socially constructed content. The following is a timetable of the 12-week intervention and how the content was planned.

Table 5: Plan for the activities by session

Timeline sessions	Training	Practice	Modality	learning product
Week 1	Class presentation of overall course objectives, ice-breaking activities and initial survey	-Introduction to the concept of digital literacy -Creating the wiki space in PBworks -Creating the FB group	Face to face presentation of overall course content and syllabus. -Online Facebook interaction	Access the wiki and post an introduction Data collection: Online Survey Facebook Chats
Week 2	Training on the effective way to post a blog entry. Introduction to prewriting activities	Selection of keywords and basic search for information	Face to face Online individual Facebook chats	-Comparison of some posts on the internet -Outline
Week 3	Introduction to Wordpress	Personal blog creation	Online individual	**Writing Task 1**: creating a 500-word blog entry
Week 4	Expanding and evaluating the written text in personal blogs	Peer evaluation of the blog post: Length, plagiarism checker	Online Facebook Chats	Peer review and feedback Data collection: Focus Group
Week 5	Introduction to short stories: Training on Storybird	Teams formation 4-5 participants Brainstorming on a theme for the short story	Face to face Wiki space	-Outline of the story turned in PBworks Data collection: Reflection journal Facebook Chats
Week 6	Selecting a Design in Storybird	Team work 4-5 participants wiki based collaboration	Face to face Online groups Facebook Chats	**Writing task 2:** Creating a short story 1200-1500 words
Week 7	Drafting and establishing a storyline	wiki based collaboration negotiation	Complex sentence formation and story creation	First draft due
Week 8	Revising and editing story	Wiki based collaboration Peer review of story structure	Editing and revising task syntax, cohesion & coherence	Final reading corrections and modifications Data collection: Reflection journal Facebook Chats
Week 9	Introduction to web pages and tutorials	Organizing web content on the webpage	Dividing teams and selection of sections	**Task 3:** a web tutorial of 700 words.
Week 10	Planning (exploration and exhibition)	Wiki based group collaboration (planning stage)	Searching and selecting sources of information	A content plan for the tutorial, general info

				Data collection: Webpage Facebook Chats
Week 11	Drafting and posting writing tutorials	Wiki based group collaboration (Production stage)	Recording and provided instruction on the tutorial	First draft to review
				Data collection: Focus Group
Week 12	Expanding and evaluating the final version Course wrap-up	Wiki based group collaboration (revising and rewriting) Final remarks	Overall content, syntax, mechanics Final reflection	Final version webpage
				Data collection: Reflection journal Facebook Chats

5.6 Roles and Tasks

Each learning activity shared a similar structure, but in each task, students had to use a different media to deliver the writing product. After the initial survey was applied, the teacher structured a small training on the use of the Web 2.0 tools that the participants would use to complete each task. The teacher made sure that participants were familiar with the use of each tool. Participants were instructed to a) the use and application of the tool, b) the writing expectations, 3) the process of writing combined with the Web 2.0 tools, 4) how to provide feedback to classmates, 5) how to use the learning journals, and 6) correction strategies

4.6.1 Task 1: Creating a blog entry

The first task consisted in creating a 500-word blog entry from the concept and principles of digital literacy. The students were introduced to WordPress and received training about the interface, the features, and the integration of visuals or media to the blog. Once they registered, they were free to personalize their blog. They were free to enable or not comments for each post they published. By creating this helped them to show some traits of their identity and personality, it was an opportunity to present themselves to the community.

This blog served as a place to share experiences, reflection and to some extent, self-regulate their learning in all the activities presented and reflect on their identity to the online community. To evaluate the logs, a thematic analysis will be used (see Chapter 3).

Figure 9. Example of a student blog entry

The overall perception of the students using this web tool was very positive. The challenge though was the authenticity. The peer revision consisted in verify if the content was unique and original. Writing online required the students to create higher standard of texts with significant content from reliable sources. On a collaborative level, they had to interact through the wiki and Facebook groups to make the text more acceptable to the target audience.

5.6.2 Task 2: Short story in Storybird

This task consisted in creating a digital story in the Storybird platform. Storybird is a social media service that contains a wide selection of art that allows users to create a story and shared in a network (Nordin, Halib, & Ghazali, 2010). Studies have shown that digital story telling can promote student´s narrative writing and has been used in other studies in the writing process (Wertz, 2004). Similarly, to Wertz, students in this case, had to go to the stages of writing (brainstorming, first draft, revising and editing), using Storybird to publish their final product. The combination of blended activities helped them to work collaboratively negotiating content, and enhancing active learning, and at the

same time construct knowledge, which is the basis of constructivism. Length: 1200-1800 words for Level B1.
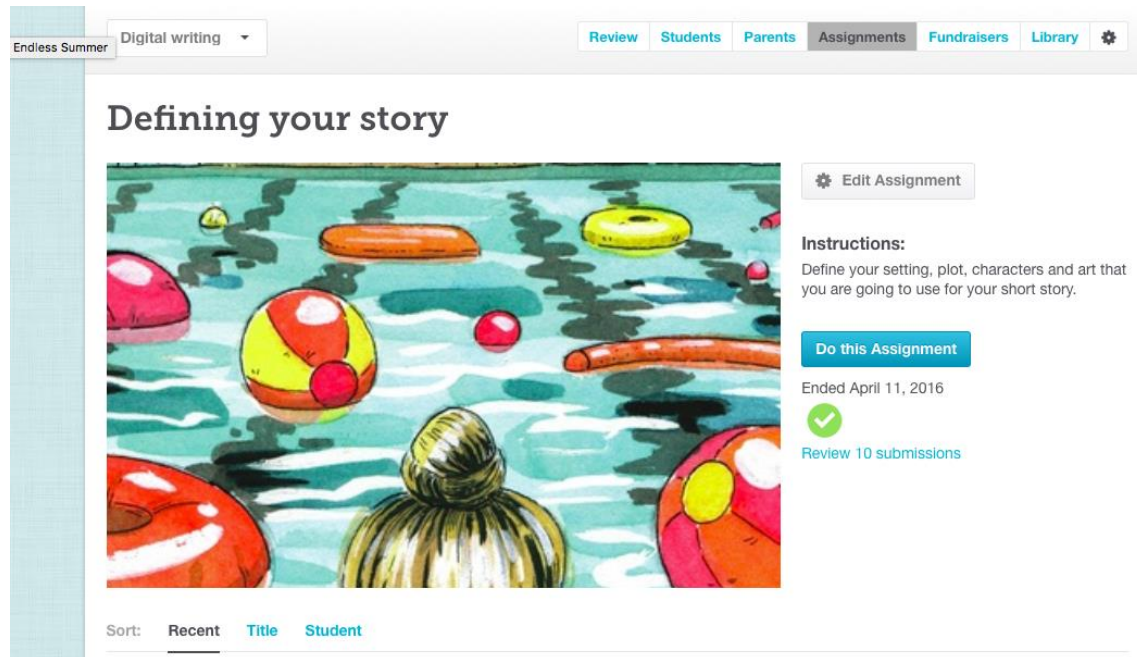
Figure 10. Task Interface of Storybird
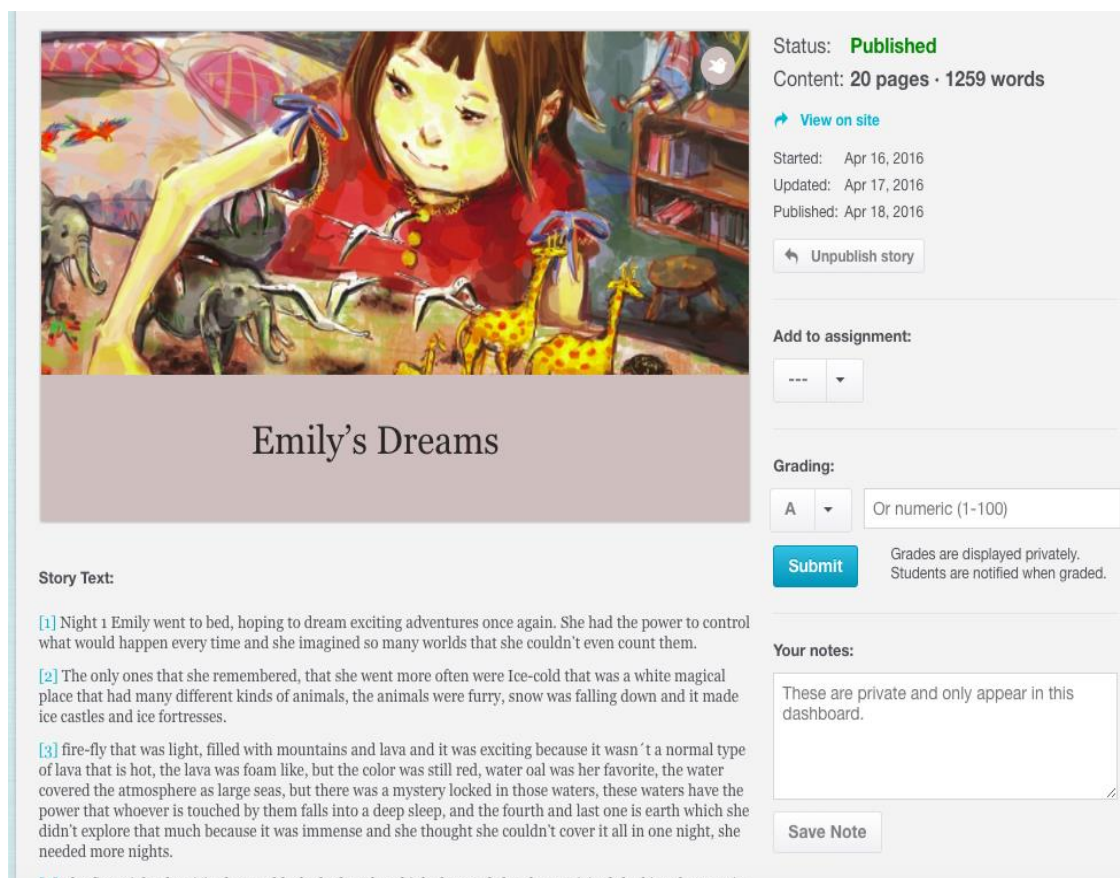
Students were given a prompt: write a story that reflects the concept or idea of "love". The topic since was suitable since it was February and St. Valentine´s Day was approaching. The prompt would initiate them into selecting the art for the story. They work collaboratively to choose the art and make an outline with the characters, setting, and theme of the story. Each member of the team communicated to through a Facebook group, there they share their ideas, for the story along with resources. After that each team was going to upload the outline in the wiki and receive some feedback from the teacher and the rest of the teams. Once each team had decided on what to write, they work in class and online with the story. Most of them wrote the drafts on the wiki first, so they can receive feedback from the members of the team, and once the final draft was ready, they stared putting the text along with the pictures in the Storybook platform (see Figure 11).

Here is an example of a lesson during the task:

Table 6. Lesson Plan

Instructor: Elsa Perez	Semester: BA in Applied Linguistics 5th Semester	Level: B1

Topic: Short story using Storybird

Main Objective - By the end of this lesson, students will be able to create their own story on Storyboard according to the theme "love". They are free to choose the art they like from the catalog and based the story on it. The story can be fiction or based in real life events that they have either experienced or that could happen.

Previous knowledge - • **Grammar** – high grammatical control, use of all based and complex structures. • **Functional Exponents –** Can summarize a wide range of factual and imaginative texts, commenting on and discussing contrasting points of view and the main themes. • **Vocabulary –** good control of elementary vocabulary

Assumptions - • Students are expected to be able to express themselves in writing using good control of accuracy, vocabulary and sentence formation. • Students are expected to practice good capitalization, punctuation and spelling. • Digital competence is the core of this lesson, students are expected to be familiarized with the Storybook interface and be able to use it as their advantage.

Anticipated Problems - • Team arrangement: since the distribution of the teams will be contemplating to have at least one native speaker or high proficient student in each team for scaffolding purposes. This can result in some negotiation issues. • The modality of the assignment can be complex.

Possible Solutions - Training in the use of Storybird and some writing process strategies of how to develop a story.

Step (Time)	Purpose	Procedure	Supplementary Material
Lead-in (3 minutes)	To introduce the topic	T starts telling a story she made in Storybird, SS and T discuss the story and she elicits some participation by asking what´s their favorite story they recently read.	Storybird: Ben the dog
Activity 1 (8-10 min)	**Demonstrate** Provide the students with information about the topic, using the lead-in as reference material.	T will provide students with some other stories to discuss. She then will demonstrate how to select art in Storybird and create from the scratch a story.	Storybird: create section
Activity 2 (20 min) face to face (3-4 hrs.) online	**Practice** Use collaborative learning strategies to define the learning outcome	T explains the process of creating a story. Divide the teams. SS were asked to work as a group to discuss and negotiate what and how they will write their story. T provides Handout 1 to help them organize it.	Handout 1 Storybird: creating and accommodating the information PB wiki for drafting and evaluation
Activity 3 (15 min)	**Evaluation** T asks students to outline the story	SS use WordPress and FB groups to share the outline of their story including setting, characters, plot.	PB wiki for drafting and evaluation Facebook and WordPress
Post-lesson (2 minutes)	**Online Follow-up activities**	In the online setting SS create a FB group to share information and material regarding the story. SS use the PB wiki to upload their drafts and receive feedback.	Facebook groups WordPress for final reflection

The above is one of the lessons presented as part of Task 2. For the evaluation of this task, an institutional writing rubric was used (see Appendix 3).

Figure 11: Student's example of a digital short story

5.6.3 Task 3: A web page tutorial

Task three was a wrap up of the whole course. It consisted on creating a web page with a tutorial on how to use web 2.0 tools in second learning teaching. Each team was assigned for one section in the page. The teams first created the outline and the draft for the tutorial, then they had to peer review each other´s content.

In this activity as the ones previous, the students used the Facebook groups for the planning and correcting stage.
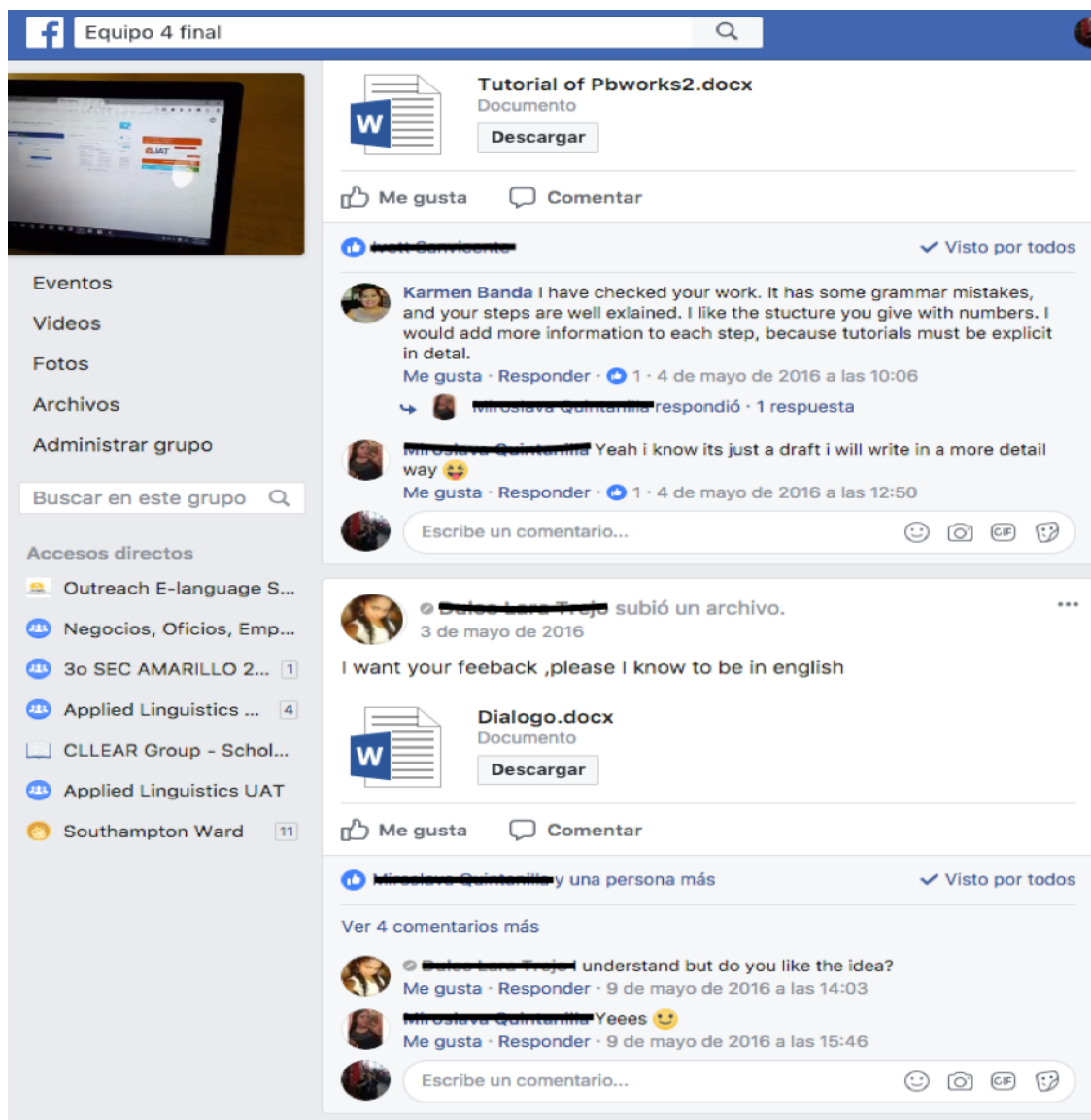
Figure 12: Example of a Facebook Group interaction in a task

Once it has been corrected and edited, they had to create the tutorial using web cam software and uploaded in their corresponding section in the webpage. This is a sample of the third task: How to use Storybird done by one of the students.

5.6.4 Teaching implications

The instructional design contemplated the type of students, and the level of proficiency for the design of synonymous and asynchronous activities. This design was important to let learners act with autonomy and freedom during the intervention. The role of a teacher shifted to become a facilitator of learning.

As mention in section 4.7, the instructor's role was of present the assignments; clarification of the tasks, address questions and concerns, and download final

written products. In the Facebook groups the instructor was granted access since they were private, to observe the social activity in the groups, but she did not participate in any form in the social media groups, the face-to-face teamwork, or the blogs. Even though the entries on the blogs were not assessed as part of the participant's grades, the teacher provided some prompts to promote reflection, especially in the first task. This was different in the wikis and Facebook groups since the teachers' role was as an observer not commenting or intervening in ay way in the online environment. This was important in the instructional design to ensure research ethics for the researcher's role and lessen effects for validity purposes. However, teacher presence as seen in CoI model (see chapter 2), can have some influence indirectly in the student's performance.

For instructional purposes different tools were used along with the ones designed to monitor the writing process (wikis, blogs and Facebook) those tools included Wordpress, Storybird and Wix. Now, in regard to Wordpress it was a suitable tool to use because it helped participants to deliver the first writing task but at the same time, they learned how to create a personal blog entry that later served as learning journals to reflect on their practice. Storybird is a fun and easy to use application to use to promote creativity and enhance learning. Therefore, it seemed suitable for the second tasks to develop a story. This decision was supported by studies that have proven Storybird effectiveness in literacy skills (Herrera Ramírez, 2013; Menezes, 2012). The tool the Wix page is also very intuitive and just served to place the content learners developed.

The number of tools were extensive in the sense that along with the three regular ones: wikis, blogs and FB groups, students had to learn others such as Storybird, Wordpress, and Wix. In the findings chapter there is a more detailed description of students' experiences with the different tools and some recommendations further intervention and research.

There are always limitations with this type of intervention. Some of the limitations encountered were the sample, the context, the objectivity of the teacher serving as researcher, and the considerations that must be taken to lessen any bias that could affect findings validity.

Summary

This chapter provides a detail description of the intervention. It presents the lesson plans and the rationale on the selection of tasks. The tasks were designed and planned according to the learning objectives and the purposes of this research. Examples of students' work have been exposed with anonymity to protect their information. The examples clearly define the written outputs and manifest the interaction that took place during the intervention. The   role of the instructor/researcher is explained along with its limitations. The final part of the chapter explains the decision of the tools selected.

Chapter 6: Data Analysis

6.1 Introduction

To analyze the data collected in line with the purpose of the study and contribution of providing an understanding on how the incorporation of web 2.0 tools can enhance student´s experience regarding L2 writing, the analysis of both quantitative and qualitative data considered a sequential approach. Each one is analyzed separately and then use triangulation to cross reference the important themes of this study.

The first part reports the findings of quantitative data analysis. It shows the findings of a survey that measured the perceptions of the use of Web 2.0 tools in academic activities, the frequency of use, and the self-perception of their level of domain regarding the tools as well as collaboration. The Statistical Program for Social Sciences (SPSS) 25 was used to explore any correlations, frequencies and factor analysis of the variables in the survey. This descriptive analysis served as a determiner for the Web tools used during the intervention. Another instrument used was a rubric to evaluate the writing tasks during the intervention. Participants were asked to use a Wiki page to upload their drafts and get some feedback from their peers. This rubric is an adaptation of Jacobs, et al., (1981) and it was divided into different sections such as content, organization, vocabulary, language, and mechanics. There is also a quantitative instrument that measured the interaction between the different groups in Facebook to evaluate to what extent students were engaged in the tasks.

The second part of this chapter presents the findings of the qualitative analysis. It includes the data analysis of the blog entries in the learning journals, and the focus groups transcriptions. This thematic analysis resulted from the open cycle of coding and emerging themes that led to axial coding using the software Nvivo 12. Similarly, the two focus groups discussion were transcribed and translated since they were made in their modern tongue (Spanish) to ensure spontaneity and openness to share. There is a network analysis carried out to visualize better the different types of engagement during the writing tasks, and finally a sentiment analysis that analyzed the overall perception of the

participants during the intervention. The chapter ends with a triangulation of both methods of collecting data.

6.2 General comments on collecting data:

This research design consisted of three stages: preliminary phase, which included the perceptions of the students through analyzing an initial survey detailed in the previous chapter. The second phase included the pieces of writing generated throughout the intervention; the groups interaction in social media (Facebook), and the first focus group. The first two strands of data were analyzed using a statistical tool: SPSS 25, and a rubric to monitor social media interaction. The focus groups were analyzed by a thematic analysis using Nvivo 12, as well as the logs in the blog journals.

An initial survey was administered before the intervention, which served to explore students´ perceptions with the object of study: communities of practice and engagement though the Pbworks wiki, the Facebook groups and journals. They helped in the process of digital writing with the designated tasks (see Chapter 5). It is a longitudinal study where there is an intervention with the different stages previously mentioned.

Table 7: Process for data collection

Initial phase	Second phase	Third phase
Initial survey	Writing tasks using a wiki online writing media, Facebook groups for online shared space to interact.	Feedback and reflection (Blog entries)
	Focus Group 1	Focus Group 2

The data collection took place over the period a 12-week course. The design of the intervention contemplated three main learning activities or writing tasks, during which the students were asked to work in: a) classroom (face-to-face) b) computer lab (both face-to-face, online), and c) home (online). During these learning activities, they worked both individual and collaboratively. The writing tasks consisted of creating a blog entry (500 words) with original content about a theme in educational technology, a short story using an interactive web tool called Storybird where they had to choose a theme of pictures to elicit ideas for the story to write. The length of this assignment was 1500 words. The last writing task consisted in creating a webpage using Wix. Every student had to

develop content for each one of the sections. The participants used different Web 2.0 tools during the intervention. As participants developed their texts, they used the wiki for revising, the Facebook group for sharing materials and ideas, and the blogs to reflect on their practice. This multi-method approach served to analyze not only the end result but also the process as one of the main objectives of the study.

6.3 Findings of quantitative analysis

For this analysis, data from Web 2.0 was quantified according to the type of media used in collecting data: initial survey, measuring interaction between the Facebook groups and texts written in the wiki page contributed to the research questions in a more comprehensive way by providing in-depth information on the participants perceptions about 1) the use of Web 2.0 and familiarity, 2) the skill level in managing those tools, 3) collaboration preferences, 4) the academic use of these tools. The data collected would provide insights that later served to plan the intervention tools and tasks design.

6.3.1 Survey

The survey was designed with a five-point Linkert scale: Strongly Agree, Agree, Neither Agree or Disagree, Disagree and Strongly Disagree) divided into three sections (Appendix 4). The first section included items that were related to the familiarity of use of the Web 2.0 tools in academic contexts, specifically about Wikis, Facebook and Blogs. This section also included items related to collaborative writing, opinions about working with peers, receiving and providing feedback and their self-perception as a collaborator.

The second set of items included their own level of competence in relation to the use of the web tools using a scale: Very Skilled, Moderate Skilled and Basic Skilled. The frequency of use was also measured according to each tool: wikis, blogs and FB groups. The measurement was: 3-5 times a week, 1-2 times a week, and Almost never. There were two other items that had to do with demographics: Sex and Age: 17-18, 19-20, and 21-24.

This survey is an adaptation from an instrument used to measure collaboration in Google Docs made by Brodahl et al. (2011). In that study, findings showed a

positive perception of students using webtools. However, it was also found that collaboration was not as strong as expected since handling all the tools was not easy for everyone. Considering the above, the survey applied in this current study was adapted and intended so serve as one of the instruments in the quantitative data. The intention of using this survey was to know the background of the respondents to plan the rest of the study, tools selection based on the findings.

Participants had access to the survey through their Google accounts. The decision to make it online was considered since students in universities are already considered "digital natives" (Prensky, 2001). They are characterized for mastering a set of technology skills. The online survey was opened to receive responses for three days. It was decided later to open it again for two more days since some of the respondents had not yet participated. Using the platform Analytics provided a general summary of responses from each item. A total of twenty-one responses were documented.

6.3.1.1 Preliminary Results

A summary of statistics for the overall perception of the use of Web 2.0 tools in class activities and the collaborative writing tools are resumed in Figure 6.2.3.1. As it can be observed, students demonstrated a high level of acceptance of the Web 2.0 tools in the academic context (items 1-3, 5-8, 12-13), and the collaboration process (items 4, 11, 13, 14, 15). Positive responses include Strongly agree or Agree scales. The majority of informants were familiarized with the use of wikis, Facebook, and blogs. They have used wikis as a platform for academic assignments. They perception of using the tools (Web 2.0) has been found useful for academic purposes + 90%.
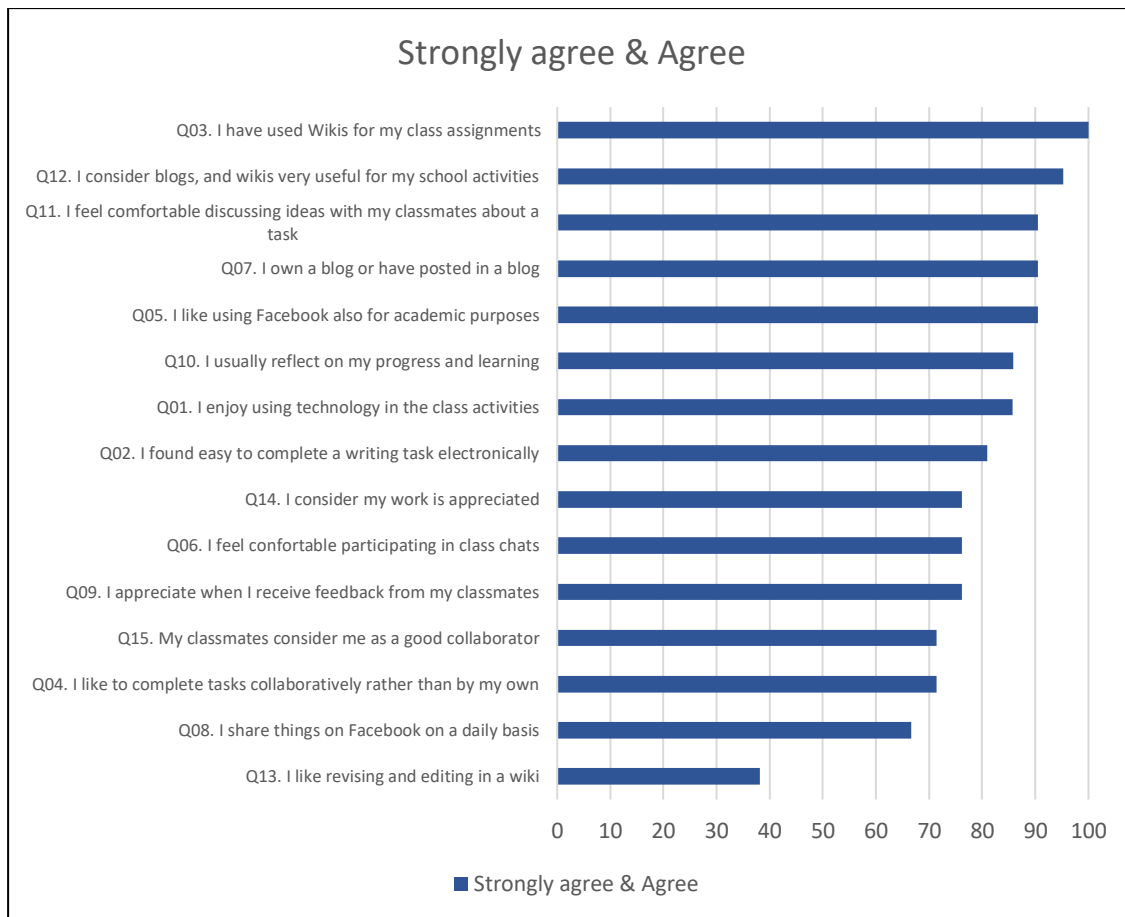
Figure 13. Overall student´s perceptions on using technology (N=21)

The results in Figure 13 shows that highest percentages (Agreed or Strongly Agreed) predominantly relied in regular use of technology in the class (85+%) and students perceived it as beneficial. Students show familiarity of use of these tools in the academic context. The overall perception was positive, the lowest indicator had to do with writing using technology. Even though students have used wikis in their classes (100%), they show little enthusiasm in using it for writing tasks only (38%).

The familiarization with the tools was evident: Wikis with all 21 participants, followed by blogs and then Facebook. However, in the social context, Facebook is the most used social media tool among the participants. The lowest percentage 38.1% was for item 13 that asked the students if they like to edit or revise in the wiki. This contradiction may be due to the estimated digital competence students had (Table 10) in contrast to what they actually can

perform in a wiki. As a general observation, male participants showed less enthusiasm using web tools compared to women, items 8 and 13.

6.3.2 Exploratory factor analysis and reliability

Exploratory Factor Analysis was used to identify dimensions in a scale or to confirm other dimensions proposed in the literature such as collaboration and the use of the tools (Cohen et al., 2000). This analysis identifies patterns in large sets of data and correlation between the items. To analyze the instrument used before the intervention, it was important to identify the constructs and confirm them with the ones proposed in the literature to ensure validity and reliability.

The components resulted from the Factor Analysis were collaboration and Technology or Web 2.0. These dimensions *Collaboration* and *Web 2.0* were initially extracted considering eigenvalues equal or greater than 1.00. Orthogonal rotation of the factors yielded the factor collaboration in Table 8. The first factor accounted for 44.9% of the variance and grouped four items that refer to characteristics of collaboration in academic tasks.

6.3.2.1 Collaboration Factor
Table 8 shows that the highest loadings are in *a good collaborator* (.763) followed by *appreciation of work* (.720). Variance is 44.87% and the reliability was 0.766. Participants feel comfortable discussing and sharing ideas with their peers, and they feel their work is appreciated.

Table 8: Factor analysis of Collaboration

Factor	Descriptive		Exploratory Factor Analysis					Reliability	
	M	SD	Factor Loadings	Eigenvalues	% Variance	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha	N of items
Collaboration Q06. I feel comfortable participating in class chats	3.95	0.805	0.700	1.191	44.87	0.567	0.714	0.766	4
Q11. I feel comfortable discussing ideas with my classmates about a task	4.29	0.644	0.703			0.488	0.750		
Q14. I consider my work is appreciated	4.00	0.707	0.720			0.616	0.685		
Q15. My classmates consider me as a good collaborator	3.95	0.740	0.763			0.606	0.689		
KMO=.788 P=.000									
Scale statistics.	4.05.	0.557							

In the results of the survey regarding collaboration participants expressed appreciation when receiving feedback from their peers (76%). Also, there is evidence of self-regulation and reflection about their learning in Item 10, with 85.8%. When it comes to feeling comfortable discussing ideas with their classmates about a task, 90.5% of them feel strongly agree to agree, a high percentage that indicates they are open to socialize and exchange ideas.

The appreciation of being a good collaborator 76.2% (A/SA), and that their work is appreciated by their peers 71.4% was very high, the rest were in neutral 28.6% responses. Further in the study, in the qualitative section, there is a comprehensive analysis of how this appreciation of collaboration becomes an important indicator in relation the writing tasks and forming a learning community of practice.

6.3.2.2 Web 2.0 Technologies Factor

The second factor included eight items (see Table 9), with an explained variance of 30.1% referred to the perceptions on the use of different Web 2.0 tools in the academic context. In this factor the highest loading was on *how the students consider the blogs help them in school activities*, they were familiar with the *use of wikis in the academic assignments* (.838) and have revised and edit in a wiki which they demonstrate enjoyment (.705).

Table 9. Factor analysis of Web 2.0

				Exploratory Factor Analysis						
	Descriptive							Reliability		
Factor	M	SD	Factor Loadings	Eigenvalues	% Variance	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha	N of items	
Use of Web 2.0										
Q01. I enjoy using technology in the class activities	4.38	0.74	0.535	3.92	30.16	0.473	0.549	0.619	8	
Q02. I found easy to complete a writing task electronically	4.14	0.727	0.265			0.145	0.624			
Q03. I have used Wikis for my class assignments	4.67	0.483	0.720			0.522	0.511			
Q05. I like using Facebook also for academic purposes	4.29	0.644	0.680			0.122	0.635			
Q07. I own a blog or have posted in a blog	4.43	0.676	0.614			0.144	0.632			
Q08. I share things on Facebook on a daily basis	3.67	0.796	0.613			0.162	0.635			
Q12. I consider blogs, and wikis very useful for my school activities	4.48	0.602	0.838			0.574	0.505			
Q13. I like revising and editing in a wiki	3.33	0.913	0.705			0.406	0.560			
KMO=.788 P=.000										
Scale Statistics	4.17	0.370								

6.3.2.3. Reliability

The reliability is defined as the ratio of the true variance to the total variance of the measurement. The true variance does not include the variance of the random measurement error. To ensure reliability the scale must show above .5 considering the two factor-scale reliability was ensured in both scales.

In the scale of Collaboration, the reliability was .766 and in the scale of Technologies Web 2.0, the reliability was .619. The interpretation of the results, and the selection of the items were based on the strength of their unique contribution to be extracted factors for internal consistency.

Two other sections were part of the survey: digital competence and frequency of use. Digital competence was estimated according to different actions in academic context. Participants were asked to state their perception of own digital competence. The total of items was four and the Alpha was .817. See table below.

Table 10. Digital competence self-perception

Skill Level	Item Statistics		Reliability Statistics			
Item	M	SD	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha	N of Items
SL1. Wikis (uploading and editing information)	2.33	0.577	0.634	0.772	0.817	4
SL2. Facebook (Chat or participating in groups)]	2.62	0.590	0.573	0.799		
SL3. Blog (creating and posting information)]	2.00	0.548	0.663	0.761		
SL4. Any other Web 2.0 tool	1.95	0.669	0.694	0.744		
Scale Statistics	2.32	0.465				

Table 10 shows the mean as 2.32, the highest is the Facebook chats. It shows high in use of a wiki and they have experience owning a blog or posted in it. This table shows that participants assessing their own digital competence as high tended to be more positive in regards of working collaboratively. The results show that participants have used wikis in academic settings, and as part of their instruction but only 10% like revising and editing in that tool. This contradiction can be explained because students´ self-perception on own digital competence may be was too high to what really can be performed in a real setting. Female students were more likely to own a blog and post compared

with male students, in this case younger students (33%) tend to use more Web 2.0 tools than those above 21 years of age. Overall there us a great acceptance +50% of students who enjoy using technology in their class activities.

Digital competence was higher in chats and in creating new content and posting information in a blog. The participants consider that even though they have a good level of mastery in some of the tools, they have not been using them as part of academic tasks, but rather for socialization purposes as the case in Facebook. Most of them though have been using wikis or had used it for academic purposes, they expressed they have used it for class assignments, to complete writing tasks more easily in a collaborative setting.
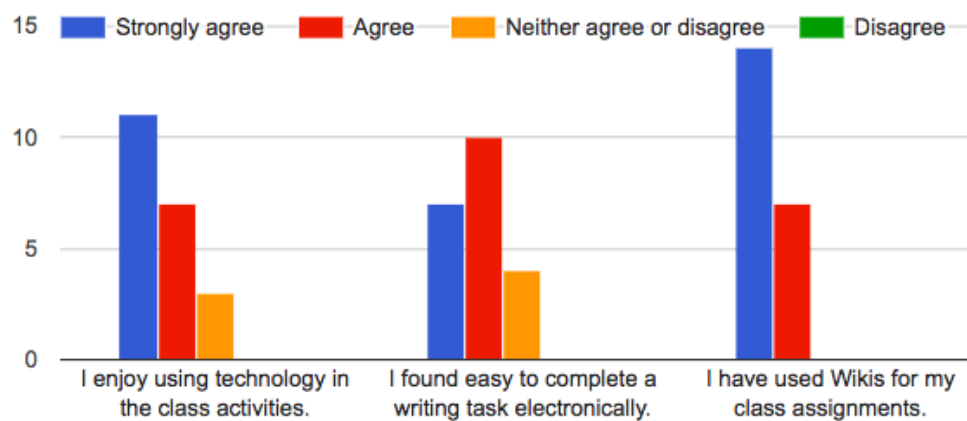
Figure 14 Academic uses of Web 2.0 tools

About 52% of the surveyed students have own a blog or posted in it. But they rarely had used it for academic purposes. However, they have used wikis in academic settings, and as part of their instruction but only 10% like revising and editing in that tool. Female students were more likely to own a blog and post compared with male students, in this case younger students (33%) tend to use more Web 2.0 tools than those above 21 years of age. Overall there us a great acceptance +50% of students who enjoy using technology in their class activities.

The frequency of use of the tools was another element to compare and complement the level of skill (Table 11).

Table 11. Frequency of use of Web 2.0

Facebook		Wikis		Blogs	
3-5 times p/week	71.4%	3-5 times p/week	19%	3-5 times p/week	5%
1-3 times p/week	19%	1-3 times p/week	76.2%	1-3 times p/week	85%
Almost never	9.5%	Almost never	4.8%	Almost never	10%

The two most used tools by students were Facebook (3-5) times a week, then Blogging (1-3) times a week, and wikis. The results confirm that students with high frequency level of use and higher level of competence have a more positive attitude towards collaborating in writing tasks; they are more open to express opinion, receive feedback, and reflect in their own learning.

6.3.3 Social Media Groups

6.3.3.1 Instrument and process

This section analyzes the Facebook groups in the writing process. Facebook groups were chosen as a mean of constant communication and interaction between the participants in the teams. This decision was made based on the initial survey results that showed a high level of frequency of use and familiarity. These Facebook groups facilitated the planning stage, production of the texts and even enforced revising skills. The researcher was given access to all these groups as an observer (non-participant) so that the participants' contribution can be monitored. All the posts were classified according to the type of contribution. The Facebook groups were not public, permission was granted to all members in the team. This type of informal scenario served for the exchange of information, publishing articles to develop their writing tasks. A high rate of activity of its members was observed. There was a total of four Facebook groups that were rotated in each of the tasks. The reason was to encourage collaboration among a diversity of students, despite their affinity to work together.

6.3.3.2 Structure and organization

6.3.3.2.1 Facebook Groups

Social activity was organized into groups or teams. These teams consisted in 5-6 members. For each one of the writing tasks the teams were reorganized so

participants would have the opportunity to interact with most members of the class. The participants in these groups used their individual social accounts.

6.3.3.2.2 All activity

One of the positive aspects of using social media for learning is the increase of motivation and engagement. Social media engagement is defined by interaction (Spreadfast, 2012). This engagement includes all types of interactions including comments, clicks, notes, materials, all what participants share during the execution of a task. Engagement in Facebook is high compared to other social media tools.

All Facebook activity includes publishing content, updating information, Wall posts, notes, photo albums, videos, events and comments. Streams are a mechanism to monitor social activity across Facebook. Social interaction was evaluated using an adapted rubric of the NCTE (Language Arts) standards for literacy. The rubric included the following criteria: the frequency of the publications, the frequency and type of responses, content of the messages and the level of participation. See Table 4.

The social activity was measured through the type of interaction by analyzing the user's intention behind a message and identifying whether it relates an opinion, a query, a source or property for the community (Wenger, 1998, p. 72). For example, when someone uses the Facebook like button it can express some type of sentiment such as appreciation, which is a form of contribution in the community´s interaction. When a publication receives so much activity either by "likes" or comments it engages students into the task in a more significant way, in other words they become digitally engaged.

The total social activity of the five groups in general was recorded and classified according to the type. It was discovered that the FB groups produced 437 forms of interaction. All interactions were classified as Likes = 125, Posts (to inform) = 114 and Posts (to promote discussion) = 36 which had an answer of 162 contributions that were divided into general comments, support material and follow-up questions.

Each time a team member "likes" or "likes" something is because in some way they show interest in the contributions of the other participants, the interaction goes beyond the sense of appreciation of the task, that is, in the other contributions a classification is made among the post where products are shared such as blog entries, partial deliveries of tasks. In this case, as shown in Figure 15, the participants intention was identified as they relate to an appreciation (likes), news (inform), discuss, provide materials, inquire, or just general comments.
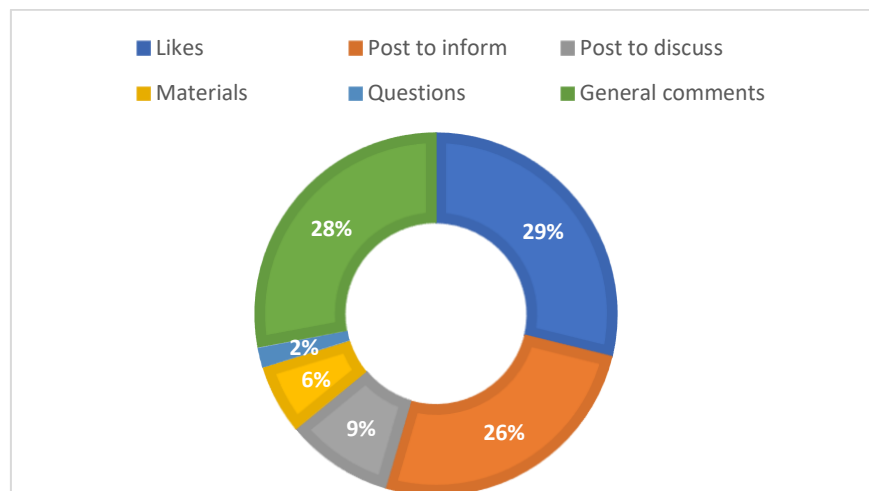
Figure 15. Average Facebook Interaction measured by type of contribution within the groups

A total of 133 interactions were collected. This action of clicking "like" or other sign of appreciation of the other's work was more than merely "seen" the post, but it contributed as a positive input from their peers (Mills, 2009). The percentage of Likes in the Facebook groups in relation to all the interaction contributions was 45%, which shows a level of appreciation for the members within the group. This is important because through this type of online community, users can engage in meaningful and dynamic educational experiences, exercise higher levels of thinking skills and construct knowledge (Garrison, & Kanuka, 2004). These forms of socialization are important because learning involves meaning, negotiation and finding through mutual or collective engagement, community building, and identity.

The following category specifically measured the comments that were made to inform. These posts provided a link to their personal blogs, publications on

other platforms or provided general comments on the writing tasks, the total of these publications was 116 contributions that they accounted for 39% of the total. The other type of publication was more related to the idea of publishing to encourage dialogue and discussion of ideas within the group, in this there was an exchange of opinions, general comments, uploading material for their writing tasks and / or asking questions. In this category there were a total of contributions of 43 contributions that received a total of 162 responses. These 43 contributions represented only 14.7% of the total, however, these generated more contributions that significantly increased the level of interaction. These results help us to see the relationship of students' engagement. Here is an example of how this social activity looked in Facebook.
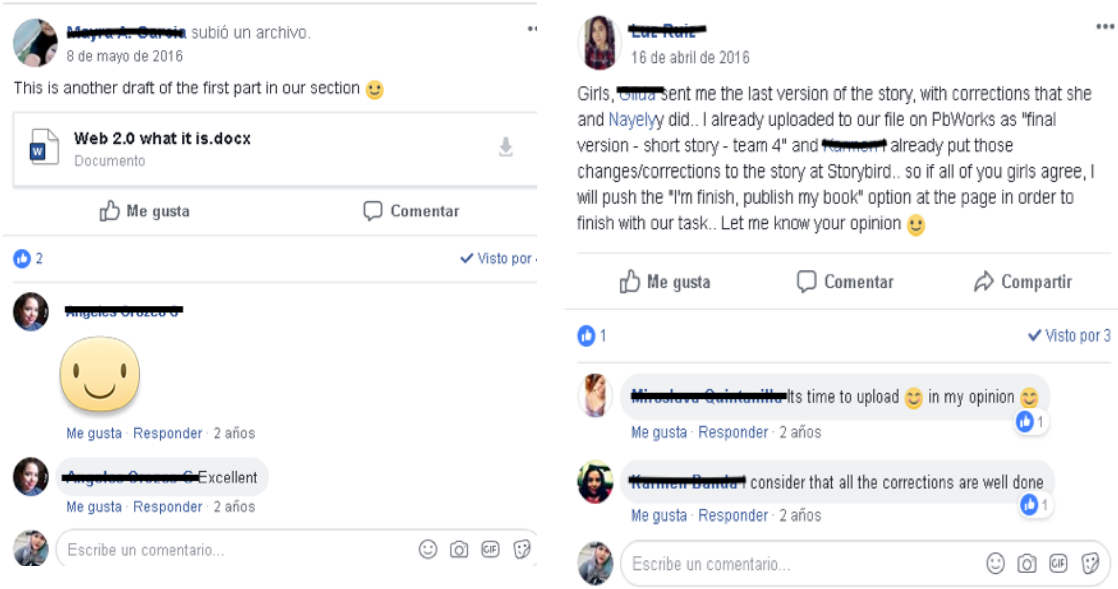
Figure 16. Facebook social interaction

6.3.3.2.3 Social engagement summary

These findings outlined the state of students´ interaction during the writing assignments in which engagement was measured. The data reveals how this incorporation of social media is currently serving in other way of the individual´s social interaction. It shows how participants are reaching and engaging beyond the classroom. Social networks are playing a large role in how schools can use social media. This baseline will help to indicate movement and progress for

future research on the role and implication of technologies in the literacy practices.

6.3.4 Analysis of students written texts in a Wiki

In this section there is an analysis of the students writing process in the collaborative tasks and how the Web 2.0 tools help them to produce better texts. It explores the participant collaborative planning, editing and revising for writing using a wiki platform. The drafts derived from the tasks were first drafted based on ideas from the social media groups (Facebook) as shown in the previous section. In this venue the participants interacted and showed that the higher the interaction they were more engaged in the task thus resulting in better products in writing.

Wikis are collaboratively authored, searchable documents linked internally and externally. For classroom purposes, wikis are designed to help on the writing process as students post and edit from peer's work. Readers of the wiki can find needed information by using search-and-find procedures, (Smith, 2008) that definition is in accordance with the purpose of the whole study which is to see how students can engage in a task collaborating in an electronic tool.

Wikis offers opportunity for engagement, reflective and collaborative creation of content, extends learning beyond the boundaries of the classroom, and provides blended learning activities that might not be possible in the classroom (Tucker, 2014). To measure engagement the qualitative findings section will provide such evidence.

6.3.4.1 Process of editing and drafting
Participants were asked to perform three writing assignments during the intervention. The assignments were based on collaborative writing approach using Web 2.0 technologies. The intention was to have the learners use different tools for the writing process, during the planning phase. They used the Facebook groups for negotiation, planning, and setting goals as a team. In the following phase they used the wiki as a space to upload their drafts and have corrections. Finally, the blogs served as learning journals for student's reflection and learning.

The materials for each one of the activities were available from the wiki page in PBworks the site: http://writingtande16.pbworks.com. PBworks is a web-based application that was used as a Wiki platform for the students´ familiarity with the tool. It is supported by password protection to prevent any unnecessary intrusions. The Wiki was used for peer editing, uploading drafts, and final versions of the texts before uploading into the different Web 2.0 tools.
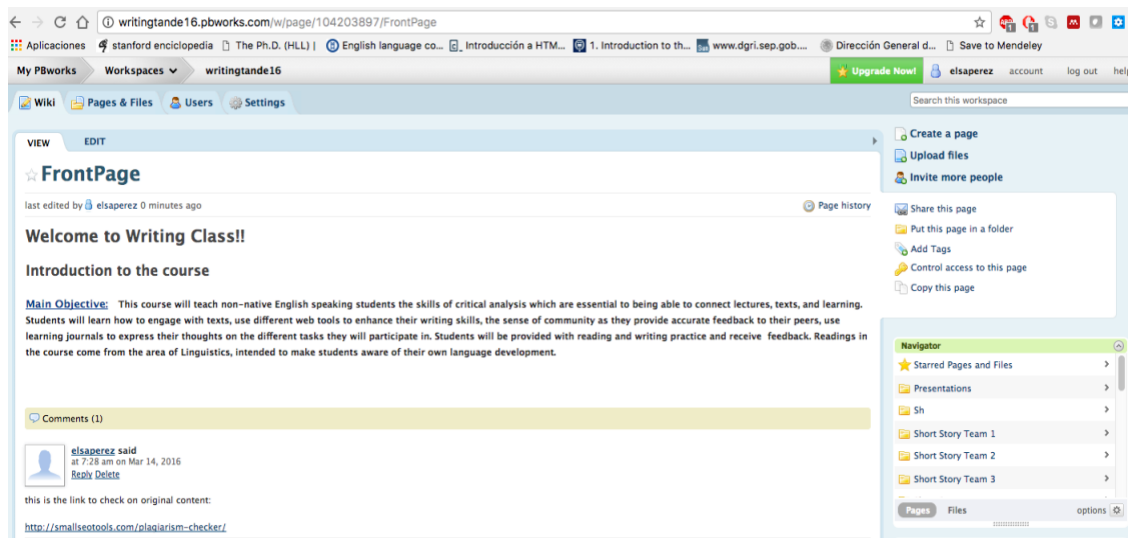
Figure 17. Wiki page interface

With respect to training on the wiki, most of the participants had already used this as a platform for classes during their studies in the BA since their first semester at the university. This was one of the reasons why this platform was chosen for this particular study.

The practice of collaborative planning helped participants in their teams to generate better texts. Each one of the members of the team had to write a piece of text. The nature of revising peers work varied, usually in their roles in the teams they chose the more experienced language students to be the reviewers. The reviewers used a color code to help them identify and classify the errors. These categories derived from the institutional analytical rubric for writing. The categories include content, organization, vocabulary, language and mechanics. The evaluation criteria range from 2.0, 1.5, 1.0 and 0.5. The 2.0 is the highest score. The categories evaluated in the top score were as follows:

Table 12. Analytic Rubric for Writing. Adapted from Jacobs et al (1981)

Feature	2.0 pts.	1.5 pts	1.0 pts	0.5 pts
Content	Knowledgeable – substantive – thorough development of thesis relevant to assigned topic.	Some knowledge of subject – adequate range – limited development of thesis – mostly relevant to topic but lacks detail.	Limited knowledge of subject – little substance – inadequate development of topic.	Does not show knowledge of subject – not substantive – not pertinent – OR not enough to evaluate.
Organization	Fluent expression – ideas clearly stated/supported – succinct – well organized – logical sequencing – cohesive.	Somewhat choppy – loosely organized but main ideas stand out limited support – logical but incomplete sequencing.	Not fluent – ideas confused or disconnected – lacks logical sequencing and development.	Does not communicate – no organization – OR not enough to evaluate.
Vocabulary	Sophisticated range – effective word/idiom choice and usage – word form mastery – appropriate register.	Adequate range – occasional errors of word/idiom choice and usage but meaning not obscured.	Limited range – frequent errors of word/idiom form, choice, usage –meaning confused or obscured.	Essentially translation – little knowledge of English vocabulary, idioms, word form – OR not enough to evaluate.
Language	Effective constructions – few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions.	Effective but simple constructions – several errors of agreement, tense, number, word order/function, articles, pronouns, prepositions, but meaning seldom obscured.	Limited range – frequent errors of negations, agreement, tense, number, word order/functions, articles pronouns, prepositions and/or fragments, run – ons, deletions – meaning confused or obscured.	Virtually no mastery of sentence constructions rules – dominated by errors – does not communicate – OR not enough to evaluate.
Mechanics	Demonstrates mastery of conventions – few errors of spelling, punctuation, capitalization, paragraphing.	Occasional errors of spelling, punctuation, capitalization, paragraphing, but meaning not obscured.	Frequent errors of spelling, punctuation, capitalization, Paragraphing – poor handwriting – meaning confused or obscured.	No mastery of conventions – dominated by errors or spelling, punctuation, capitalization, paragraphing – handwriting illegible – OR not enough to evaluate.
Final Score 10				

Evaluation involved knowing about the topic, be able to formulate sentences accurately, having enough support on the ideas, be able to have a cohesive logical sequence of statements, mastering an appropriate range of vocabulary, and good use of punctuation, spelling and grammar.

The peer evaluation provided the students with accurate feedback to help them improve their writing. The following are some examples on how this feedback took place (see Figures 18, and 19).

Figure 18. Peer feedback online example 1

In this example we can observe that the feedback was conducted online providing the students the opportunity to collaborate and be punctual in evaluating the different aspects contained in the rubric. The color code was used to differentiate the type of errors. Adding the comments on the right, help the students to interact and be able to understand better certain aspects that needed to be reconsider or rewriting. Besides pointing with the color code, the different aspects, students were able to consider other things such as plagiarism. It is important to mention that along with the writing rubric to evaluate peers, the participants also used a plagiarism checker online, therefore in the Table 13 shows the percentages of originality in each one of the reviewed texts. Here is another example of how feedback was given through online tools.

Figure 19. Second example of peer feedback

In this part, it is observed that the peer is also providing suggestions in vocabulary and giving some feedback on grammar. The overall perception of the students was positive when receiving feedback from their peers, in the qualitative analysis; opinions on this matter will be expressed.

Words of encouragement were also observed at the end of the feedback, here is an example:

Well done! Just try to separate the text into paragraphs like I did, and be careful with the commas, don't forget to put them to separate your ideas.. Tha material is also authentic

Collaborative writing offers the possibility of having this kind of experience, even when a rubric is so analytical, the opportunity to collaborate online provides interaction of friendship where feedback is not seen as an impersonal evaluation but rather an opportunity to learn from the experience of the other.

The most advantages of using online community environments are the sense of cooperation, inclusion and appreciation from the other members of the community. Table 13 shows the total of peer reviews performed and the results on the different categories in the rubric.

Table 13. Number of corrections made from peers

ST	Amt. of corrected words	Content	Organization	Vocabulary	Language	Mechanics
1	278	1.0	1.5	1.5	1.5	1.5
2	573	2.0	1.5	1.5	1.5	0.5
3	642	0.5	0.5	0.5	1.0	2.0
4	142	1.0	1.0	1.5	1.0	1.5
5	187	1.5	1.5	2.0	1.5	1.5
6	228	0.5	1.0	1.0	1.0	1.0
7	225	2.0	2.0	2.0	2.0	1.0
8	278	0.5	1.5	1.0	1.0	0.5
9	199	2.0	2.0	2.0	1.5	1.5
10	315	2.0	2.0	1.5	1.5	1.5
11	144	2.0	2.0	2.0	2.0	2.0
12	225	0.5	0.5	0.5	0.5	0.5
13	233	2.0	1.5	2.0	2.0	2.0
	Average	**17.5**	**18.5**	**19**	**18**	**17**

This table ranked from 2.0 the highest to 0.5 (poor, deficient). The strongest areas with higher scores were vocabulary followed by organization. It is important to mention that once the students receive this feedback, they were

able to correct their texts and provide a final version. The final version of the text had 35-46% of text improvement, the main areas of improvement were in grammar, punctuation, (language), and mechanics.

6.3.4.2 Summary of the quantitative findings

Survey results were consistent with the positive perception participants have in regards of using technology in the school setting. Their digital competence shows to what extent they considered themselves skilled in the use of the tools. And the texts produced reflected a higher level of detail in content and organization in the final drafts. These results are complemented by the qualitative findings to provide a better analysis from different methods.

6.4 Findings of qualitative analysis
6.4.1 Introduction

Qualitative analysis provides a more flexible way to examine the phenomena. It provides spontaneity and more interaction between the researcher and the participants (Mack, 2005). It is a process of naturalistic inquiry that seeks in-depth understanding of a social phenomenon within their natural setting (Creswell, John W. Edition, 2009). One of the main focus areas are culture, society and language communication. The purpose of using this multi-method approach is to understand the meaning of their lives in specific setting, a richer understanding regarding the process of writing from their own experience, thoughts, and actions.

The organization and accommodation of qualitative data was organized considering the analysis of both sets of data: learning journals and the focus groups. This thematic analysis was performed using deductive coding with some themes already in mind taken from the literature review and the research questions and an inductive coding of responses for the emerging sub-themes. Axial coding was undertaken by comparing and contrast different themes. There is also a case study from two participants presented at the end of the chapter.

6.4.2. Procedures for data analysis

With regard to the thematic analysis, the Braun and Clarke (2006) model was used. It is organized following these steps: 1) Becoming familiar with the data, 2) generate initial codes, 3) search for themes, 4) define themes, 5) review themes and 6) write-up. There was a total of 21 learning journals with 116 total logs or entries. During the first with regards to the experiences through the writing process using Web 2.0 tools. No information was previously given to the participants regarding grading or credit. The total number of entries was 116. The entries will be referred as "logs" followed by their initials to maintain participants´ anonymity. Each participant created their own blog where they shared their experience as were performing the writing tasks, as well as their reflections. All entries were converted into simple text format and then uploaded into NVivo 12. The decision of using this qualitative software for content analysis was because of the amount of data collected from the entries and to facilitate data organization and coding.

Coding as defined by Saldaña (2015) is an attribute, a portion of language or visual data, a research generated construct that can help visualize data. In this case, the first cycle coding was determined through the literature review and the research questions. Braun & Clarke (2006) distinguish between a top to bottom theoretical thematic analysis driven by the specific research question or analysis aim. And the inductive one that is taken from the data as it is analyzed. The open coding analysis was mainly directed by the research questions and it provided the starting point to inductively create the subthemes. The relationship of the variables in the research questions as well as the themes in the content of the literature review and their correlations as can be seen in the following Figure.

Figure 20. Interrelation of the variables from the study

This text analytics and word frequency was made through an open-code web application to analyze word frequency and determine relationship between the variables. Voyant Tools supports academic reading for corpus and texts analysis. As seen in the above figure, the themes consistent during the development of the literature review start isolated and then converge into a point where they share their relationship. This interrelation connects the web tools, students learning, and writing, which maintain their consistency throughout the development of the study.

In the first cycle of coding (Saldaña, 2013), three main themes were identified: collaboration, engagement, and participation. The second cycle of coding resulted on the different types of engagement, under these there were subcategories such as perceived learning, easiness of use, feedback, among others, see section

The researcher carefully read the entries and discriminated those that were not relevant for the analysis. For example, there were some entries that were evaluates as the first task for assessing writing but did not bring value to the research on the qualitative aspects since they were only informative post over a topic but did not contained any opinion or reflection from the participants. A total of 46 entries were not included in the analysis because they did not represent an opinion or a reflection. The sample to be analyzed was converted into .txt format to facilitate their inclusion in the NVivo software as seen in Figure 21.
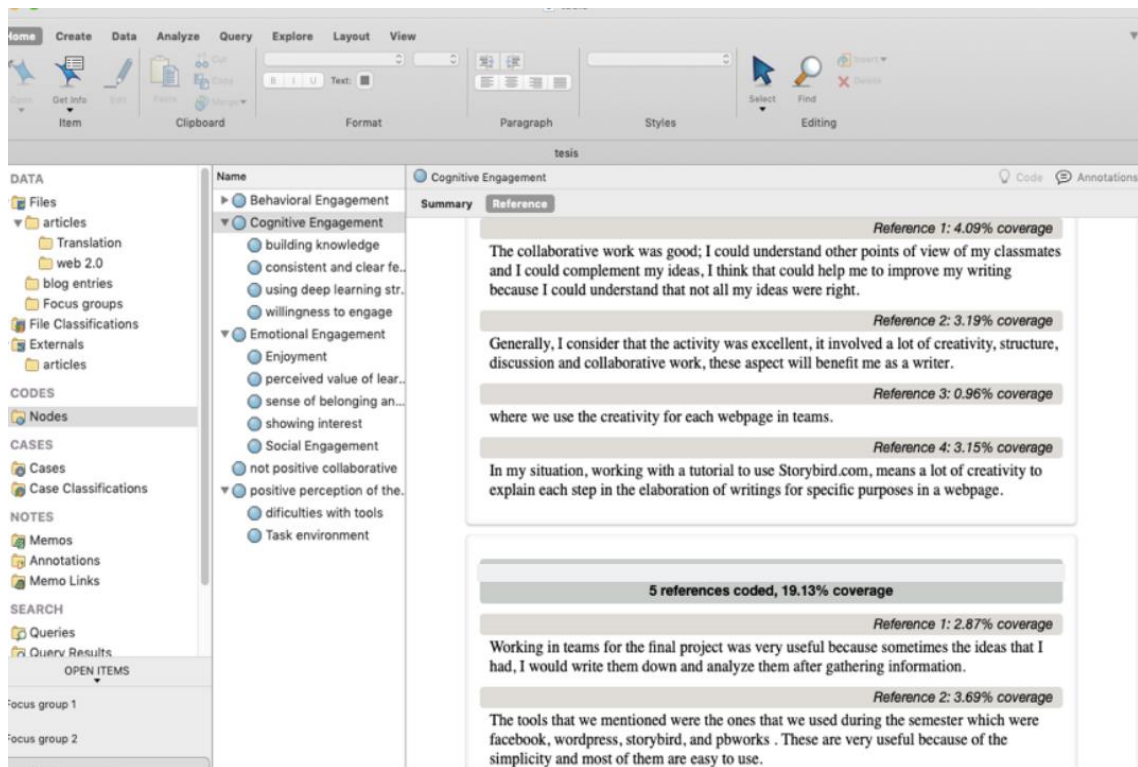
Figure 21. NVivo coding from main themes and subthemes

As the codes were developed some of them clearly fitted together into a theme. A good example of this is that we had several codes related to perceptions of how the students approach the writing tasks using the web tools. We unified these into an initial theme called *Web 2.0 in the writing process*. After the first cycle of coding, the codes had been organized into larger themes that were related to a research question. These themes were mainly descriptive. They described patterns in the texts relevant to the research questions. The second theme has to do with the participants' self-perceived learning; there are important subthemes to consider in this part. The other major theme was *building a learning community* based on the theoretical framework of communities of practice. This includes subthemes related to negotiation, shared repertoire, knowledge building, joint enterprise, and mutual engagement, although this last was considered as a separate theme due to the differentiation between the types of engagement and their relevance in this study. The three dimensions of engagement: Behavioral, Cognitive, and Social (J. A Fredricks et al., 2004), adding a fourth type: social, were identified. However, there were other sub-codes or themes resulting from the initial coding were considered in

the analysis, but later became part of another bigger. These relationships are important to facilitate understanding of collected data and to complement this multi-method approach as Cohen et al. (2013) has mentioned that there are no set of standards on how qualitative data should be processed, therefore, researchers must decide the most suitable steps to lead into significant conclusions and findings. To ensure reliability of the coding the researcher asked a colleague to review one of the dimensions, all codes were revised for consistency and comparison.

The organization of themes was performed using a table template to facilitate graphic relation of themes and subthemes. This relationship considered axial coding considering the research questions and findings for subsequent sub-themes.

Table 14: Organization of Thematic Analysis

Themes	Subthemes	Examples of extracted text	Theoretical Framework
1.Perceptions of the use of the Web 2.0 tools in the process of writing	-Generate major ideas and concepts	"The collaborative work was good; I could understand other points of view of my classmates and I could complement my ideas, I think that could help me to improve my writing because I could understand that not all my ideas were right." Log1 CB	Cognition processes (Kucer, 2014)
	Easy of use	I don't find any disadvantage in Pbworks , the advantages that this tool has is that is easy to use, you can upload and download documents whenever you want and make your own folder is very well organized to work there. L1 CA	Writing a social activity Englert, C. S., Mariage, T. V., & Dunsmore, K. (2006)
	Developing the text	Working in StoryBird …is a good page where you can be creative as much you can, develop your own ideas and select images that follow a sequence in order to use it in your story. Log2 CB	
	Shared space for interactions on/offline	Also, another thing that I can said is that StoryBird was helpful at the moment we create a story because it makes the work easier and there were many options to choose the way you like your story as the format, the characters and the setting. Log3 CB	
	Reflect, respond, react	The tool I like the most in where we worked was Pbworks, in that website you can upload your information and all the drafts you wrote during the process of this task and also my classmates and I were able to download whenever we want their works and give them feedback. L4 CB	
	Feedback	After getting done my part of the task I received feedback from my team members, that was confused, but I follow directions of the best considering the experience of my classmates. L1 IS	
2. Self-perceived learning	Learning as doing	After the activity in groups we have had learn a lot of things, I did like the way we worked on this project, how we shared information, gave opinion about others' work and participate in teams to create a new learning experience. L1-CA	(Wenger 1998) Online communities of practice
	Mutual Accountability	Another thing that also made me feel great was working in the writing task in teams. Even though I am quite individualistic, this was a good way to known better other of my classmates, which actually found pretty supportive, hardworking and easy going. We had no problems in organizing ourselves and making the post. In general, it was a great experience. L1-PE	Learning as becoming

3. Building a learning community	Generating knowledge	Working in teams for the final project was very useful because sometimes the ideas that I had, I would write them down and analyze them after gathering information. L1 CM	Communities of practice Wenger 1998	
	Shared competences	I think that the task was easier because we worked in teams every class and outside of the class in order to get the work done, and everyone gave peer feedback to each other, on the other hand, it was a bit challenging referring to the way that I had to evaluate my classmate's writing skills. L2 CM		
	Socially constructed content	Working in teams for the final project was very useful because sometimes the ideas that I had, I would write them down and analyze them after gathering information L3 CM		
		I can say that this activity let me a lot of different experiences because, on one side, as it was a team work activity, I interact with my classmates through different social media as Facebook, Storybird, and Pbworks, on the other side we learn about the literary genders and furthermore how to write and illustrate properly a short story. L1 MG		
	Negotiation	Other thing that also made me feel great was working in the writing task in teams. Even though I am quite individualistic, this was a good way to known better other of my classmates, which actually found pretty supportive, hardworking and easy going. We had no problems in organizing ourselves and making the post. L1PE	Learning as becoming	
	Challenges	Complete class task was a little difficult work in team, because probably the topic we chose it was not what each member of the team likes. But use a new app brings challenges so it required time to involve with the tools that it presents. After getting done my part of the task I received feedback from my team members, that was a confused, but I follow directions of the best considering the experience of my classmates. L1-ISV		
4. Students' engagement in collaborative learning	Emotional Engagement	In my personal opinion, it is very helpful to understand the ideas of a certain topic, which is written text. L1AO	Behavioral engagement Finn & Rock (1997)	
	Cognitive Engagement	I learned how to check the writing in an analytical way, to observe the vocabulary used in the writing, coherence and the development. Also, I read every writing most of them have fluency and for me it was easy to follow the reading. L1-CM	Fredricks, Blumenfeld, Friedel, & Paris (2002)	
	Behavioral Engagement	In my situation, working with a tutorial to use Storybird.com, means a lot of creativity to explain each step in the elaboration of writings for specific purposes in a webpage. In each step I try to be explicit enough to share my ideas properly, for this reason I think that I did my best effort in my writing. L2-CB		
	Social engagement	Every member of the team had a particular aspect of the subject to work on, we decided to have the first draft a week before the due date, A so we could check it together and give peer feedback, every time we changed something we posted in the Facebook group and also in the wiki, so everyone could see it. L2-CA		

6.4.3. Perceptions of working with the web 2.0 tools in the writing tasks

This is a predominant theme and includes the overall perception of the different tools, the perception these in the different stages in the process of writing. It includes also the three subthemes:

6.4.3.1 Web tools

Participants identified the overall perception as positive with regards to using technology in the writing tasks. There was a high acceptance on the use of the tools as we can see in this statement:

> *I consider that it is easier to accomplish collaborative tasks with the use this types of tools, not only because Facebook and blogs are already part of our daily routine but also because is easier to be in touch and to receive notifications about what others are doing, in this way we can also give and receive feedback from peers that help us to be able to improve our own work, I like the combination of the three different platforms we use Facebook, Pbworks, and WordPress. P7-B*

This participant´s narrative describes the multiple uses of social media in the academic setting. She finds these tools as an easy way to collaborate due to the familiarity of the use in daily routines, and the combination with the "instant connection" makes it more acceptable because these tools have become part of daily lives. This accessibility, simplicity, openness helps learners to share information and resources among their teams and make it easier for students to work at their own pace, as well as allowing them to see other groups' work (Coyle, 2007; M. M. Woo et al., 2013) to access information quicker and providing feedback and connection when is needed.

Students have positive perceptions about how these tools can improve their skills and facilitates their work (Lai, 2014). In general, during the three tasks strong manifestations of these were identified:

> *I had a very good experience working for the first time with the blog; I really enjoyed a lot because of the editing tools, how our post can be seen through all the world and the options for writing…It was kind of easy to complete this task Log 1 CA*

One determinant aspect to favor a positive attitude of incorporating the web tools into their writing tasks had to do with the frequency of using such tools even if they had used them in other contexts (non-academic). Some participants express the usefulness of the tools in the development of the task. For example:

> *The tool I like the most in where we worked was Pbworks, in that website you can upload your information and all the drafts you wrote during the process of this task and also my classmates and I were able to download whenever we want their works and give them feedback. I don't find any disadvantage..., the advantages that this tool has is that is easy to use, you*

can upload and download documents whenever you want and make your own folder is very well organized to work there L1-GM

In the second writing tasks students had to create a story using a predetermined art from the online software. It was a 15000-word story. They were free to choose the topic, and the sequence of the story. In this task students reported how easy was to start producing text because this electronic tool made it very easy for them to use and follow a sequence, they even expressed that creativity was enhance through the use some of the tool. An example of this is found in the following log:

Working in StoryBird was very easy for me and for the rest of my team because any moment we presented problems to understand how it works. Is a good page where you can be creative as much you can, develop your own ideas and select images that follow a sequence in order to use it in your story. Log 2 CB

This specific tool helped students in the organization of the content and elicited creativity among the members of the group. Another advantage of using these web tools in the process of writing was the fact of reporting experience once concluding each task. This brought an analytic view of the tasks and it was easier to perceive learning. However, 20% of participants felt using multiple tools can sometimes be difficult to handle.

Having the experience to work with Storybird was nice and new for me because I learned how to use the web page, like every other web page at first it was hard to use because in Storybird you use images from another account and something difficult for me to use was adding more images to the story. Log 2 CM

For others it was mostly about familiarity:

Well, I honestly didn't like this site (WordPress), for me it was and it still being difficult to know how it use it. I like more Pbworks than this site…Log 1 MS

Another participant expressed that at the beginning was more difficult because they had to learn how to use some of the tools but as they became familiar with them, they were satisfied with the end results.

We had some difficulties at the beginning when it came to understand how we had to use the different tools, but at the end all the things and steps made sense. And I consider it was a great activity and I am glad about the results.

6.4.3.2 Generate mayor ideas, set plans

During the planning stage, participants felt that using the tools help them to generate ideas and better plan their work:

> *The collaborative work was good; I could understand other points of view of my classmates and I could complement my ideas, I think that could help me to improve my writing because I could understand that not all my ideas were right. Log1 CB*

Similarly, another participant confirmed that using the tools help them to structure their plans and ideas about the text and gave her more confidence.

> *In the short story, as a team we did a brainstorm, we shared ideas…*
>
> *I consider that I could explain most of my ideas and opinions about something. In addition, I believe that this activity gave us a useful tool to structure of our ideas and allow us to forget the fears during the process of writing. Log 1 CB*

For these participants the ideal situation is to set plans for writing considering help from their peers. The planning stage is most of the times neglected in the writing process, and the majority of the participants struggled with good planning. This positive perception during the process helped participants to foster confidence and engage when developing the text.

6.4.3.3 Developing the text

One of the benefits participants felt was that the tools help them to develop their texts and improve their writing skills:

> *I face some advantages with the app use because I practice writing and analyzed some points and tips that help me my weakness on writing L1-MQ*

Like any other social networking tool, a wiki provides a medium for the writing process that promotes different stages of collaboration and scaffolding. A focus group extract also showed a positive perception in relation to working collaboratively to monitor and evaluate language while developing the text.

> *Fue muy rápido desarrollar el texto y ella me ayudó con mi gramática ya que no soy muy buena en eso.*
>
> *It was faster to develop the text and she (talking about a classmate) helps me with my grammar since I am not very good in grammar FG1*

This evidence of scaffolding during the process of developing the text was one of the major benefits identified in the entries. Learners can help each other in

organizing, composing, and revising content and form to ensure a good quality text.

6.4.3.4 Receiving feedback, revising and editing

Participants are more receptive to receive feedback because they are responsible for the collaborative writing activity Storch (2005). As they participate, they become more open to receive feedback.

> *Sometimes is better to receive feedback from out classmates because they understand in as easier way how you want to express or at least what your try to say. To me it was very easy to complete the task in a collaborative way because in our team all work and make the subtopic that we have to write with no problems. L2 CB*

As some anecdotal reports (Yu & Lee, 2015), participants with weaker skills relied on their classmates for writing and/or proofreading the work.

> *After getting done my part of the task I received feedback from my team members, that was confused, but I follow directions of the best considering the experience of my classmates. L1 IS*

University students are very open to the possibility of using Facebook and similar technologies to support classroom work (Roblyer et al., 2010). In the analysis participants evidenced this assertion.

> *In my personal opinion, it helps me a lot to receive feedback from my team because I choose every aspect from everyone. I love using this blog and Facebook because we interact more freely. L2 AO*

Web 2.0 allows providing feedback anytime anywhere during the writing process ensuring effective communication.

> *I think that the task was easier because we worked in teams every class and outside of the class in order to get the work done, and everyone gave peer feedback to each other, on the other hand, it was a bit challenging referring to the way we corrected, I had to evaluate my classmate's writing skills L1 CM*

As it can be observed, participants´ overall perception of using the tools for the writing tasks was effective. Through the use of multiple tools, they were able to produce better pieces of writing.

6.4.4. Self-Perceived learning

As identified in the literature review, using blogs in learning environments can enhance students perceived learning (Churchill, 2009; Ducate & Lomicka, 2008). The more a student engage in a blog or any other web tool, the higher

level of perceived learning, (Halic et al., 2010). In this theme, participants appreciate learning through interactional means. Learning as belonging to the shared space in the Facebook groups.

> *After the activity in groups we had learned a lot of things, I did like the way we worked on this project, how we shared information, gave opinion about others' work and participate in teams to create a new learning experience. L1 CA*

During the practice participants were able to manifest socially constructed content that helped within the community:

> *I learned how to create a blog "WordPress", but I do not quite know how to use it, although I wish it were easier to understand. I think that the task was easier because we worked in teams every class and outside of the class in order to get the work done L1-CM*

Participants also manifested the importance of social media tools in their learning and academic goals and tasks.

> *I think I learned a lot, one of the many things is how to use social media or social network as a tool for academic purposes, is easier to say it than to actually do it, I consider that it is easier to accomplish collaborative tasks with the use this types of tools, not only because Facebook and blogs are already part of our daily routine but also because is easier to be in touch and to receive notifications about what others are doing L1-MG*

6.4.5 Collaboration to enhance students writing skills

Most participants show an appreciation to work in teams during the writing tasks. The benefits numbered included sharing competences, better organization of the text, and reliability. For example, when talking about the writing tasks, working in a collaborative environment helped learners to stimulate social interaction (Khateeb, 2014) as we can see in the following:

> *...every time we changed something, we posted in the Facebook group and also in the wiki so everyone could see it. Log 2 CA*

In the above statement, the constant connections of members of the groups maintain the consistency of the tools (Wenger, 1998). Another participant shared this perception about being in constant interaction through the tools.

> *Facebook and blogs are already part of our daily routine .... is easier to be in touch and to receive notifications about what others are doing, in this way we can also give and receive feedback from peers that help us to be able to improve our own work...Log 2 AO*

Another positive perception was about interaction and negotiation. Higgs & McCarthy (2005) argue that knowledge is collectively constructed through negotiation of meaning and self-reflection fostered a suitable learning environment to learn from each other and clearly engaged in the task:

> *The collaborative work was good; I could understand other points of view of my classmates and I could complement my ideas, I think that could help me to improve my writing because I could understand that not all my ideas were right. L3 PE*

Despite the positive acceptance to the collaborative work a one participant manifested not being comfortable working in teams. Her arguments were the following:

> *To be honest, I wouldn´t work in teams for this exercise again because there were mostly bad experiences and problems. It was stressful and frustrating to me. I would rather write on my own. Log2 PE*

With the example above, we can see participants engaged in the task because they like using of the tools but at the same time, they presented lower levels of collaboration with their peers. A reason for this could be the differences in the level of second language. That is, students with a higher level of English sometimes prefer working individually because it would represent more effort to try to negotiate with others and help them with their weaknesses.

6.4.6 Evidence of the community of practice in online learning

This qualitative part of this study analyzed the creation of a community according to Wenger (1998) elements of a community of practice. Under this approach, the thematic analysis performed in the student's learning journals reveled that cognitive engagement was present according to the statements of participants:

> *Working in teams for the final project was very useful because sometimes the ideas that I had, I would write them down and analyze them after gathering information. L1 CM*

In this particular case, the community was formed in a social media space online and face-to-face through the classroom setting. This provided an opportunity of participation beyond the classroom. A space where students were able to engage in different tasks, learn how to negotiate, respect opinions, and collectively used self-regulation and improvement (Sharratt & Usoro, 2003).

In addition, the community was able to share socially constructed content, create new content, and becoming more influential since interactions are the basis of relationships, and these in return create a community (Wenger, 1998).

The majority of the students' comments were very positive in relation to aspects of having a space to collaborate and receive support.

6.4.6.1 Joint enterprise

Joint enterprise refers to keeping the existence of the community, it goes beyond sharing ideas, it´s about negotiation involving mutual accountability (Moule, 2006). Joint enterprise was evidenced, exactly to what degree may vary. In general, most participants were very positive in regard to working and receiving feedback from the group.

> *Sometimes is better to receive feedback from our classmates because they understand in an easier way how you want to express or at least what your try to say. To me it was very easy to complete the task in a collaborative way because in our team all work and make the subtopic that we have to write with no problems. L1 GM*

In a CoP, participants require to negotiating ways of working towards collaborative agreed enterprise. There were mix perceptions regarding working collaboratively, the majority had positive perceptions and was happy with the assistance provided by peers. Fewer perceptions (20%) showed that when trying to negotiate endeavor a participant expressed:

> *Completing class task was a little difficult to work in a team, because probably the topic we chose it was not what each member of the team liked. L1 IS*

Some positive perceptions regarding sharing enterprise are:

> *The collaborative work was good; I could understand other points of view of my classmates and I could complement my ideas, I think that could help me to improve my writing because I could understand that not all my ideas were right. L1 CB*

Research shows that engagement is higher where students develop strong relationships with teachers and peers (Fredricks, et al 2004). The strong relationships were evident in the logs as participants were performing the tasks.

> *Another thing that also made me feel great was working in the writing task in teams. Even though I am quite individualistic, this was a good way to known better other of my classmates, which actually found pretty supportive,*

hardworking and easy going. We had no problems in organizing ourselves and making the post. In general, it was a great experience. L1-PE

As claimed by Eccles (2016), engagement, is a key contributor of learning and academic success. Part of the success comes from mutual accountability, in the logs acceptance of accountability varied among participants but in general they expressed positive acceptance. Participants enjoyed working in groups for a variety of reasons, development of trust, sense of belonging, and trust in receiving feedback from peers.

> *Working in teams for the final project was very useful because sometimes the ideas that I had, I would write them down and analyze them after gathering information. I then paraphrased the various concepts that I had to do and gave them to my teammates for them to give me their opinion. They did this and they told me what information I should put in my writing, this helped me brainstorm and get more ideas of what I could write. L2 C*

In contrast there were some variations with one or two participants who avoid commitment to the group and preferred autonomous learning.

> *To be honest, I wouldn´t work in teams for this exercise again because there were mostly bad experiences and problems. It was stressful and frustrating to me. I would rather write on my own. Log2 PE*

Joint enterprise also sees the development of trust and support of identity presentation as an added facet of online community of learning (Moule 2006). It was evident that personal identities were identified online.

> *My satisfaction was that I was able to personalize it (blog) and use it, but also, I found that it was easy and fun. I will definitely use it in the future. L2 PE*

> *I added colors and images that represent me. L1 AP*

Assumptions were made about the composition of the group and there were claims in the Focus Groups and their journals about how they presented themselves differently than in a face-to-face learning environment.

> *Me siento mejor dando opiniones en línea se me hace más fácil que hablar con otros en el salón FG1 DO*

> *I feel better expressing opinions online, it seems easier for me than to talk to someone face-to-face FG1 DO*

6.4.6.2. Mutual engagement

Mutual engagement is about IT skills, confidence, learning as belonging to a group or community, it is related to social relationships and on/offline

interactions (Abdel Razak & Saeed, 2015). Moreover, tools or any other form of technology provides a different way of working with more features such as images, videos, sounds, making the tasks be more appealing and engaging. As we can see in the following example,

> *This activity allowed me to use our imagination and put it in practice in a story that all of us create, it also helped us in improve our work as a team. As well, we learned about a platform called "Storybird" and how to use it, in fact, it is a very good webpage where you can give life through images to your story, given that it contains a bunch of random images that you can choose to decorate your story. L1 MV*

Although mutual engagement is a component in the communities of practice, this section considers the classification of engagement proposed by Fredricks (2004) in three areas: emotional engagement, behavioral and cognitive engagement. For this particular study, we also considered social engagement as a parent node since in online collaborative communities of practice, this is important. AS shared in the literature review, leading studies in student´s engagement include aspects such as sense of belonging and value, dynamic and process experienced within a collaborative group, (Järvelä et al 2006), interest in learning, student´s autonomy, (Fredricks, et al, 2016), positive and negative reaction to teachers, peers, school (Finn, 1993), among others.

6.4.6.3. Network analysis for identifying types of engagement

As mentioned in section 5.7.1 to be able to support visually the classification of engagement showed in the journal logs, a network analysis was performed to understand the relationship between the nodes. There are several ways to portraying social networks but for this study I chose a sociogram that identifies different strengths or types of relationships. This was made using Gephi an open source software that analyses social networks. The stronger the relationship the thicker the line. For easy identification a color code was given to the different dimensions: cognitive engagement (green), social engagement (pink), emotional engagement (blue) and behavioral engagement (orange). Participant's anonymity was considered and instead of labeling their names, they were designated with an alphabetical letter order in yellow color.

The nodes are positioned in accordance to the analysis the software makes their relationships based on modeling the words in such a way so that those

with stronger relationships are closer together, and those with fewer (or no) relationships are pushed apart.

I used Gephi because it is easy to use and a good way to visualize online and social networking content. The sub-themes were identified by color matching the bigger category label. For example, Behavioral Engagement included: sharing ideas, participation and positive conduct.
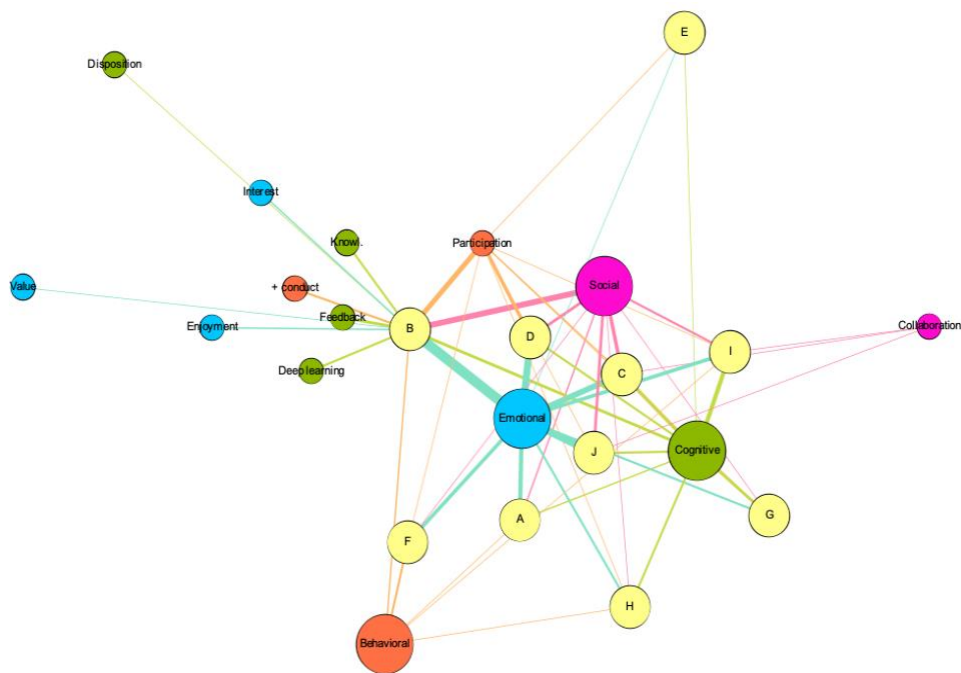
Figure 22. Visualization of engagement network from learning journals

6.4.6.4 Emotional engagement
The initial coding was based on the three dimensions of engagement: Behavioral, Cognitive, and Social (Fredricks et al. 2004). However, other codes resulted from the initial coding that were important to include in the analysis. These relationships are important to facilitate understanding of collected data and to complement this multi-method approach. (Cohen et al., 2000) has mentioned that there are no set of standards on how qualitative data should be processed, therefore, researchers must decide the most suitable steps to lead into significant conclusions and findings. To ensure reliability of the coding the

researcher asked a colleague to review one of the dimensions, all codes were revised for consistency and comparison.

Emotional engagement sub-themes were related to enjoyment, showing interest, and value on their performance. As we can see in Figure 22, emotional engagement is the node with the most incidences in which all students have a connection. While every student mentioned this type of engagement at least once, student B mentioned it 28 times as well as three sub-types of emotional engagement.

Some numbers or letter that do not appear in the network analysis were taken out due to the fact that the contribution was very low or non-existent. For example, participant E shows the lowest number of registrations: only one in cognitive, one in participation and one in emotional engagement. Therefore, we can assume he/she was less aware of engagement than the other participants. That is the reason why student's node is located far from the rest. On the other hand, participant B shows a high level of awareness about engagement. She also includes several sub-codes derived from emotional and cognitive engagement such as enjoyment, and sense of value.

Emotional and social engagement awareness were the most predominant among participants, followed by cognitive and behavioral. This may be a result of the interaction during the intervention. Emotional engagement includes affect (positive and negative) in interactions with teachers, peers, schoolwork, and the school (Eccles, 2016). During this process, interaction became an important component to measure engagement and shared knowledge.

Emotional engaged students show interest curiosity and enthusiasm through a task that facilitates learning. But it can also show task-withdrawing emotions such as anger, frustration, anxiety and fear (Herrington, Oliver, & Reeves, 2003). Participants correlations of emotional engagement with the other types was very consistent and positive as can be identified in the following log:

> *I loved to work in this project, I consider that I could explain most of my ideas and opinions about something…Other thing that also made me feel great was working in the writing task in teams. L1 CB*

> *I believe that this activity gave us a useful tool to structure of our ideas and allow us to forget the fears during the process of writing. Log 2 AO*

However, task withdrawing emotions logs were also present but in less than 20% of the participants.

> *I guess that's why it was frustrating, because people work in different rhythms, styles and with different levels of commitment, and we didn't have enough time, and if someone delays a bit, all the tale is affected. L2 IS*

Newer models of engagement such as academic, and social engagement include how a student follows written and unwritten classroom rules of behavior. For example, coming to class on time, appropriate interaction with peers or teachers, and not exhibiting antisocial behaviors such as withdrawing from participation in learning activities or disrupting the work of other students (Fredricks, 2004). Social engagement was measured considering students affection and behavior during collaborative work. Learning environment: interaction with peers, community, I build on others´ ideas, and work with others.

> *Other thing that also made me feel great was working in the writing task in teams. Even though I am quite individualistic, this was a good way to known better other of my classmates, which actually found pretty supportive, hardworking and easy going. We had no problems in organizing ourselves and making the post. In general, it was a great experience. Log 2 PE*

While a high degree of social engagement may facilitate greater learning, a low degree of social engagement usually interferes with learning, that is, it serves to moderate the connection between academic engagement and achievement. (p.127).

> *I consider that I could explain most of my ideas and opinions about something. In addition, I believe that this activity gave us a useful tool to structure of our ideas and allow us to forget the fears during the process of writing. Log 1 CB*

6.4.6.5. Behavioral Engagement

Behavioral engagement was identified by participation, positive conduct, disruptive behavior, rules, effort in learning, attention, and preparation, (Järvelä et al. 2016; Fredricks et al. 2004; Finn, Pannozzo, & Voelk 1995; Wang 2016).

During the intervention some participants manifested putting effort into learning:

> *I believe that I should keep working with it (task) and create a different page where I write things that I really like. I.S.*

Another participant expressed:

> *The only disadvantage I could noticed is that is possible to spend a lot of time when I work in a space such as Facebook because we cannot be focusing our attention to the task, we are trying to finish with so many distractions in our way. L2 PE.*

The following show more of a disruptive behavior and lack of participation in collaboration. For example, P13_B show some lack of satisfaction regarding working in teams.

> *What I didn´t like was the pressure of finishing the tale, because at this point of the semester I have lots of homework and projects. L2 _IS*

> *To be honest, I wouldn´t work in teams for this exercise again because there were mostly bad experiences and problems. It was stressful and frustrating to me. I would rather write on my own. L2_PE*

This reported disagreement could be to avoid commitment to their group, preferring to pursue autonomous learning. Similar findings are described in Moule's (2016) work.

6.4.6.6. Cognitive Engagement

Cognitive engagement has to do with the willingness to engage in the tasks, Fredricks et al. (2004), task mastery, deep learning strategies to self-regulation. As we can see in this statement, the participant was aware of his accomplishments and self-learning.

> *I learned how to check the writing in an analytical way, to observe the vocabulary used in the writing, coherence and the development. Also, I read every writing most of them have fluency and for me it was easy to follow the reading. L1-CM*

Cognitive engagement was evidenced through the degree of improving writing skills as the example above, but also in acquiring some other type of skills. For example:

> *After the activity in groups we have had learn a lot of things, I did like the way we worked on this project, how we shared information, gave opinion about others' work and participate in teams to create a new learning experience…it helps me a lot to receive feedback from my team because I choose every aspect from everyone. I love using this blog and Facebook because we interact more freely. Log 2 AO*

Participants working in groups were engaged through cognitive interaction, although awareness of emotional interaction was also found. There was evidence of knowledge construction as a result of these forms of interaction.

> *I* think I learned a lot, one of the many things is how to use social media or social network as a tool for academic purposes, is easier to say it than to actually do it, I consider that it is easier to accomplish collaborative tasks with the use this types of tools, not only because Facebook and blogs are already part of our daily routine but also because is easier to be in touch and to receive notifications about what others are doing, in this way we can also give and receive feedback from peers that help us to be able to improve our own work L L2 M

6.4.7 Sentiment analysis for overall perception

A Sentiment Analysis was performed using analytics to get to know the overall perception of the total logs from the students with regard to the experience using the tools in the process of writing. This analysis measures any online source of data through an algorithm that classifies any incoming message to determine whether the underlying sentiment is positive, negative our neutral. Over .5 is considered positive. In the case of blog entries, the Sentiment Analysis showed a total score of .931. This means that the overall experience of the students was highly positive. Table 15 shows an example of three students logs run through Sentiment Analysis. However, sentiment results showed different numbers according to the tasks, and even when the sum of all sentiment was extremely positive the lowest rate was on the second assignment with a student rate of .381 that is a negative perception.

Table 15. Sentiment Analysis from three participants

Both quantitative and qualitative methods were used effectively to collect data and to provide answers to the research questions. The survey (quantitative) answered partially to question **How students perceive the use of web tools as part of their learning?** This was triangulated with the analysis in the learner's blog entries (qualitative) and the Sentiment Analysis (qualitative). Question 2: **Is there any evidence of building a learning community or the development of a community of practice in student's work?** was answered through the qualitative data collection considering key dimensions emerged in the literature: elements of a community of practice: the shared repertoire, mutual accountability and engagement, development of trust, assistance, interaction. Question 3: **How does the use of web 2.0 affect students' engagement in the classroom?** Measuring engagement was important, this

was measured through thematic analysis and visualized using network analysis (qualitative and quantitative).

Question 4: **How does collaboration using web 2.0 enhance writing skills?** Was answered through both quantitative and qualitative data. The information from the focus groups and thematic analysis, as well as the pieces of texts. Question 5: **Is there evidence of text improvement as a result of collaboration?** Is answered through the perceived learning statements in the journals (qualitative) and the evaluation of the final product of the writing tasks (quantitative). A detail information on how these methods answer specifically the research questions will be address in the following chapter.

This brief shows the importance of the research design to collect data from two different strands of data: quantitative and qualitative to ensure triangulation for validation purposes and to expand the ways to analyze the object of study.

Summary

This chapter presented the findings related to both QUAN and QUAL. The factor analysis for validity and reliability of the instrument. The results of the survey, the Facebook contributions and the samples of the written texts. In the qualitative part, the thematic analysis was presented to analyze the blogs entries and focus groups. The sentiment and network analysis were also presented to triangulate information. The complete analysis from the two approaches confirmed the theoretical assumptions of situated learning and social aspects of learning that guided this research. The notion of digital learning communities and how they behave in terms of participation, collaboration, knowledge, engagement and socially constructed content were reinforced and serve to answer the research questions.

Chapter 7: Discussion and implications

7.1 Introduction

This chapter provides a discussion of the findings based on the research methodology explained in Chapter 4, and the data analysis in Chapter 6 along with the existing literature in the topic discuss here. The research design was supplemented by quantitative and qualitative data. The discussion is developed around similar findings mentioned previously in the literature review in Chapter 2 and 3. These findings revealed how participants perceive the use of Web 2.0 technologies in the academic context specifically in second language writing. The themes included in the study are related to collaboration, interaction in an online learning environment, engagement, peer feedback and self-perception of learning. Additionally, this chapter answers the research questions to provide a light on digital literacies in higher education using the Communities of Practice framework in the development of writing.

7.2 Contribution to the field

With this shift in learning and literacy practices, it is important to gain a more critical understanding on the implementation of Web 2.0 technologies in literacy practices. My original contribution to knowledge is on the field of Web 2.0 technologies in second language writing practices. I used a different technique and implemented three different tools for specific purposes to enhance student's experience during the L2 writing process and using a theoretical framework of communities of practice. Something that in my particular context (Mexico) had not been implemented. This research is significant because it explores an area of digital literacy and online leaning communities that is in need of attention and that is relatively new. The implications of the instructor's role in this type of research is also important to consider as through this modality of blended leaning student engagement and collaboration were reinforced.

As a result of this research, several affordances of Web 2.0 technologies that are important to consider:

Affordance	Sub affordances
Collaboration	Sharing ideas, provides assistance, shares competences, builds trust, openness to other's perspectives (Doyle-Jones, 2015) Promotes interactions, creates a system for support, enables consistency within the community, promotes discussion (Mcloughlin et al., 2007)
Engagement	Promotes active participation, good disposition for learning, problem solving, wiliness to engage in effortful tasks (Järvelä, S., Renninger, 2016; C. C. Liu et al., 2016)
Practice	Builds digital literacies, allows critical thinking while discriminating information, manifests socially constructed content, enables negotiation (Coiro et al., 2008; C. C. Liu et al., 2016; Wenger, 1998)
Knowledge	Supports new ways to access information, promotes new practices to disseminate and acquire knowledge, supports individual and collective generation of content (Willms, 2003)

These affordances are important because they go beyond learning a digital skill, they enrich the educational practice and support learner choice and autonomy. Web 2.0 not just reshaped the assumptions on traditional practices of writing when is predominantly teacher dominated, but it contributes to collectively create knowledge and social rapport which promotes a participatory culture. The question is if it is possible that and individual might learn and operate in a society network connected and becomes sharer of ideas, resources and create interdependence while participating in a community. Pedagogy 2.0 uses affordances of web technologies to promote connectivity, participation and develop communities of learning. Now, to what extent thee affordances can be required for effective learning is perhaps a topic to further research.

As stated in chapter one and three, the main purpose of the study was to investigate student engagement and communities of practice in the context of L2 writing, expanding on the notion of new literacies and their affordances. The original contribution to knowledge is in the field of research in online

collaboration for L2 writing and hopes to contribute to the field of 2.0 pedagogies.

The main contribution of the study relied not only in the evaluation of the application of different web tools into the process or writing along with the student's experience through the measuring elements that indicated student engagement. This is important to considered in blended learning approaches and to test efficacy in communities.

The themes covered in the literature are important and their results are discussed to be able to answer the research questions.

7.3 Overall perceptions of the use of Web 2.0 technologies

The results showed that the overall perception towards the Web 2.0 technologies were widely positive. One possible explanation for this quick adoption is the ease of use, their usefulness and the quality of system when we view the Web 2.0 as a complete web toolkit (Karvounidis, Chimos, Bersimis, & Douligeris, 2014). Students perceived the Web 2.0 tools as easy-of-use and were able to identify their usefulness when developing the writing tasks. These findings corroborate the ones made by Brodahl & Hadjerrouit (2011) where they found that Web 2.0 tools were easier to use than traditional text processing. But unlikely to their study regarding collaboration where the tools had no significant effect in collaboration between peers, this investigation showed that the majority of students felt engaged in collaboration and performing the tasks because of using the tools.

> *I consider that it is easier to accomplish collaborative tasks with the use this types of tools, not only because Facebook and blogs are already part of our daily routine but also because is easier to be in touch and to receive notifications about what others are doing, ….I like the combination of the three different platforms we use which were Facebook, PBworks, and WordPress. L2M*

On the other hand, two participants felt that working in groups was difficult as they had a hard time negotiating with peers. This is common as they are used to more traditional practice or could be due other aspects such as individual vs. collective authorship.

Facebook was the most familiar tool students used. It was mainly used it for socializing purposes. However, it was observed that during the intervention the Facebook groups facilitated communication and interaction among the participants in their teams, which resulted very effective to ensure collaboration. This finding is similar to what Shih, (2011) found in a study with Facebook in educational settings, that resulted effective in increasing student's interest and motivation, he also claims that through this tool participants improved their writing skills. In this study however, we cannot assure the same.

Other studies differ from the above findings suggesting that Facebook and other Web 2.0 technologies may not be appropriate for formal learning activities since students use technologies in their everyday interactions for social purposes and may differ in their preferences for technology in formal contexts (Waycott et al., 2010). In this regard, one student commented that was difficult for her to be able to focus using Facebook as she spent a lot of time in it and caused her some distractions:

> *…the only disadvantage I could notice is that it is possible to spend a lot of time when we work in a space such as Facebook because we cannot be focusing our attention to the task we are trying to finish with so many distractions in our way… L2 M*

This does not diminish the majority of the satisfaction expressed by the rest of her classmates, where they found it easy to use, accessible and useful to foster collaboration and engagement.

7.4 Collaboration with Web 2.0 tools

Participants not only were familiar with the use of wikis in the classroom, but they also expressed liking the process of editing and reviewing each other's work through a wiki. These results are consistent with Liou & Lee (2011) work that wikis are very wide acceptable tool for supporting online collaboration and community building, and with Bell (2009), that in the process of writing wikis allow multiple users to edit the content and help each other to ensure a good quality text.

However, during the intervention, a small percentage of participants (less than 20%) felt frustrated as they tried to negotiate with their peers, the same ones thought that collaborating slow them down in trying to accomplish their

assignments. This matches studies from Storch (2005) that points out that due to the facility to edit in the wikis, vandalism or loss of information can happen from other members of the team, and it can be challenging for students to claim individual ownership. Additionally, it can create aggressive attitudes and feelings of discomfort among users.

> *The only thing I did not like was the collaborative work, in this occasion I felt that I did not have a team, the first organization were well done, but the rest of the structure and the order were not adequate. In addition, I did not receive correction of my work, so I could not know what my mistake was, so I could not improve my skills as a writer. L2 CB*

In the second assignment, the above participant felt alone in the process of writing. This might have been done to the poor level of commitment from her peers or the fact that she had a higher proficiency level, therefore, did not received as much correction as she would have liked. A reason for this could be that more experienced writers require less surface corrections. Therefore, when they work with other peers with a lower level of proficiency, it is difficult to collaborate because it represents more effort:

> *I guess that's why it was frustrating, because people work in different rhythms, styles and with different levels of commitment, and we didn't have enough time, and if someone delays a bit, all the tale is affected. To be honest, I wouldn't work in teams for this exercise again, because there were mostly bad experiences and problems. It was stressful and frustrating to me. I would rather write on my own. L2 PE*

Although the student's above claims are genuine, the general perception of the rest of participants was very positive towards working with peers and the tasks became less complicated as ideas and knowledge were fostered by the interaction and collaboration. Some students even become more "socially connected" in the online environment than in face-to-face encounters. This matches (McCarthy, 2010) findings that inclusion of Web 2.0 can help student's develop peer relationships, and interactive discussions. However, in his study there were mixed perceptions regarding collaboration and responsibility mainly due to the fact that sometimes people can become "antisocial" in a technology ruled environment. In our study there was only one student in the network analysis who did not present a strong engagement awareness compared to the rest.

7.5 Scaffolding

The results indicated that there was evidence of scaffolding according to the statements in the content analysis and the evidence in the written pieces corrections. In the statements from the logs, less experience participants (less proficient) benefited the most with the collaborative writing blended approach as they asked for help and were open to their peer's corrections. At the same time, more experience writers were able to assist, and this assistance brought them confidence. This is consistent with Donato's (1994) work that claims that during social interaction individuals with unequal skills benefit from each other.

The interactive features of technologies enable scaffolding and brings opportunities to socially construct content and mutually engage (Allen, 1984; J. A Fredricks et al., 2004; Järvelä et al., 2016).

> *My team gave me feedback of my writing, and so I did with them. I consider that this was a great way to notice our mistakes and correct them and to appreciate the good work we have done. They were all nice comments and the corrections were made in a polite, classy way. Which I consider is pretty important; none of us made or received harsh comments. L1 PE*

This is consistent with another study by Shih (2011), where students benefited from scaffolding using Web 2.0 such as Facebook. Collective scaffolding may result in linguistic development (Donato, 1994).

The less experienced writers extend current competence. In other words, this process of reliance on a more capable participant is what is called *internalization* (Vygotsky, 1978), explained that the expert is being observed to guide, bring support, and shape actions on the novice, this last, internalizes the strategies shared by the expert. In the current findings, this internalization was present as we can see in the following statement:

> *After getting done my part of the task I received feedback from my team members, that was a pretty confused, but I follow directions of the best considering the experience of my classmate L1 IS*

These elements of sociocultural theory showed in the results are important to evidence that knowledge and skills can be transferred in a social environment.

7.6 Interaction

Participants interaction was very high, the number of interactions in the Facebook groups clearly showed that they were in constant communication.

They made meaningful and social connections with the members of their teams as they actively participate in the wikis, and FB space. Similar to other participants in different studies who expressed that using these web 2.0 tools keep them motivated to learn as they interact and work together in a common objective or enterprise (Edwards-groves, 2012), the participants of this study, expressed satisfaction after using the Web 2.0 tools in their academic writing. This culture of mobility and constant connection allows students to present themselves, articulate their social networks and maintain connections with their peers (McCarthy, 2010; R.-C. Shih, 2011). These results were consistent with the findings explored in McCarthy´s work where Facebook was a successful integration into the course. These findings also were consistent with the blog´s entries where participants expressed the constant connection in delivering their tasks:

> *Every member of the team had a particular aspect of the subject to work on…we could check it together and give peer feedback, every time we changed something, we posted in the Facebook group…so everyone could see it. L3 CA*

Due to this constant interaction, participants were able to receive rewarding comments and contributions from their peers. An evidence of this interaction can be found in the network analysis and the Facebook chart in the previous chapter. Participants also demonstrated constant connection with peers during the revision process as they provide corrections in the wiki space.

The above discussion of the general findings from the participants' experience sets the context to answer the following research questions:

RQ1. How students perceive the use of web tools as part of their learning?

Social theorists claim that learning is a social activity and that knowledge is constructed through social interactions in a specific context Higgs, B., McCarthy (2005). The findings showed evidence that participants were aware of their own learning and progress. In addition, in their statements, they expressed having learned from the interaction, tool or through the internalization process.

> *I learned how to create a blog "WordPress" … I think that the task was easier because we worked in teams every class and outside of the class in order to get the work done, and everyone gave peer feedback to each other L1 CM*

In the findings, students went to a learning process that was based on collaboration. This process helped them to develop oral and online communication solving problems, negotiation, and leadership skills. This was evident in the Facebook group's interaction, and logs.

> *Also, another thing that I can said is that Storybird was helpful at the moment we create a story because it makes the work easier and there were many options to choose the way you like your story as the format, the characters and the setting. I enjoyed working in team and in this page because I felt comfortable sharing my ideas with my team and that all the ideas that our team had were included in the story, we tried to find the way to use all of them in a coherence form. L2 GM*

The critical reflection about their work through the use of blogs helped them internalize learning and see their progress as their logs began expressing a deeper understanding of the things they learned. This result matches the results of other previous studies of Chao & Lo (2011) where the use of web tools helped students to diminish fear and support confidence. Similarly, in Chen et.al (2005) the integration of tools increased the engagement of the students and enhanced their learning. The factor analysis showed a positive acceptance of the tools, and familiarization along with frequency of use. These results were confirmed with the logs and sentiment analysis.

Weblogs or blogs were considered as learning journals, which focused in two main objectives: to promote self-reflection and support individual learning. Therefore, students could monitor their own progress based on their experiences, and foster collaboration as they shared their content with peers. The overall perception of using the blogs as a means for reflection was positive (see 5.5.5). In the sentiment analysis results matched the ones from the blogs´ entries. These findings are in relation to the study of Hain & Back, (2008) where a method they used to enforce individual learning using blogs turned out to be effective.

Participants were able to also acknowledge their weakness and ask for help during a challenge. This is only evidence that students were in control of their learning process. This was a new form of discovery where they had to make decisions, negotiate and internalize the information. The teacher only served as a guide or facilitator but was not giving all the solutions at glance, instead she

created an atmosphere where participants could negotiate and learn or in other words create a community of learning. However, teacher student's interaction was present.

Examples some logs directed to the teacher:

> *Teacher, you have been doing an excellent work teaching us in a different way the writing process with technology, I recommend you to still doing the same thing, I'm learning a lot of it. L1 MV*

> *I would suggest that the teacher should also give feedback in future tasks and also to keep the teams as they are because I feel that my team and I work very fast and efficient. L2 CM*

The above comments show that students feel open to suggest and express opinions, this dialog is important to reinforced communication and interactions between teacher and learners.

RQ2: Is there any evidence of building a learning community or the development of a community of practice in student's work?

The current investigation was based in the community of practice (Wenger, 1998). A community of practice is a form of a learning community. Student's perceptions about mutual accountability, mutual engagement, and trust, interaction, negotiation, and knowledge creation were evident in both the qualitative and quantitative results.

In this case study, participants examined forming a community of learning in online collaborative L2 writing. The results indicated that there were elements of a community of practice. The categories identified in the thematic analysis show a clear evidence of some of the student's statements through the blogs. For example, in order to achieve mutual accountability, students need to negotiate ways to an agreed enterprise. This does not imply they all need to share the same view but must negotiate enterprise.

> *For the final step we decided that it would be better if just one person was in charge to edit the page specifically in our section so I did it, for me it was a very fun challenge because at first I did not know anything about that page but after looking at it I learned. L2 CA*

Other elements of the community of practice were evident through the focus groups and the Facebook communication. Some of these interactions were more significant than others. But in the end, they helped students to build trust,

create a cooperative atmosphere that promoted mutual engagement. Mutual engagement was present within the Facebook groups, the wiki corrections, and through the logs and network analysis. Online exchange was reinforced with face-to-face interactions.

Students were able to show their personal identities. This evidence was manifested through the online personal blogs and the FB groups. This helped members of the community to develop a sense of belonging. These findings matched those of Moule, (2006) were she found that elements of the community of practice can also happen in online environments.

Examples using Storybird:

> *The short stories represent something totally different to our type of writings, this particular genre develop creativity and ideas that are part of each person. L1 CB*

Example of a log:

> *My satisfaction was that I was able to personalize it and use it, but also, I found that it was easy and fun… is funny and colorful, and you have freedom to choose your blog's style. I just wish it were faster. L1 PE*

In Moule's study participants had a restriction for access Internet that affected collaboration in this research accessibility for online learning was not a problem. Identity was reinforced as a result of online collaboration in the community. And in some other cases, presentation online confirmed that some participants who were very quiet and reserved in the classroom, could turn into a different persona in an online environment. A possible explanation to this is the universality and openness of social networks can promote. This was evident the case of student B in the network analysis in Chapter 5. She was very quiet and serious in class but when she started using the different tools, she gained confidence in her writing and her abilities and was able to become a more social and trusting person.

> *The process of recording my writing help me to understand better the creation of a tutorial, I feel that was adequate but I wanted to be better with the help of my classmates, but it does not matter, at the end of the work I feel I did the right thing. CB L3*

We can suggest that through the online community of practice students are able to show other personal traits that in a face-to-face context could pass unnoticeable.

The above results suggest that participants were able to demonstrate the development of elements of the community of practice such as mutual engagement, joint enterprise and shared repertoire.

RQ3: How does the use of web 2.0 affect students' engagement in the classroom?

Engagement was manifested in different forms such as the numbers of interaction in the FB groups, in the network and sentiment analysis, and the logs.

> *During these previous classes, I learnt how to manage a blog, how to post some information I got by my classmates' presentations on it, as well as, some articles we read during the class. This kind of activities are very useful for us because actually we are surrounded by technology and we are facing new changes about it; it is very common to use our social networks, such as Facebook, Twitter, and so on wherever we are and post something that comes to our mind. Using technology for academic activities is also a useful tool, we can upload and search about a specific academic topic on the Internet, it makes us to do our activities faster and easier that older times. L2 MV*

Different types of engagement were evident and manifested during the intervention. All types of engagement were present. Interactions were mainly do with cognitive engagement. The results in the network analysis showed strong lines in emotional, cognitive and social engagement. Followed by behavioral engagement. These findings are consistent with the work of Järvelä et al. (2016) where she claims that emotional and social engagement types of engagement are the most common when working collaboratively, but that eventually lead to other types of engagements such as cognitive and behavioral.

Cognitive engagement was very strong manifested in the logs from many participants:

> *This was new for me, talking about making videos but I learned many things new like how some programs of videos works. … I am not expert in making videos but I did the best I could in that tutorial and of the new things we do, we always learn something. L1 GM*

This is important because initiating engagement, helped participants learn how to negotiate, respect opinions, use self-regulation and be in constant improvement. In their study Järvelä et al., (2016) found that these dialogs among students help them to acquire this appropriation with the text to improve practice and this leads to collective engagement.

Evidence of engagement students did not come only through the logs but through the Facebook interactions as well. The results indicated that there was a high number of interactions in the FB groups. The interactions had different purposes such as posting information to help on the topic they had to develop in the writing tasks, show appreciation through an emoji or feedback. These findings matched the ones by Mcloughlin & Lee (2007), "tools allowed participants to converse and interact with one another while on practicum to exchange ideas, share experiences and provide mutual support" (p.11).

Students also showed clear evidence of behavioral engagement by following instructions and work in teams despite the challenge of working with other people that are not usually associated with.

> *In the end we got the task done and I really liked working with the page, the only thing I think I wouldn't like doing again is working with people that I don't get along with, I feel that in order to work well we have to be with people we feel comfortable with, that is my opinion.L2 CM*

Working with peers especially in an online environment can result challenging. However, students were able to manage collaboration and negotiated enterprise. The results resulted from triangulation of quantitative and qualitative findings demonstrated a high level of engagement both individually and collectively.

RQ4: How does collaboration using web 2.0 enhance writing skills?

Web 2.0 facilitates collaboration. Participants facilitated the process of integrating each one of the members of the teams into a learning community. The results showed that less experience writers benefited through collaboration. Working collaboratively with the tools helped them to reduced anxiety and fear as this participant expressed.

> *In addition, I believe that this activity gave us a useful tool to structure of our ideas and allow us to forget the fears during the process of writing. L1 CB*

This is similar to Doyle-Jones (2015) work that in her study with digital technologies and collaborative learning found that through Web 2.0 tools digital technologies make student's more socially and cognitive accessible. This collaboration helped them to open their possibilities of communication and it is a good way to encourage participation in collaborative literacy activities. In these findings, participants were engaged in a space where they were able to share their ideas and arguments about the topic given in the writing assignments. This learning environment allowed students to share, upload information, review, and provide feedback.

During the development of composition, students were able to benefit from other´s points of view, ideas, and re-organize their own writing. They felt comfortable discussing and sharing ideas with their peers.

Some participants preferred working in teams to develop different writings tasks.

> *Writing for me would have been something very difficult for the languages, it would have required more time, because for example, working in a team is like I have an idea and see what others think instead if I were alone I would think "this is not right" and I would have to start again FG2*

The perceptions of using Facebook to support collaboration during the whole process of writing resulted very effective. A strong evidence of effective communication was the number of interactions students had within the groups. At first, the interaction was not frequent, but as students starting viewing this social network as a means for academic communication, the expressions of satisfaction started to emerge (Mills, 2009). All interactions documented in the Facebook groups were made in L2. It is important to mention however, that during the interview in the focus groups, some students manifested using a combination of L1 and L2 in the face-to-face activities prior to composition.

> *I think we talk the same way because we speak in Spanish but it is only to talk about what else we are going to put in and it is easier for us to continue speaking in English, but if someone does not understand or does not know how to put it we say it in Spanish and now we change. FG1*

A possible reason for this was that is that they feel comfortable in both languages but the informality in the classroom teamwork and friendship may led the less proficient students to be switching back and forth as they tried to

negotiate enterprise. Facebook helped them to develop peer relationships, which may lead to trust, and collaboration in a more genuine way as McCarthy, (2010) found in her study. Working with Facebook contributed to the writing process, as they were able to upload relevant information for the tasks. Every material was put into consideration with the members of the teams for approval.

However, initially, the survey findings showed that despite of having experience using the wiki only a small percentage use it to review and edit (individually). This view changed as the students started working collaboratively and were engaged in the tasks as they expressed in the logs and were able to correct peer´s work. These findings are similar to the ones found by (Pifarré & Ros, 2011) where they found wikis support students' writing and revision strategies. Similarly, in (Chao & Lo, 2011) findings students were able to develop scaffolding and reduce student´s anxiety. This was also expressed in the logs where working in this kind of environment helped them overcome fear.

The difficult part for some students was the learning curve to be able to use all the tools in a process.

> *During this process of creating a blog and group posting, I learned lots of things, like how to manage different platforms or blogs even when I am not used to them. WordPress was either a challenge or a satisfaction, cause it took me out of my comfort zone, since I voted for using Tumblr instead of this. My satisfaction was that I was able to personalize it and use it, but also, I found that it was easy and fun. I will definitely use it in the future. L1 PE*

Peer feedback came from multiple sources (rubric, Facebook, wiki). This is one of the advantages in online environments (Doyle-Jones, 2015). Results showed that students were opened to receive feedback from their peers in most cases. Only one participant struggle to provide feedback:

> *I think that the task was easier because we worked in teams every class and outside of the class in order to get the work done, and everyone gave peer feedback to each other, on the other hand, it was a bit challenging referring to the way that I had to evaluate my classmate's writing skills. Even though I consider myself a good writer which I understand is to have good grammar and to have cohesion, and things like those. The only thing I think that I struggled the most with is what I said before, in the evaluation part. L1 CM*

Findings of the present study also indicate that even though primary feedback was made using the analytic rubric with specific areas of content, organization, vocabulary, language and mechanics, some participants contributed with

additional and specific comments that were appreciated by their peers see Appendix 8, 9 for reference. This valuable contribution to peer response was effective to foster confidence and improvement in writing. This matches findings from (Woo, Chu, Ho, & Li, 2011) where participants were able to provide effective feedback for meaningful revision.

Also the findings made by Guasch, Espasa, Alvarez, & Kirschner, (2013), revealed that according to the type of feedback, the quality of collaborative writing performance can improve.

Students' collaboration increased by using the tools:

> *Every member of the team had a particular aspect of the subject to work on, we decided to have the first draft a week before the due date so we could check it together and give peer feedback, every time we changed something we posted in the Facebook group and also in the wiki so everyone could see it.L2 CA*

These results match the ones by (Brodahl & Hadjerrouit, 2011) that reported that the quality of collaboration in the group increased with use of the tools. Web technologies facilitate constant communication and collaboration and used appropriate in well-designed activities may contribute to improve literacy skills.

RQ5: Is there any evidence of text improvement as a result of collaboration?

In Chapter 5 we can observe the number of revisions made by peers using the wiki and through other Web 2.0 tools. Students' perceptions during these revisions show awareness of text improvement as we can see in the following statement:

> *It was very easy for me to talk with my coworkers about a doubt and everybody shared their opinions making the work easy to do. One interesting thing that happened to me was that I improved a little bit my writing by the feedback that my classmates gave me of my work, they checked my spelling, grammar, coherence and so on, giving me the idea of how to write it in a better way.L1 MV*

Evidence of text improvement was also present with the final drafts of the writing assignments. This is consistent with (Guasch et al., 2013; Khateeb, 2014) where students showed evidence of better quality texts as a result of collaboration. Peer revisions in the wiki facilitated different revisions, which led to a better final product. Less proficient students focused more in grammatical

accuracy and lexis while more advanced students were able to go beyond surface corrections and were engaged in more formal content revisions. They were able to solve issues regarding culture implication and focused more in interactions and went beyond assessing language. They actually became productive scaffolding that was present in both directions.

These findings are consistent with the findings from (Razak & Saeed, 2015) were participants were able to demonstrate a variety of strategies to plan, develop and revise their essays. This brings a new light for peer feedback where students can receive help from their peers at any time they need, and once trust has been established.

Participants were able to deliver feedback both face-to-face and online, and they show appreciation for that opportunity of constant communication. Wikis support for composition and revision strategies was very effective in this study. It is still one of the tools students´ were familiar with and have used them in academic assignments. Overall, participants could be guided through the process of writing in a more efficient way, as they were equipped with communication spaces and tools. Moreover, they became more confident in their own writing as they benefited from observing the process in others.

7.6 Impact of the writing process approach aided with technology

In the literature there are a number of claims to whether or not the use of technology in the process of writing has some effect to develop skills and to improve proficiency. Several authors found that using innovative approaches in teaching writing increased learner's motivation and are well received in higher education context (Mondahl & Razmerita, 2014). Findings in this particular investigation found it in line with claims that using technology in writing practices help learners to eliminate anxiety (Chao & Lo, 2011) since writing is a complex process itself (Archibald, 2001a). it is important to discuss to what extent the implementation of the web tools facilitated learner's writing process. In regard to planning and setting goals, Facebook was perceived as an effective tool since learners were already familiar with the social networking, so it was easy to connect and access information from the members of the teams. However, one participant perceived that this tool became a distractor while

trying to interact in academic tasks. Participants interact in the FB groups to provide information, show appreciation of someone else's posts, and communication, it did not serve as a writing venue to develop the text assignments (see 6.4.3), this was done through the wikis.

The wikis contributions and peer revision in the process of writing was effective to a certain extent. It provided the platform to peer review their drafts and revision served to correct grammar and spelling issues along with organization and vocabulary (see section 6.3.4.1). This confirm studies by (Pifarré, M. & Ros, 2011) that wiki revision supports the use of composition and revision strategies. In addition, qualitative findings showed that learner appreciated receiving feedback from their peers (section 6.4.3.4). This collaboration was important to demonstrate the positive effects of collaborative writing in L2 settings.

In the development stage of writing, learners perceived that through the use of online collaboration tools, it was much faster to complete assignments and even claimed text improvement as a result of scaffold and collaboration (see section 6.4.3.3) this matches the findings of Faigley, L. & Witte, (1981). To what extent this was accomplished? It is debatable, as Kost, (2011), argues that student's awareness of improvement does not necessary ensures proficiency improvement. The revised samples dis show an improvement in organization and vocabulary as previously mention but it is difficult to determine to what extent this was made possible. This brings a series of limitations addressed in the next chapter.

7.7 Teaching implications in using Web 2.0 in L2 writing

There are several implications derived from the findings in this particular research. Implementing Web 2.0 tools in the process of writing turned out to be effective but there are several aspects that must be considered:

1. instructional design: shifting to a student-centered activities establishing the roles of the instructor and the learners to create meaningful and engaging activities to facilitate Assignments must be clear with regard to learning objectives and learning outcomes (E. Rahimi et al., 2014).

2. The learning environment selection: educators must choose appropriate learning environments according to their possibilities (infrastructure, accessibility, and management) (Khateeb, 2014). Learning environments: should support learner-centered activities so students are able to acquire knowledge and have inherence in the design of the activities. This increases learner's motivation and engagement (Rosen & Nelson, 2008).

3. Creating a community of learning: explore affordances of web technologies in learning and how practice should be adapted to meet those affordances might result beneficial and expand the student's experience in L2 instruction (Mcloughlin & Lee, 2007).

4. Writing approaches: digital writing has proven to be effective with this generation of learners (Generation, Education, & Use, 2009) in higher education context. It is important that educators experiment with innovative ways of teaching literacy since students are no longer passive actors in the learning process (Al-Mukhaini et al., 2014).

5. Student engagement: this is a new trend in blended learning environments (Halverson & Graham, 2019) and it is important that educators reflect and look for forms to engage students into learning. Technology used in the classroom can enhance student engagement and would be interested to explore under the 2.0 pedagogy. (C. C. Liu et al., 2016)

6. Explore the communities of practice: would be a beneficial model to enhance collaboration, and engagement among students. Online and offline CoP are important and bring affordances on learning such as knowledge creation, continuous support, shared competences (Moule, 2006). The incorporation of CoI should be considered when the teacher presence is important in the design and intervention of the study.

7. Selection of tools: it is important to carefully select the technology tools to be used. Use the student's level of skill, frequency of use and familiarity along with technical aspects such as having a reliable Internet connection. The success on the learning objectives many times can be influence by the above factors.

8. When teaching writing, the process-oriented approach should be carefully planned. The combination of learning objectives aligned with the design of the activities in L2 contexts. The reading comprehension level is something that will influence the outcome and success in the writing process. As proposed by Deane et al., (2008), the writer must be able to process different types of information, this will help them to reflect, evaluate and even identify error correction (see section 3.10).

Reconsidering the design of this study, it is important to include recommendations and guidance for future users, research in the area and other practitioners. There are a number of lessons learned from the intervention. As the main objective was to explore to what extent the use of web tools can improve the witting skills and whether students were able to form a learning community with evidence of engagement, collaboration, knowledge transfer, and scaffolding using the tools. Evidence showed that it can be done if careful planning and good selection of tools are involved. Moreover, choosing authentic tasks using blogs, Facebook and Wikispaces to create a collaborative environment in which the participants were able to go back different times to the different stages (planning, writing, and revising) in part because of the accessibility the tools provided. The texts produced in online environments motivated them as reported in section 6.4.7.

Other elements during the intervention may not resulted as effective. For example, the selection of tools to promote writing was very diverse and required different type of skills for the participants, such as familiarity with the tools, especially using the blogs and wikis. Even though some found this challenging yet motivating, others with less linguistic competence felt overwhelmed trying to accomplish everything at once, see section 6.4.6.4. A possible solution for this could be to involve students in the design process, e.g. in relation to the adequacy of activities or tools selected.

The teacher's digital competence should also be considered in the design. Especially as seen in chapter 3, if students are digital natives and demand the interactivity with the teacher and social presence is important. In this particular case, the teacher was a digital skilled practitioner, so the design and

implementation of the activities were well focused as the L2 writing competence was enhanced by the tools.

Evidence of student engagement was manifested in many ways using different data collection methods both quantitative and qualitative. This rich data provided by different forms of collection. Evidence suggested that students became aware and gained control over cognitive strategies involved in writing as Ferris (2004) suggested and expressed in the qualitative analysis of student comments in chapter 6. A good question for further research is to whether or not interactions and outputs of social media or web tools can be assessed as part of the student's grade. If this study could be done again, participants should be exposed to one or two web 2.0 tools and decide on the process they should undertake to improve their writing. This opinion is as a practitioner. As a researcher, having all the data to be analyzed from the different methods may result a bit difficult and requires a long period of time. However, I feel that the objective of the study was accomplished by exploring the perceptions of the students while adopting more innovative forms of writing.

The collaborative part of this project was enriched by the use of the Web 2.0 tools. I became more interested in exploring more on the social network analysis and the different tools visualize the connection between elements.

Summary

This chapter presents the discussion of the findings in regard student's perceptions of the writing process using the different web technologies. It outlines theoretical assumptions to answer the research questions, make a statement on the teaching implications and describes the contribution on the field of digital literacy practices and 2.0 pedagogies. Additionally, it described learning affordances of web technologies and the implication on the teaching actions. It concludes with a reflection on the intervention and suggestions.

Chapter 8: Conclusion

8.1 Introduction

Literacy practices in modern society have changed and expand educational practices at all levels. With the development of web technologies and social media, Web 2.0 tools such as wikis, blogs and Facebook have expanded teaching possibilities of second language instruction. Additionally, more and more these social networks have expanded from a personal use to a more formal or academic context facilitating learning. The notion of learning as an individualized process does not fit with modern society. Since electronic media has facilitated the exchange and creation of knowledge as it becomes a public domain. This innovation had led to explore new forms of delivering instruction and acquiring learning to be more dynamic way. Technologies have indirectly forced society to become skillful in retrieving information, discriminating, interact, express opinions, and crate content.

My original contribution to knowledge is in the field Web 2.0 technologies in second language writing practices. This expands the notion of online collaboration and student engagement in a framework of communities of practice. This research aimed to provide an understanding on digital literacy practices and how this process can foster online collaboration, and student engagement which are in line with the affordances web 2.0 tools can bring into learning (Burden, 2012)

8.2 Summary of main contributions

The main contribution as a result of this study was the application of new forms of literacy in L2 writing. I was interested to explore how learners perceived this new approach and to what extent the tools selected were able to foster collaboration, and engagement to improve their writing skills.

The perceptions of the learners' experience are described in chapter 5 and were classified according to important themes through the study such as community building, collaboration, knowledge creation, engagement, negotiation. This research was intended to provide an understanding on how digital literacy practice can be implemented and to verify the assumptions found

in the literature regarding the affordances in learning these tools might contribute.

There are teaching implications with regard to the findings and are described in detail in section 7.7. There are other implications when utilizing a blended learning approach, these include the role of teachers as facilitators and learners as active constructors of knowledge (S. Graham & Sandmel, 2011).

Other contribution is changing the perceptions of social network technologies from a tool to socialize to a tool of instruction. The teaching implications and the affordances. Exploring the possibilities of teaching literacy using Web 2.0 tools can be challenging for some teachers who are not familiarized with web technologies, social media or current trends of digital literacy. This would represent an obstacle to innovate teaching practices. But it is important to consider the way learners are acquiring knowledge everyday through different means, such as web technologies.

Schools should be aware of these limitations and at the same time, provide training on new ways to innovate teaching in a more engaging way. Learning should be meaningful for learners. Schools should be fully equipped to provide all resources to support learning. Not just physically prepared with Internet access or software. But with methodologies that will motivate and challenge students' metacognition in a collaborative learning environment where the teacher is not the only source of knowledge but acts as a learning facilitator to promote individual and collective engagement.

Some of the challenges encounter in this research were the strategies to keep students engage in the tasks. As referred in the literature, writing is not a simple skill to develop it requires a number of cognitive process. L2 learners sometimes find the writing tasks difficult to handle (Silva, 1993). The community of practice approach was effective in terms of fostering collaboration and promoting student's participation. It allowed me as a researcher to expand on the notion of engagement. But it was deficient in acknowledging teacher presence and define several forms of scaffolding. Perhaps, could be interesting to explore these aspects from other models of community of learning more

related to education such as the Community of Inquiry in a further research and compare experiences.

8.3 Limitations of the study

There were a number of limitations in this study to claim if this particular study can be generalized in terms of the size of the sample, the context and the different tools used. The use of different tools during the intervention did not resulted as expected for all participants. Some expressed feeling overwhelmed for the number of tools to manage over a short period of time (12 weeks), perhaps this could be solved by planning carefully and limit the use of different tools. It might be interesting to explore new web technologies with similar features included in only one app such as the Google Suite. However, the purpose of this study was accomplished, and these limitations do not invalidate the findings and contributions.

Another limitation was the role of the instructor/researcher in terms of involvement with student's activities and to what extent this could affect the validity of the findings. These considerations must be taken into account when designing the research. In this case this limitation was lessen with restraining the instructor/researcher in participating in the web technologies venues. The research ethics were considered, and precautions were taken to no intervene in the groups and limited to actions mentioned earlier in section 4.6.4. Another way to avoid bias was ungraded participation in online environments, the grades were given at the end of the intervention and were restricted to the products of writing. The third things to ensure validity was to use sentiment and network analysis as external ways to confirm or validate the qualitative findings. AI is used in a number of applications, so it was a valuable resource to analyzed content in social media.

However, there is always some type of influence the instructor/researcher has on the learners. Since qualitative analysis relies on the ethics of the researcher and it is important to consider these aspects to validate findings (Cohen et al., 2000).

8.4 Recommendations for further research

Digital literacies and use of Web 2.0 tools in second language writing is a young body of research. There are many tools yet to explore in teaching practices as they keep evolving as technology progresses and becomes an essential part of our daily lives. Blended learning approaches should be further explored in terms of fostering student engagement. The conceptualization of student engagement in this study is relevant to construct a framework with conceptual clarity and direction for future research.

The position of this research provides an understanding of how the all these elements can be used to improve L2 writing practices and its extendibility to other contexts yet to be explored.

The impact of this research is significant in terms of web 2.0 affordances in learning and in social practices. It also impacts the way this model of online community of practice can be adopted to other contexts such as business, science and medical settings where practice needs improvement and members can share their competences and provide a solid system of support for learning.

The communities of learning and the web 2.0 tools bring opportunities for empirical testing in educational context. Online communities of learning facilitate the creation of relationships through online interaction, this study shows how the community of practice can bring a new light in teaching practices with a positive change in student learning.

The participants in the study reached the conclusion that online collaboration helped them in their writing skills, therefore, Communities of Practice represent a relevant and meaningful way to enhance literacy practices. Participants also manifested feeling motivated or engaged during the writing activities and online participation. This provides a source of support and student learning that represent an invaluable resource that needs further exploration. Much efforts should be done to exposing learners to online communities.

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Appendix 1: Student Consent Form

UNIVERSITY OF
Southampton

## CONSENT FORM *(FACE TO FACE: Version 1)*
February 2016

Study title: The use of Web 2.0 in Second Language Writing

Researcher name: Elsa Perez-Amaro
Staff/Student number: 27481867
**ERGO reference number**: ID 18485

This study in which you are about to participate is designed to investigate the uses of Web 2.0 tools in Second Language Writing, during this intervention there will be a total of 3 web tools used to promote students collaboration and participation in three writing tasks, along with the tools: (a wiki, blog and a Facebook group) students will be able to share and monitor their own progress. There will be two focus groups (3-5 participants) randomly selected where the researcher/teacher will be initiating discussions on specific topics. The conversations will be recorded. The confidentiality and anonymity of the participants will be considered in all these activities. In addition, there will be 3 observations conducted by the researcher/teacher as a non-participant.

*Please initial the box (es) if you agree with the statement(s):*

I have read and understood the information sheet version 1 February 2016 of participant information sheet and have had the opportunity to ask questions about the study.
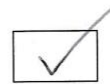
I agree to take part in this research project and agree for my data to be used for the purpose of this study
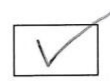
I understand my participation is voluntary and I may withdraw at any time without my legal rights being affected
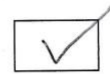
Data Protection
I understand that information collected about me during my participation in this study will be stored on a password protected computer and that this information will only be used for the purpose of this study. All files containing any personal data will be made anonymous.

Name of participant (print name)...Luz del Carmen Ruiz Hernández

Signature of participant...........

Date......March, 2nd of 2016

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Appendix 2: Online Student's Survey

You were invited to answer this survey because you agreed to participate in a classroom study on Web 2.0 tools. This is for my PhD program in Southampton University. I will ask you a few questions related to your opinions and feelings on the items below. Answers will not be considered as correct or incorrect, they will simply reflect the ways in which you perceive the object of study.

This survey will be used for research purposes only. All the information provided will be confidential. Choose the answer as applies.

Please answer the following questions: *

	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
I enjoy using technology in the class activities.					
I found easy to complete a writing task electronically.					
I have used Wikis for my class assignments.					
I like to complete tasks collaboratively rather than by my own.					
I like using Facebook also for academic purposes.					
I feel comfortable participating in class chats.					
I own a blog or have posted in a blog.					
I share things on Facebook on a daily basis.					
I appreciate when I receive feedback from my classmates.					
I usually reflect on my progress and learning.					
I feel comfortable discussing ideas with my classmates about a task.					
I consider blogs, and wikis very useful for my school activities.					
I like revising and editing in a wiki.					
I consider my work us appreciated.					

	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
My classmates consider me as a good collaborator.					

Skill level: choose the skill level you feel you have on the following tools. *

	Very skilled	Moderate skilled	Basic skilled
Wikis (uploading and editing information)			
Facebook (Chat or participating in groups)			
Blog (creating and posting information)			
Any other Web 2.0 tool			

Frequency: choose the following.*

	3-5 times a week	1-3 times a week	Almost never
I use Wikis			
I post on a blog			
I use Facebook to participate in chats or groups			

Tell me about yourself:*
☐ Male
☐ Female

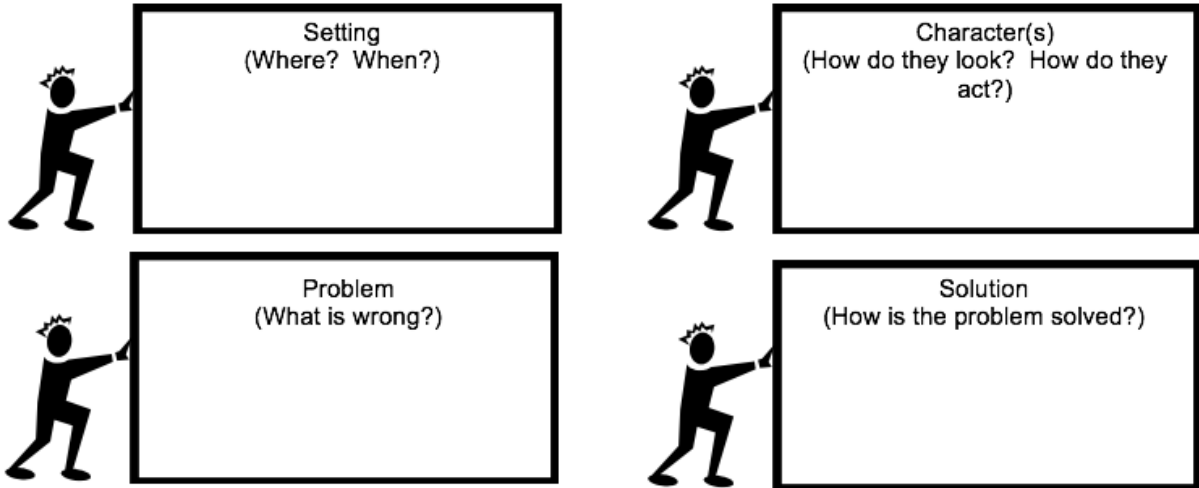Age group:*
☐ 17 – 19
☐ 20 – 21
☐ 22 – 24

Appendix 3: Analytic Rubric for Writing

Feature	2.0 pts.	1.5 pts	1.0 pts	0.5 pts
Content	Knowledgeable – substantive – thorough development of thesis relevant to assigned topic.	Some knowledge of subject – adequate range – limited development of thesis – mostly relevant to topic, but lacks detail.	Limited knowledge of subject – little substance – inadequate development of topic.	Does not show knowledge of subject – not substantive – not pertinent – OR not enough to evaluate.
Organization	Fluent expression – ideas clearly stated/supported – succinct – well organized – logical sequencing – cohesive.	Somewhat choppy – loosely organized but main ideas stand out limited support – logical but incomplete sequencing.	Not fluent – ideas confused or disconnected – lacks logical sequencing and development.	Does not communicate – no organization – OR not enough to evaluate.
Vocabulary	Sophisticated range – effective word/idiom choice and usage –word form mastery – appropriate register.	Adequate range – occasional errors of word/idiom choice and usage but meaning not obscured.	Limited range – frequent errors of word/idiom form, choice, usage – meaning confused or obscured.	Essentially translation – little knowledge of English vocabulary, idioms, word form – OR not enough to evaluate.
Language	Effective constructions – few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions.	Effective but simple constructions – several errors of agreement, tense, number, word order/function, articles, pronouns, prepositions, but meaning seldom obscured.	Limited range – frequent errors of negations, agreement, tense, number, word order/functions, articles pronouns, prepositions and/or fragments, run – ons, deletions – meaning confused or obscured.	Virtually no mastery of sentence constructions rules – dominated by errors – does not communicate – OR not enough to evaluate.
Mechanics	Demonstrates mastery of conventions – few errors of spelling, punctuation, capitalization, paragraphing.	Occasional errors of spelling, punctuation, capitalization, paragraphing, but meaning not obscured.	Frequent errors of spelling, punctuation, capitalization, Paragraphing – poor handwriting – meaning confused or obscured.	No mastery of conventions – dominated by errors or spelling, punctuation, capitalization, paragraphing – handwriting illegible – OR not enough to evaluate.
Final Score 10				

Adapted from Jacobs et al (1981)

Appendix 4: Handout 1

Narrative Story Map

Setting (Where? When?)	Character(s) (How do they look? How do they act?)
Problem (What is wrong?)	**Solution** (How is the problem solved?)

Beginning	Middle	End

I: ¿El proceso lo juntan en español?

S: Sí

I: ¿Nunca lo hacen en inglés?

S: No

I: ¿Por qué?

S: Como unas palabras las usamos para otras cosas y unas las usamos e español y luego las usamos en inglés

I: ¿Pero el texto lo hacen también en español, primero?

S: No

I: Entonces directamente en inglés. Solo las ideas las dicen en español

S2: Y más por el pendiente de los que hacen la corrección, de que las ideas pueden ser esto o esto.

I: Si les hubiera tocado la misma tarea pero individualmente, ¿hubiera sido más fácil o más difícil qué en equipo?

S: Pues depende, bueno aquí en este caso para mí, hubiera sido más sencillo porque en quipos es más rápido al escribir historias.

I: ¿Crees que hubiera sido más rápido?

S2: Tal vez no rápido, pero si en la parte informática ahí si hubiera ayudado más. Hay alguien que ayuda en la parte gramática, a pesar de que yo con más de que he entrado con libros y con otras cosas la gramática no se me da y sigo sin ser buena en ello.

I: Para ti por ejemplo Luz, ¿hubiera sido más fácil escribir la historia tu sola o te gusta más así en equipo?

S2: A mí me gusta trabajar en equipo

I: ¿Por qué?

S: porque todos tenemos diferentes tareas y se hace una contribución, pero escribir por mí, hubiera resultado algo bien difícil por los idiomas, hubiera requerido más tiempo, porque por ejemplo trabajar en equipo es de que yo tengo una idea y la puedo desarrollar a lo que los demás opinen en cambio si nada mas hubiera estado yo sola pienso esto no está bien y lo vuelvo a desarrollar.

I: En la parte de planeación estrías batallando más, que escribir como escribir todo eso, entonces en la parte de planeación se te facilita más por equipo. Y a ti en la planeación se te facilita más individual, pero ¿en la ejecución cómo es?

S: En la parte de la planeación vas haciendo un *draft* de lo que vas a hacer y cuando empiezo a escribir quiero borrar toda esa parte que luego llegan a ser innecesarias.

I: ¿Entonces creen que la calidad de su trabajo sea mejor por equipo que individual?

S: Sí, llega a ser mejor al tener cada uno su parte de colaboración.

Translation:

I: Does the process bring it together in Spanish?

S: Yes

I: Do they never do it in English?

S: No

I: Why?

S: As some words we use them for other things and some we use them and Spanish and then we use them in English

I: But do the text also do it in Spanish, first?

S: No

I: Then directly in English. Only ideas say them in Spanish

S2: And more because of the pending of those who make the correction, that ideas can be this or this.

I: If I had the same task but individually, would it have been easier or more difficult than in a team?

S: Well it depends, well here in this case for me, it would have been easier because in teams it is faster when writing stories.

I: Do you think it would have been faster?

S2: Maybe not fast, but in the computer part there if it had helped more. There is someone who helps in the grammar part, although I have more than I have entered with books and with other things the grammar is not given to me and I am still not good at it.

I: For you, for example, Luz, would it have been easier to write the story by yourself or do you like it more like this as a team?
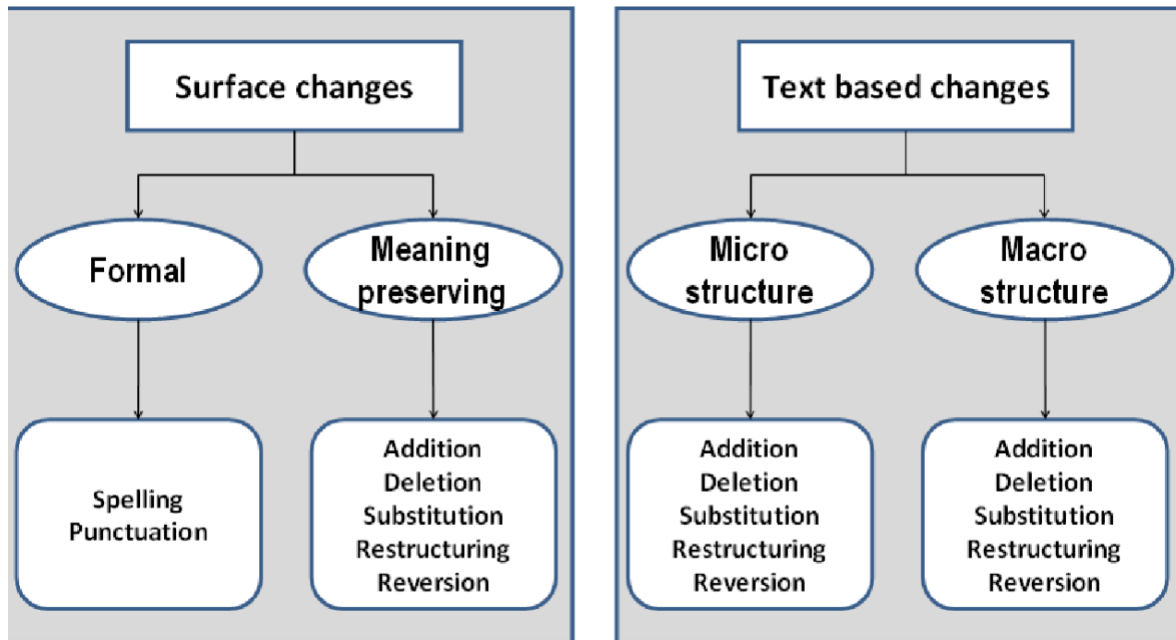
S2: I like to work in a team

I: Why?

S: because we all have different tasks and a contribution to make, but writing for me would have been something very difficult for languages, it would have required more time, because for example working in a team is that I have an idea and I can develop it to what others think instead if I had only been alone I think this is not right and I develop it again.

I: In the planning part you strive to fight more, than to write how to write all that, then in the planning part you are more facilitated by team. And you in planning are given more individual, but in execution how is it?

S: In the planning part you are making a draft of what you are going to do and when I start writing I want to erase all that part that later becomes unnecessary.

Appendix 6: Taxonomy of peer correction

Source: (Pifarré & Ros, 2011)

Appendix 7: Example of a video tutorial created by students

Appendix 8: Sample # 1 of student's peer feedback

Analytic Rubric for Writing

Feature	2.0 pts.
Content	Knowledgeable – substantive – thorough development of thesis relevant to assigned topic.
Organization	Fluent expression – ideas clearly stated/supported – succinct – well organized – logical sequencing – cohesive.
Vocabulary	Sophisticated range – effective word/idiom choice and usage –word form mastery – appropriate register.
Language	Effective constructions – few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions.
Mechanics	Demonstrates mastery of conventions – few errors of spelling, punctuation, capitalization, paragraphing.
Final Score 10	10

Carmen, I want to congratulate you because you did a really good work. The introduction that you wrote for our article is great. You had a very good use of language and it is easy to understand for every audience. It is well and clearly organized. And it is important to mention that it is 100% unique and original.

Thank you!

Completed: 100% Checked	100% Unique
8 Tips to improve your pronunciation and fluency: Introduction	- Unique
students, because it involves a big cognitive process to	- Unique
is really important to dominate the four skills of language	- Unique
case we are going to focus on one in particular, the specific	- Unique
language learners consider, that this skill is the hardest	- Unique
of the language to communicate with others. If it is difficult	- Unique
it will be even more in a second language. For that reason	- Unique
and fluency in your speaking, to make your communication	- Unique

Appendix 9: Sample 2 of student's peer feedback

Feature	2.0 pts.	1.5 pts	1.0 pts	0.5 pts
Content	Knowledgeable – substantive – thorough development of thesis relevant to assigned topic.	Some knowledge of subject – adequate range – limited development of thesis – mostly relevant to topic, but lacks detail.	Limited knowledge of subject – little substance – inadequate development of topic.	Does not show knowledge of subject – not substantive – not pertinent – OR not enough to evaluate.
Organization	Fluent expression – ideas clearly stated/supported – succinct – well organized – logical sequencing – cohesive.	Somewhat choppy – loosely organized but main ideas stand out limited support – logical but incomplete sequencing.	Not fluent – ideas confused or disconnected – lacks logical sequencing and development.	Does not communicate – no organization – OR not enough to evaluate.
Vocabulary	Sophisticated range – effective word/idiom choice and usage –word form mastery –	Adequate range – occasional errors of word/idiom choice and usage but meaning not	Limited range – frequent errors of word/idiom form, choice, usage – meaning confused or	Essentially translation – little knowledge of English vocabulary, idioms, word form

Problems teachers face when teaching English writing

Teaching writing is one of the most challenging task that a teacher might face, but teaching writing to second language learners is even worst; students usually find writing difficult and when it is not on their first language they think it is useless.

A study made by Oxford University in 2015 shows the top 3 of the most challenging writing tasks, over 450 teachers took part in this results that shows that the most voted writing challenge was: "Students don't want to write"   teachers think that this is because their students' lack of motivation; they think that this skill is not useful, they can't relate it to their daily life, as they are not used to write in their own language, they find it boring to practice it when learning English.

The second challenge was: "Students keep making the same mistakes"; as they don't feel writing like something necessary for their future they do not pay attention to their mistakes, even if the teacher gives them a very specific feedback they keep on doing the same and they can't improve their writing.

The final challenge is: "it is difficult to find enough time in class for writing" as most of the courses for learning English are time reduced and overpopulated it is hard to give enough time to writing tasks and most of the time, teachers need to find other effective was ways like the use of blogs and homework to evaluate students' writing.

As learning and teaching is a very difficult task for those that are involved and taking into consideration the affective, cognitive, sociocultural and linguistic factors, second language teachers need to raise learners' awareness about the writing process, provide to the class enough and high developed material for a better understanding and finally teachers should promote their students autonomy so they can find new ways to improve their knowledge about thus skill.

Compaq
Mar 16, 2016
Resolve
Consider reorganization of the phrase just to make it sound better
From imported document

Compaq
Mar 16, 2016
Resolve
An study made by the … ora n study made in the Oxford university, 2015 …
From imported document

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" "
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Compaq
Mar 16, 2016
Resolve
"Is a" is singular, you are talking about 2 different tasks.
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Resolve
"Or"
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