The Effectiveness of the Genre-based Approach for the Improvement of Undergraduate

Students' Digital Skills to Create Content

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**Acknowledgments**


*My acknowledgments are dedicated to my family, wife, colleagues, participants and all the*

*professors who guided and helped me develop this research study.*

## Dedication

*Dedicated to God for giving me the life and knowledge to achieve my goals, and to my parents*

*for their unconditional love.*

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## List of Abbreviations

| Abbreviation | Full Form |
| --- | --- |
| AR | Action Research |
| CMC | Computer Mediated Communication |
| CEFRL | Common European Framework of Reference for Languages |
| DC | Digital Competence |
| DL | Digital Literacy |
| DigComp | Digital Competence Framework for Citizens |
| EFL | English Foreign Language |
| GBA | Genre-Based Approach |
| GA | Genre Pedagogy |
| IST | Information Society Technologies |
| ICT | Information and Communication technology |
| TR | Teacher-Researcher |

**List of Appendices**

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**RESUMEN**

**Título:** LA EFECTIVIDAD DEL ENFOQUE BASADO EN EL GÉNERO PARA EL MEJORAMIENTO DE HABILIDADES DIGITALES DE ESTUDIANTES UNIVERSITARIOS PARA CREAR CONTENIDO[*]

**Autor:** EDWARD ANDRÉS ZULUAGA HURTADO[**]

**Palabras clave:** HABILIDADES DIGITALES, ENFOQUE BASADO EN EL GÉNERO, PARTICIPANTES, PROFESOR-INVESTIGADOR, MEJORAMIENTO

**Descripción:**

Investigaciones previas presentan resultados significativos en cuanto al uso del Enfoque Basado en el Género (con sus siglas en inglés GBA) en contextos de educación superior. Basado en esto, el propósito de este estudio de investigación fue evaluar la efectividad del GBA para mejorar las habilidades digitales de estudiantes universitarios para crear contenido. Los participantes de este estudio fueron 4 estudiantes universitarios de Lengua Extranjera matriculados en un curso básico de inglés en una universidad privada en Colombia. El problema didáctico de este estudio se centra en las pobres habilidades de los estudiantes para crear contenido digital. El enfoque pedagógico implementado para abordar el problema de investigación de este estudio fue el GBA, un enfoque para la enseñanza y el aprendizaje de la escritura basado en un ciclo con tres etapas, a saber, deconstrucción, construcción conjunta y construcción independiente. Este estudio utilizó un enfoque de investigación de método mixto para determinar el impacto del uso del GBA para mejorar las habilidades de los participantes para crear contenido digital. Los instrumentos para recopilar datos en este estudio fueron: una encuesta previa/posterior, los artefactos de los participantes y una entrevista semi-estructurada. El principal hallazgo de este estudio sugiere que el GBA es un enfoque efectivo para mejorar las habilidades de estudiantes universitarios para crear contenido digital, ya que los resultados de este estudio revelaron mejoras en las habilidades de los participantes para crear correos electrónicos formales, infografías y publicaciones en un blog en términos de características del lenguaje, estructura esquemática y propósitos sociales.

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## ABSTRACT

**Tittle:** THE EFFECTIVENESS OF THE GENRE-BASED APPROACH FOR THE IMPROVEMENT OF UNDERGRADUATE STUDENTS' DIGITAL SKILLS TO CREATE CONTENT[*]

**Author:** EDWARD ANDRÉS ZULUAGA HURTADO[**]

**Keywords:** DIGITAL SKILLS, GENRE-BASED APPROACH, PARTICIPANTS, TEACHER-RESEARCHER, IMPROVEMENT

**Description:**

Prior research points out to significant results when using the Genre-Based Approach (GBA) in higher education contexts. Based on this, this research study's purpose was to assess the effectiveness of the GBA for the improvement of undergraduate students' digital skills for creating content. The participants for this study were 4 undergraduate English Foreign Language (EFL) students enrolled in a Basic English course at a private university in Colombia. This study's didactic problem is centered on the students' poor skills to create digital content. The pedagogic approach implemented for addressing this study's research problem was the GBA, an approach for teaching and learning writing which is based on a cycle with three stages, namely, deconstruction, joint construction and independent construction. This study used a mixed methods research approach to detemine the impact of using the GBA to improve participants' skills to create digital content. The instruments for collecting data on this study were: a pre-survey/post-survey, participants' artifacts and a semi-structured interview. The major finding of this study suggests that the GBA is an effective approach for the improvement of undergraduate students' digital skills to create content, as results revealed improvements on participants' skills for creating formal emails, infographics and blog entries in terms of language features, schematic structure and social purposes.

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[*] Bachelor Thesis

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## Introduction

This dissertation reports on an action research study carried out at Universidad Libre de Colombia, a private University in Santander, Colombia. The study focuses on a group of First-year Law students, who were learning English as a Foreign Language (EFL). This project was developed as an attempt to help undergraduate students improve their skills to create digital content as well as a requirement to obtain the degree of MA in Language Didactics offered at Universidad Industrial de Santander. Following the principles of action research, this study included two stages, namely, an exploratory analysis and a pedagogical intervention.

### Organization of the Document

This paper is divided in eight chapters. In the first chapter, the didactic problem and rationale are described. In the second chapter, a literature review concerning the three major approaches for teaching and learning writing, as well as for the application of emails, infographics and blogs in education is offered. The third chapter presents the research question and objectives guiding this study. Additionally, the definition of the main tenets and concepts over which this study is founded is provided in the fourth chapter. The fifth chapter illustrates the methodology for gathering and analyzing data for this study. In chapter sixth, the pedagogical intervention is described. Finally, in the last two chapters, the reader will find the data analysis and results, as well as the conclusions and recommendations derived from this study.

## 1.   The study

### 1.1. Statement of the problem

Writing is deemed to be difficult for many native writers, and it is not the exception for those who learn English as a foreign language, including Colombian undergraduate students. This is something the TR has been able to confirm since as a foreign language teacher, he has had many undergraduate students with writing difficulties. In general, writing seems to be the most difficult skills for his undergraduate learners to master. The difficulties comprise (1) selecting the appropriate vocabulary/register to achieve the purpose of the text, (2) organizing the text structure properly and (3) applying correct grammar rules.

As can be noted, the problem not only relies in not writing well, as good writing is not just the appropriate selection of words and the well-construction of sentences and texts, but writing which is linguistically appropriate to the purpose it serves (Ivanić, 2004). This is something some undergraduate students do not seem to consider, specifically when creating their digital texts. For instance, the following is an email created two years ago by a Law student, who wanted to inform his/her professor about an absence to a class, and which can be used as evidence to support the previous claim:

**From:** an undergraduate student at Libre University

**To:** teacher-researcher

**Subject:** "Excuse

*Hello Teacher Edward this is  inform you that tomorrow it is difficult for me to go to your class, the reason for this is to a appointment very important in the city of sangil".*

*Thank you"*

As can be observed in this email, there is a lack of some of the most important linguistic principles for creating a formal email such as grammar and register. Regarding grammar, it can be said that the student who wrote this email failed at not including the preposition *to* to separate the verbs *is* and *inform* in, "is inform". Also, the student failed at selecting the preposition *to* instead of the coordinating conjunction *because* in, "this is to a (…)". In the preceding excerpt of message there is a wrong word choice, as the excerpt requires an explanation nor the location of something. Furthermore, there is also an absence of the subject pronoun *I* and the verb *have* in the message in, "is to a" because instead of having said: "is to a", the Law student might have written: *this is because I have a* (…). Finally, there is a syntax error when the learner writes "appointment very important", rather than *very important appointment.*

Concerning register, it can be stated that there is an incorrect selection of register in the prior email. This is because the student who wrote this email used the opening words "hello teacher Edward", and the closing words "Thank you", and not the words *Dear Mr. (last name)* or *Sincerely*; for instance, which derived in an inappropriate choice of register. In other words, the Law student used an inappropriate register on his/her email as the words *hello* and *thanks* are used in casual, not in formal communication (Nordquist, 2019), which was required in this particular message. Finally, it can be said that the grammar errors on this electronic message as well as the incorrect selection of vocabulary/register did not contribute to achieve the formal purpose required on writing an email to a professor.

This shows that there is a dire need to implement an approach to writing content that tie the linguistic aspects of language and the purpose that a text serves when teaching undergraduate students to write digitally. For meeting this objective, the GBA appears as an appropriate approach as it emphasizes the relationship between written texts and the purpose they serve in society

(Hammond, 1987). However, it is worth mentioning that as Cheng (2006) contends Genre-based writing pedagogy is still a less-developed area of research and not much is known about it. In fact, as literature shows, most studies carried out about writing worldwide have focused on the Paragraph, Grammar-Syntax, Process-Oriented and Free writing approach, as well as on the "Growth model" of teaching English and on different teaching strategies such as direct instruction, problem solving, questioning, brain storming, differentiation, or summarizing; but only a few studies have focused on the GBA, which makes it more difficult for writing instructors to have a clear panorama of why and how to teach writing under the GBA (Tuffs, 1993).

On the other hand, although the common conception is that people who were born after the widespread adoption of digital technology (around the 1996) have the necessary skills to easily and effectively manipulate new technologies (e.g., computers, smart phones, tablets, among others) to navigate, find, evaluate, synthetize, create, organize or communicate information as a daily basis; different studies around the world (Kirkwood & Price, 2005; Li & Ranieri, 2010; Yong & Gates, 2014; Kirschner & De Bruyckere, 2017) have found scientific proof to suggest that the fact that people had been born in the digital era, does not guarantee that they can be digitally competent. For instance, in their study, Li & Ranieri (2010) found that although young people had a natural afinity to use technology and the internet to easily and effectively carry out social interactions in Facebook, they lacked some content-creation skills.

Li & Ranieri's (2010) finding might have taken place because as Bennett & Maton (2010) claim, content-creation actions such as creating graphics, texts, audios or videos are less frequent in young people than the use of social networking. This is supported by Handley (2011), who contends that "surveys of students' use of technology suggest that most are engaged in social

networking, but only a small number are engaged in content-creation activities such as blogging and creating wikis" (par. 7).

In short, what these research outcomes indicate is that learners tend to devote more time on social networking rather than on educational issues (Kirschner & De Bruyckere, 2017), which might be the reason why participants in Li & Ranieri (2010) reported a lack of content-creation skills.

Aditionally to these scholars' findings are the TR's anecdotal observations, which give more support to the fact that having been born in the digital age does not assurance having the necessary skills to be digitally competent. In other words, through semesters, the TR has observed that first-year undergraduate students at Libre University lack content-creation skills. For example, the following is a blog entry that an undergraduate student created some years ago and which provides proof of the previous assumption:

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**From:** an undergraduate student at Libre University

"I had never studied on web, want to recommend this blog. Is a blog excellent".

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At this point, it is worth mentioning that this blog entry was created by an undergraduate student in order to provide his/her opinion about using a class blog for learning English. As can be observed in the entry, there is an absence of some of the most important principles of grammar. One example is the omission of the article *the* between the words "on" and "web", as well as the omission of the subject pronoun *I* to accompany the verb *want* in, "want to (…)". Furthermore, there is a misplacing or syntax error when the student writes: *Blog excellent* instead of "excellent blog". Another grammatical error that can be seen in this entry relates to the not inclusion of the subject pronoun *it* and the article *an* in, "Is a (…)" so as to have: *it is an excellent blog*. Finally, this particular students might have used the conjunction *because* to create a compound sentence

such as *I want to recommend this blog because it is an excellent blog*. However, it seems that the

Law students did not know or was not aware of creating compound sentences by using the

coordinating conjunction *because*. Lastly, it is important to mention that this blog entry did not

entirely meet its communicative purpose which was to provide a point of view in a correct and

clear manner to a blogging community, since the message is not very clear and well-written.

Hence, after considering the above problematic situation, the TR decided to undertake a

pedagogical intervention for improving his undergraduate students' digital skills to create content

through the GBA as a teaching strategy to answer the following research question: *What is the*

*effectiveness of the GBA on the improvement of undergraduate students' digital skills for creating*

*content?*

**1.2.Justification**

**1.2.1 Why the GBA?** The GBA was adopted in this study as it has been widely implemented

and tested around the world, and it has had positive results with different kind of students,

including undergraduate students (Soawadee, 2006; Tuan, 2011; Yuan-Shan & Shao-Wen, 2012;

Yang, 2016; Vaezi & Tabrizi, 2016; & Gómez, 2017). What is more, the GBA has not only been

proven to serve as a useful writing approach for students, but also for teachers. For students, the

GBA has served as a framework or scaffolding for the production of meaningful/purposeful texts;

whereas for teachers, it has resulted on a useful tool to provide a practical and constructive

guideline for students to improve their literacy (Hyland, 2004).

The GBA was also imlemented in this study to assure that the lexico-grammatical features of

language were not taught in isolation, but in a meaningful, interactive and social manner. Another

reason for implementing the GBA in this study was because it is becoming increasingly influential

in the field of English Language Teaching (ELT) (Derewianka, 2003), as well as one of the major trends in the new millennium (Rodgers, 2001). Lastly, as the Genre-based writing pedagogy is still a less-developed area of research (Cheng, 2006), it was even more relevant to conduct this study about the GBA.

**1.2.2 Why writing?** Although literacy refers to the ability to read and write, this study focused on writing because writing is a basic and long-life skill that any EFL student needs to succeed academically, professionally and socially nowadays, or as Walsh (2010) puts it:

> "Writing is important because it's used extensively in higher education and in the workplace. If students don't know how to express themselves in writing, they won't be able to communicate well with professors, employers, peers, or just about anyone else. Much of professional communication is done in writing: proposals, memos, reports, applications, preliminary interviews, e-mails, and more are part of the daily life of a college student or successful graduate" (p. 28).

In other words, good writing skills are critical for today's learners to meet the challenges of global communication and competition. This is because as a result of the advances of technology and the internet, communication and competition have moved to a level in which writing is needed for a variety of assignments, including writing applications, letters, recounts, informs, e-mails, essays, chats, tweets, blog entries, among others (Gerson, 2010), all of these with different purposes and audiences. Therefore, writing becomes a relevant issue to address, since whether on a paper, a mobile phone, a tablet or a computer, professionals of all fields will need writing to perform their daily duties and achieve their professional and personal goals.

Another reason for conducting this project about writing is because writing is an issue that has not received much attention in the last decades in language education (Cheung, 2016). This has mainly been because the most-well known language teaching and learning methodologies, such as

the audio-lingual method, the direct method and the communicative approach, have all emphasized the importance of spoken language, paying much less attention towards writing (Naim, 2014). Nonetheless, the problem not only relays on the methodologies themselves, since there are teachers who do not devote enough time to writing (Kopp, 2008), maybe because they do not know much about teaching writing (Lyons & Rothstein, 2010), or because it is a very time-consuming activity (Rhalmi, 2009).

Furthermore, writing became a core topic for this research study as writing is one of the transversal skills that the Law program at Libre University seeks to develop in its Educational Project. Hence, conducting a research project about writing in the Law program would certainly help achieve its teaching objectives. Finally, it was necessary to conduct this research study about writing as in the TR's teaching and learning context his students were constantly creating multimodal material such as Power Point presentations, infographics, mind maps, among others, and interacting with him through WhatsApp and email. Therefore, it became quite important for the TR that his students could; for instance, create well-structured and purposeful emails to communicate with him.

**1.2.3 Why digital skills?** In the past, it was used to teach literacy and numeracy skills to students since these skills were perceived as the necessary skills to gain content and knowledge (Care & Anderson, 2016). However, because of the developments on technology and telecommunication, traditional literacy practices (being able to read and write and to make mathematical operations) have become insufficient to face and overcome the challenges of today's digital world (Brynjolfsson & McAfee, 2014), which demands individuals to correctly and appropiately use digital technology and communication tools to navigate, find, access, store,

evaluate, sintetize, create, share and organize information as well as to communicate with others in a responsible and etical way  (Ozdamar-Keskin, 2015).

To put it other way, students at the present day not only need literacy and numeracy skills to face and overcome the challenges of today's digital world, but also a new and broader set of cognitive, technical and social skills referred as digital skill. What is more, as Vaikutytė-Paškauskė & Vaičiukynaitė (2018, p. 9) explain, "The Europe Action Plan[1] (launched in March 2001 and re-launched in 2005) was the first major policy document to stress specifically the need to develop digital skills". Nevertheless, as Vaikutytė-Paškauskė & Vaičiukynaitė (2018) explain, the most recent European policy document addressing the need of teaching digital skills is the **New Skills Agenda for Europe**, which recognizes that "almost all jobs, as well as participation in society at large, now require some level of digital skills" (p. 12). That is why it is of paramount importance to teach digital skills to 21$^{st}$ century students.

## 2. Literature Review

In this chapter, a literature review synthetizing studies about the GBA, as well as the use of emails, infographics and blogs in education will be presented.

### 2. 1 Review of related literature about the Genre-based approach

First of all, it is important to mention that when consulting literature about the GBA, only a few studies were found. One of the most recent studies found about the GBA was the one conducted

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[1] A plan which includes 11 actions to support technology use and the development of digital competences in education (European Commission, 2001).

by Nagao (2018), who explored how 14 undergraudate foreign-language writers changed their awareness about discussion genre texts (specifically argumentative essays). Nagao's (2018) pedagogical intervention lasted 15 weeks in which different text-based writing lessons were assigned to students as part of the GP teaching and learning cycle (Nagao, 2018). To determine changes in the students' awarness of the argumentative essays, a pre-survey/post-survey and self-reflection written texts were administered and analized quantitatively and qualitatively.

The surveys included 18 questions aimed at determining the schematic structures and lexico-grammatical choices of the target genre that the EFL students were most aware of. The surveys were applied at the beginning and at the end of the intervention and analyzed by using frequency analysis. Findings from the surveys indicated that after the intervention, students' perceptions about their awareness for the argumentative essays rose, specifically as their frequency of answer for question 9, dealing with lexico-grammatical knowledge such as experiential meaning and textual meaning increased from the pre to the post-survey. On the other hand, to analyze the self-reflection texts, criteria covering generic structure, lexico-grammar, and multidimensional analyses of attitudes and performance were used. Results from the analysis of the self-reflection texts showed that the students' comprehension of schematic structure and lexico-grammatical features of language improved, particularly their understanding of the second and third paragraphs of the target genre text (Nagao, 2018).

Another focus study was conducted by Yuan-Shan & Shao-Wen (2012), who implemented a pre-test/post-test assessment to scrutinize the instructional effectiveness of a genre-based approach for teaching summary writing. Forty-one EFL university students were asked before and after the GBA instructions to summarize a simplified version of The Adventures of Tom Sawyer in a maximum of 500 words (Yuan-Shan & Shao-Wen, 2012, p.184). All the learners' summaries on

the pre- and post-tests were assessed against vocabulary, organization, content, and language use. Results from Yuan-Shan & Shao-Wen's (2012) study showed that the GBA was effective in enhancing learners' overall summarization performance of a narrative text and that the participants benefited to a greater extent in content and organization as well as in vocabulary and language use (Yuan-Shan & Shao-Wen, 2012, p.184). These results were also corroborated by the participants' semi-structured interview comments.

On his part, Tuan (2011) wanted to examine the effect of the GBA on learners' writing performance as well as their attitudes towards the application of the GBA in writing recounts. Forty five first-year students of Finance-Marketing participated in Tuan' (2011) study. In his study, Tuan (2011) gathered data through student essays and questionnaires. Data was analyzed qualitatively by using Grounded theory and quantitatively by using statistical analysis. The results from Tuan' (2011) study were positive as data shows that most of the student participants augmented the control over the important features of the recount genre in terms of language features, schematic structure and social purposes (Tuan, 2011, p.121). Additionally, participants also reported a satisfactory attitude towards the GBA after the intervention.

Another researcher interested on the GBA was Ding (2007), who carried out a qualitative study aimed at investigating the effectiveness of the GBA to teach writing. Particularly, Ding's (2007) study focused on identifying the moves (i.e., the writer's intentions) of a letter, the admissible moves order and the strategies used to make the moves. From an EFL teaching perspective, it is important to mention that texts also include moves and that moves help achieve a particular purpose (Swales, 1990).

Apart from the focus on moves, Ding (2007) also focused on analyzing students' writings in terms of content, structure and language use. Participants on Ding's (2007) study were 65 Business

major students, who were divided into two groups: a control group with 30 students and a threaten group with 35 students. The control group was taught through traditional teaching, whereas the threaten group was taught by using the GBA. Regarding content, structure and language use, the participants' texts were analyzed by using a multiple trait scoring, while for analyzing their texts' moves, a moves score was implemented (Ding, 2007). Ding's (2007) major finding indicates that students create better texts when they are aware of rhetoric structures and that supporting students with model texts can increase the salience of the communicative moves in their texts.

Other researchers such as Henry & Roseberry (1998) conducted an experimental study focused on determining the efficiency of the GBA for writing short tourist information texts in an English for academic purposes course. Participants in Henry & Roseberry's (1998) study were 35 undergraduate students, who were distributed into two groups: a group which implemented the GBA instructions and a group which did not use the GBA instructions. Results from Henry & Roseberry's (1998) study indicated that the genre group did better than the non-genre group. This was supported by qualitative data which showed that knowing the common structure of a tourist information texts made it easier for participants to organize their ideas in terms of both accomplishing their communicative objectives and creating more well-organized writing (Henry & Roseberry, 1998, p.154-155).

In Colombia, Chala & Chapetón (2013) carried out an action research project with a group of pre-service teachers of a program in modern languages at Pontificia Universidad Javeriana, in Bogotá. The participants were two male and thirteen female learners. Chala & Chapetón's (2013) study envisioned to go beyond linguistic and textual features of argumentative essays by using a set of genre-based activities and the understanding of writing as a situated social practice Chala & Chapetón (2013, p. n.s). Semi-structured interviews, students' artifacts, questionnaires and class

recordings were the instruments used for collecting data. Results from Chala & Chapetón's (2013) study indicated that genre-based activities not only contributed to improve participants' creation of essays (regarding text structure and the generic features of an essay) but also increased their confidence, deriving in a positive attitude towards the approach implemented (Chala & Chapetón, 2013).

In a nutshell and considering all these results, it can be said that the GBA appears as a highly effective approach for improving undergraduate students' writing of specific texts. Specifically, for improving students' control of schematic structures, experimental and textual meanings, summarization ability, language use and social purpose of argumentative, narrative and informative texts. Additionally, based on Ding's (2007) major finding, it can be said that the GBA can also be effective for increasing the salience of the communicative moves in the students' texts, thus contributing to achieve the social purpose of the texts (Swales, 1990). Finally, Tuan's (2011) and Chala & Chapetón's (2013) findings provide insight to claim that when working with the GBA, students can develop a positive attitude towards it.

To conclude this section, it is worth mentioning that when consulting literature about the enhancement of undergraduate students' digital skills through the GBA from 2000 to the current year in the most well-known research journals worldwide such as, An International Journal of Educational Technology and Applied Linguistics, the Journal of Second Language Writing, and the Colombian Applied Linguistics Journal, any digital or printed references were found. And there is where this research study stands as a contribution to build literature about the use of the GBA for the improvement of digital skills in Colombian ELF students.

**2. 2 Prior research on emails, infographics and blogs**

**2.2.1 Prior research on emails.** Although not considered a research topic in education some years ago, research into the pedagogical benefits of email has advanced during the last decades (Brändström, 2011). Proof of this assertion are the research studies that have been carried out around the world about this topic in the last two decades.

For instance, Najeeb (2012) conducted a research study focused on analyzing the politeness strategies found in Arab postgraduate students' e-mails to their supervisors. Najeeb's (2012) research study used a mixed methods approach to analyze eighteen e-mails that were sent by six Arab postgraduate students to their supervisors. The politeness strategies were analyzed according to Brown and Levinson's (1978) politeness theory, and the degrees of directness were categorized according to Cross Cultural Speech Act Realization Pattern coding scheme (Najeeb, 2012). Najeeb's (2012) findings showed that Arab students used various politeness strategies, including the use of polite vocabulary and that they tended to be more direct in their requests via e-mail when communicating in English.

Another focus study was carried out by Shang (2007), who focused on analyzing the influence of using email for the enhancement of writing performance related to lexical density, syntactic complexity and grammatical accuracy, as well as the relation between the number of email exchanges and writing performance. Shang's (2007) major finding demonstrated that students made improvements on syntactic complexity and grammatical accuracy. Shang's (2007) research project is relevant for this study as it gives insight that through emails participants may improve their grammar accuracy.

In Colombia, Puerta (2010) conducted a research study to analyze virtual interactions between the facilitator and the students through the use of the email. The purpose of Puerta's (2010) study

was formulating strategies for the enhancement of the use of email as a teaching-learning tool. The research methodology adopted on Puerta's (2010) study corresponded to a qualitative approach, which was based on linguistic analysis of CMC. One of the major findings of Puerta's (2010) study shows that students at the moment of writing the messages, do not take into consideration the use of cyberpracmatic elements on textual genre, micro-redaction and macro-redaction (Puerta, 2010). Based on this, Puerta (2010) concluded that the electronic emails analyzed tended to be more like oralized texts rather than written texts. This finding might have taken place because of the absence of non-verbal clues in email writing, which encourages the use of informal language.

Puerta's (2010) work is very relevant for this study as it gives insight that students do not perceive the significance of using cyberpracmatic issues of language such as an appropriate register when writing digitally. Moreover, it gives insight to suggest that, when not trained, students' messages tend to be more oralized. However, as the emails elaborated and sent by participants in Puerta's (2010) study do not evidence revision, it is important to consider peer's correction, teacher's feedback and editing as strategies to improve the writing process.

**2.2.2 Previous research on infographics**. Regarding infographics in education, Vanichvasin (2013) conducted a qualitative project aimed at examining the implementation of infographics in two different ways, infographics as visual communication tools and infographics as learning tools for improving the knowledge of 20 fourth year university students. Vanichvasin's (2013) findings were positive as most participants agreed that infographics could enhance comprehension, retention and appeal. In short, Vanichvasin's (2013) findings point out that infographics may improve comprehension and retention of information, which makes them a significant teaching and learning tool to consider in education.

Another focus research was conducted by Rezaei & Sayadian (2015), who explored the impact of infographics instruction on Iranian EFL learners' grammar learning. Rezaei & Sayadian (2015) delivered the grammar instruction through two procedures; one, through the infographic teaching, and the other, through routine and old-style methods (Rezaei & Sayadian, 2015). Rezaei et al.' (2015) major finding revealed that infographic instruction was an effective strategy for helping EFL learners learn foreign language grammar. Based on Rezaei et al.' (2015) major finding, it can be suggested that infographics might not only facilitate the understanding and retention of information, but also the learning of grammar, which makes them a valuable teaching and learning tool in education.

In Colombia, Ochoa (2018) carried out a research study aimed at analyzing discourses, narrative forms and digital tools used to present and ease the understanding of the peace process agreements in the State. In his study, Ochoa (2018) found that infographics, and especially their inherent capacity for synthesis facilitated the interpretation of information and inspired the development of a critical citizenry (Ochoa, 2018). Perhaps, infographics contributed to the formation of a critical citizenry in Ochoa's (2018) study, because through the graphical contents students might have better interpreted the complex development of the Colombian peace process, and thus adopt a clear and critical position towards it, either in favor or against it.

Finally, as literature shows, it can be concluded that infographics appear as incredibly useful pedagogical tools in education as they can help create a critical citizenry as well as to increase the understanding and retention of information, due to their capability to make complex information easy to comprehend and to make even thick data attractive.

**2.2.3 Former research on blogs.** When consulting literature about the use of blogs for educational purposes, some studies were found. One of them was a quantitative study carried out by Nepomuceno (2011), who found that blogging is a beneficial activity to help students develop and enhance their writing proficiency. Nepomuceno's (2011) finding is pertinent for this study as it gives insight that writing can be improved through blogs.

Another research study found about blogging for language learning was the one conducted by Alsubaie & Madini (2018), who created an experimental design study using a quantitative approach to investigate the use of web blogs as a supplementary tool for teaching English. In their project, Alsubaie & Madini (2018) focused on studying the effectiveness of using blog exchanges for enhancing Saudi female university students' English writing, especially for enhancing vocabulary usage. These scholars' major finding indicated an enhancement in the learners' writing performance after implementing the blog entries, as well as an increase of their vocabulary knowledge.

Alsubaie et al.' (2018) major finding might have taken place because through blogs, students are required to read and write, which increase their opportunities to improve on grammar and to extend their vocabulary knowledge. This assertion is supported by Raghavendra (2017), who explains that:

In a technology driven framework of teaching and learning, blogging plays a very important role in enhancing the ability of a learner to write. As a strong motivational tool, involving, integration of specific skills, blogging motivates the learner to share personal information, inductively learning specific language structures and vocabulary (p. 132).

Following Raghavendra's (2017) ideas of blogging, it can be said that blogs may contribute to the learning of specific language structures (grammar, syntax, morphology) and to the extension of vocabulary knowledge (informal, formal, semi-formal). Another focus study was conducted by

Alsamadani (2018), who discovered that blogging-based writing training may enhance learners writing skills in terms of word choice, style, content, language mechanics and the like.

In Colombia, Bautista & Gomez (2014) conducted an action research project aimed at investigating the development of participants' descriptive paragraph writing by using blogs as a teaching and learning tool. After the study, Bautista & Gomez (2014) found that through blogs, participants felt motivated, and that their descriptive paragraph writing improved since they recognized and applied its structure. This finding also supports to the notion that blogs can be useful tools for improving writing.

Lastly, based on the previous references and many more, it can be concluded that blogs appear as powerful tools to enhance writing and other aspects involved in language learning such as motivation, collaborative work, social interaction and autonomy.

## 3. Objectives of the Study

### 3.1 General objective

The general objective of this study was to determine the effectiveness of the Genre-Based Approach for improving undergraduate students' digital skills to create content.

### 3.2 Specific objectives

(a) To identify language problems in students' digital written production.

(b) To design a pedagogical intervention within the framework of the GBA for the improvement of undergraduate students' digital skills to create content.

(c) To analyze the extent to which the GBA can help students improve skills for creating formal emails, infographics and blog entries.

**Significance of the study**

The writer expects this study can give insight to the ELT community about the improvement of undergraduate students' skills to create digital content. Furthermore, it is also expected that the students raise awareness about the linguistic and social aspects of language when writing digitally. Lastly, the writer also hopes this paper may serve as reference for other studies focused on the GBA and digital skills.

## 4. Theoretical framework

### 4.1 The concept of genres

'Genres' not only refer to the kinds of literary texts that exist nowadays, but also to the expected patterns of everyday, academic, working or social texts occurring within a specific culture (Hammond & Derewianka, 2001). In other words, genres refer to the different types of writing texts that exist in society such as newspapers, reports, e-mails, twits, informs, interviews, applications, essays, poems, recipes, blog entries, infographics, chats, and so on. Swales (1990), a fundamental scholar in the development of Genre Theory, defines genres as "communicative events" which are characterized by their "communicative purposes" and by various patterns of "structure, style, content and intended audience" (Swales 1990, p.58).

Genres, either written or spoken, are frequently grouped according to their social purposes. That is, texts which have the same purpose are grouped in the same genre. Derewianka (1990, p.235) classified genres in six central groups according to their main social purpose: (1) information reports: to provide genuine information; (2) expository texts: to present or argue a view point; (3)

explanation: to explain why or how something occurs; (4) recount: to tell what occurred; (5) instructions: to tell how to do something; and (6) narratives: to tell a story.

Each of these ways of using language (genres) has quite specific requirements in terms of schematic organization and language features, and based on this, the sender (writer) will have to choose/decide the organization and language features of his/her text to appropriately meet its social purpose. This is supported by Tuan (2011, p.122), who contends that:

> The social purposes of text-genres in turn decide the linguistic features of the text (i.e. their linguistic conventions, often in form of schematic structure and linguistic features). Specifically, schematic structure refers to internal structure or text organization of the text type in form of introduction, body, and conclusion, while language features consist of linguistic aspects such as grammar, vocabulary, connectors, etc.

Swales (1990, p.309) also shared this point of view as contending that all genres possess a set of communicative purposes within certain social situations. Finally, it can be concluded that genres (of which e-mails, infographics and blog entries are examples) refer to specific classes of social texts that possess certain regular features arising from the regularity of their use in specific contexts or situations (Kress, 1993).

## 4.2 The genre-based approach

The GBA is a structuralist approach for teaching and learning literacy based on the use of the most important written texts in society (genres). This mainstream of written texts have been named by Martin (1999) and others as "the genres of power" (Wallace, 2003, p.63). The GBA was developed in Australia by Halliday (1978), and elaborated by Swales (1990), Martin (1992), Christie (1999) Macken Horarik (2001), Hyland (2004) among others, who were strongly influenced by Vygotsky, Brunner and Painter's notions of scaffolding and collaborative learning as central ingredients for language acquisition.

The GBA emerged in the mid to late 1980s mainly because of the dissatisfaction with the process approach for writing, which focused on natural learning and Narrative texts (Emi, 2005). The GBA also emerged in order to improve the teaching of wrting in Australian schools in the 1980s, which was only focused on grammar, thus ignoring the social aspects of language (Martin, 1985; Martin, Christie, & Rothery 1994).

The GBA employs a procedure of explicit instruction by the teacher to initiate the learner in the deconstruction of a text through analysis of its established practices (social/linguistic conventions), or "field"; as well as the social relationship between interactants, or "tenor"; and the channel or "mode" of the text (Martin, 1999, p.135). This process is followed by collaborative text construction (join construction), and finally autonomous text production by the learners (independent construction) (Hyland, 2007).

The theoretical basis of this approach is that literacy is a social practice, a form of social action in which language and context share a close relationship in the meaning making process (Halliday, 1978). The premise under this approach is to provide learners with different kind of "power genres" so that by analyzing them, learners can identify the changes in grammar, structure and vocabulary and use them into their own writings.

According to this, the GBA can be understood as an anticipating process in which the readers read looking for expected vocabulary/conventions, structure and grammar based on previous texts they have read of the same kind. This is supported by Hoey (2001), who explains that:

> Genre pedagogy likens readers and writers to dancers following each other's steps, each assembling sense from a text by anticipating what the other is likely to do by making connections to prior texts. While writing, like dancing, it allows for creativity and the unexpected, established patterns often form the basis of any variations (p. 48).

From the explanation above, it is possible to state that under the GBA, undergraduate students might anticipate and know, for instance, whether a text is a recipe, a joke, a love letter, or an e-mail request by the vocabulary and text structure used, and might also respond to it immediately, or even construct a similar text if it was the case (Hyland, 2007).

On the other hand, it is worth mentioning that teachers following the GBA employ the Genre Pedagogy teaching and learning cycle which embraces three phases, namely, deconstruction (the target genre is modeled/deconstructed for the students), joint construction (a text is jointly constructed by the teacher and the students) and independed construction (a text is independently constructed by each student) (Martin & Rose, 1986). The model in Figure 1 shows the GP cycle and its phases:
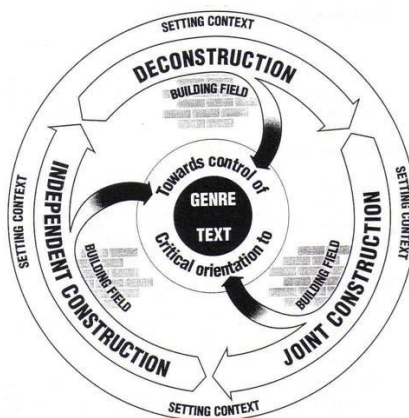


*Figure 1.* The genre pedagogy cycle. Taken from Rothery & Stenglin (1994, p.8, as cited in Martin, 1999, p.131).

**4.2.1 Deconstruction.** Following Hyland (2007), it can be said that the deconstruction or modelling stage involves teaching about the cultural and social purpose of the genre to students by identifying the language patterns and features that comprehend the text. In other words, the aim of this phase is to familiarize students with the target genre through model texts and to draw attention to organizational and linguistic features commonly found in texts (Lin, 2006), so that students can determine the social context and purpose of the genre (Belbase, 2012). According to Belbase (2012, par 10), during this phase:

The teacher introduces a model of the genre and lets students consider the purpose of the text. For example, the purpose of an argumentative essay is to persuade the reader to act on something. Next, the teacher discusses how the text is structured and how its organization develops to accomplish its purpose.

This stage clearly demonstrates how the GBA is founded on Vygotsky's (1978) ZPD theory, as model texts provide, in Vygotskian terms, the necessary object-regulation or scaffolds for learners to succeed in their learning process (McLeod, 2019).

**4.2.2 Joint construction.** In the joint construction phase, the teacher and students work together in jointly constructing a text in the particular genre being studied (Hyland, 2004). The teacher's work in this stage is to provide students with systematic guidance and careful support through various activities so that students ultimately gain control of the written genres (Irawansyah, 2016). The joint construction stage can take different forms. For instance, the whole class can participate constricting a single text on the board (thus providing opportunities for social interaction and participation of group members as an important ingredient in developing new knowledge). However, students can also work in small groups with the teacher helping each group, or with the teacher conferencing students individually. Finally, it is important to mention that, in Vygotskian terms, the joint construction stage continues to provide object-regulation to the students, while other regulations come from other students, as more expert peers guide and provide feedback to their peers (collaborative learning).

**4.2.3 Independent construction**. In this stage, students independently produce a similar or parallel text to what they were taught in class about the specific linguistic characteristics of a genre. This stage is very critical, as it ensures the understanding of the schematic structure and language features of the genre under study and provides the opportunity for self-regulation, the crucial final

stage in Vigotsky's (1978) ZPD theory. However, although it is expected that students construct a parallel text by their own in this stage, it is possible that the teacher or other students have to intervene on the construction of the final text until the student attain the level of attainment desired. This is supported by Belbase (2012) who explains that the writing activity can continue as a homework assignment, and be subjected to other-regulations (e.g. peer, parents or teacher's feedback) (Lin, 2006).

## 4.3 General characteristics of the genre-based approach

First, the GBA has been mainly characterized because it underscores that writing is a social activity (Hyland, 2004). This notion originated from Vygotsky's (1978) socio-cultural theory of cognitive development, which claims that knowledge is best built when students cooperate together, support each other to encourage new ways to form, construct and reflect on new knowledge (Tuan, 2011).

Second, the GBA highlights the explicit teaching of the linguistic conventions that a genre needs to follow in order to be successfully accepted by its readership (Muncie, 2002). This is because according to Tuan (2011), "students cannot produce a particular text-type successfully if they are not taught explicitly about linguistic conventions of that text-type with respect to language features and schematic structure" (p. 124). Therefore, teaching linguistic conventions to student writers, specially at the first stage of the writing process, becomes a very important task of genre teachers (Tuan, 2011) so that students eventually produce texts that fulfil the expectations of their readers in terms of content, organization and grammar.

Third, the GBA focuses on teaching students how language patterns are used to accomplish purposeful prose writing (Tuan, 2011). According to Hyland (2002), the central believe is that "we do not just write, we write something to achieve some purpose" (p.18). That is why, under the

GBA, student writers are instructed to consider the social purpose of a text before creating a similar sample.

Fourth, the teacher's role in this approach is viewed as authoritative rather than authoritarian (Rothery, 1996). In this sence, the teacher's role is viewed as a facilitator rather than a strict person who does not accept any contribution or help from students. Based on this, it can be said that under the GBA, lessons are more centered on the students rather than on the teacher. Furthermore, the teacher's role in this approach consists in proving learners with systematic guidence and corrective/supportive feedback throug different activities so that learners ultimately gain the control of the genre being studied (Tuan, 2011). Finally, under the GBA, teachers are expected to help students make connections between writing in the classroom setting and in the world around (Emi, 2005).

Last but not least, the GBA emphasizes the relationship between text and context. More specifically, the GBA focuses on the relationship between written texts and the contexts in which they are produced. Halliday sees the relationship between text and context as dialectical: the text creates the context as much as the context creates the text. Meaning, then, arises from the friction of them (1985c, p. 47).

**4.3.1 Text and Context.** 'Text' refers to words and sentences woven together to create a whole thing with meaning. In other words, a text can be conceived as any form of written material which is held together cohesively through meaning (Istianah, 2011). For Macken-Horarik (1997, p. 305), a text is "a social construct, which has an identifiable structure, and as a construct, its structure and social function can be deconstructed". The term can also be understood as "a semantic unit, a unit of language that makes sense. When it does not make sense, it is not a text; it is not communication"

(Istianah, 2011, p.233). Based on Istianah's (2011) explanation of a text, it can be suggested that written communication only happens when texts are sensible.

On the other hand, "context" refers to the elements that constitute a genre (Christie & Misson, 1998, p.8). Halliday highlighted three aspects in any situation with linguistic consequences: field, mode, and tenor (Halliday & Martin, 1993; Hasan, 1996; Martin, 1997). Field denotes the activity of conveying ideas (Halliday, 1975, p. 131; Feez, 2002), or what is occurring in the text, the nature of the social action which is taking place (Halliday, 1985c, p. 12; Feez & Joyce,1998a, p.5). For Nagao (2018), the Field of a text simplifies the understanding of how and when people use particular lexico-grammatical features such as mental verbs and elements of cohesion; which are ideational meta-functions that permit to understand what is happening in the text (par.4). Tenor, on the other hand, has to do with whom is taking place in the social action (Halliday, 1985c, p.12), or with the role that the relationship between the interactants has in the social communication (Halliday, 1975, p.131; Hasan, 1996, p.47). For Nagao (2018, par. 4) the Tenor of a text enables the comprehension of how and when the author selects some modalities, which becomes an interpersonal meta-function that contributes to comprehend the social relationship between writer (sender) and reader (receptor). Finally, as Nagao (2018, par. 4) explains, the Mode of a text eases the analysis and comprehension of the Theme and Rheme of a sentence as well as the cohesive devices on the text; this textual meta-function permits to comprehend how the text is structured. The three variables of context of situation, also called register of the text are better exemplified in Table 1.

Table 1.
*Context of the Situation and Linguistic Features*

| Layers | Categories | | |
|---|---|---|---|
| **Context** | **Field** | **Tenor** | **Mode** |
| Register variables | What is going on in the text? | What is the relationship between writers and readers? | How is the text organized, in spoken or written text? |
| Linguistic realization in metafunction | Ideational meaning: when, how, who, where, and what | Interpersonal learning: politeness, modality, and evaluative terms; attitudes, positions, and social roles | Textual meaning: Theme and Rheme as well as new and old information. |
| Lexico-grammatical features | Vocabulary, grammar, and tense | Mood, modalities | Theme; this, it, and that |

**Note: \***Context of the Situation and Linguistic Features. Adapted from "Language, context, and text: Aspects of language in a social-semiotic perspective". Second edition. Oxford: Oxford University; 1989.

At this point, it is right to say that the three variables of context of situation, also called the register variables (Eggins, 1994) transmit a different meaning each one. Nevertheless, when they are analyzed simultaneously the general interpretation of a text can come up. As Halliday argues:

Every sentence in a text is multifunctional; but not in such a way that you can point to one particular constituent or segment and say this segment has just this function. The meanings are woven together in a very dense fabric in such a way that to understand them we do not look separately at its different parts; rather, we look at the

whole thing simultaneously from a number of different angles, each perspective contributing towards the total

interpretation (1985c, p. 23).

Furthermore, Eggins (1994, p.78) contends that these three types of meaning (variables) can

also be related both upwards (to context) and downwards (to grammar), and that each variable has

its own specific grammar (Halliday, 1985c). In this train of thoughts, the field of a text can be

related to the realization of experiential/ideational meanings, carried out through the "transitivity"

patterns of grammar (Eggins, 1994, p.78). The tenor, on the other hand, which can be understood

as the realization of interpersonal meanings, is realized through the "mood" patterns of grammar

(Eggins, 1994, p.78; see also Martin, 1997, p.4 for a similar opinion), and finally the mode of a

text, which can be understood as the realization of textual meanings, is carried out through the

"theme" patterns of grammar (Eggins, 1994, p.78).

First of all, it is worth mentioning that transitive patterns of grammar fall on the transitivity

system of language which has to do with how a text organizes experiences, one part of the

ideational function of language (Emi, 2005, p.87). According to Halliday, 1994a, p. 106), the

Transitivity system represents the world of experience trough different sets of lexis on sentences.

More specifically, the Transitivity system relates to the way transitive and intransitive verbs are

used to share experiences. For instance, examples of Transivity markers can be: *when I was a boy,*

*people used to, my grandfather taught me, I grew up being, we used to play soccer in…, we always*

*had dinner togheter, the culture was…, things were really different in the past, the Romans*

*eliminated the vikings, they impressed me, I politelly refused his invitation, Julio made a chair,*

*Julia talked, they panicked, it exploded, they agreed, they marched for hours,* among others.

However, according to Thompson (1996, p.78) as cited on Emi (2005, p.94), the term not only

refers to a form of differentiating between transitive and intransitive verbs regarding if they have

an object or not, but to a system for describing the whole clause, instead of just the verb and its object.

The other aspect of transivity has to do with the conjunction system, which is related to the logico-semantic reltion of clauses (Emi, 2005, p.87). This is because, as it is known, conjuntions contribute to build cohesion (Halliday, 1994a, p. 324). The cohesive pattern of conjunction, or conjunctive relation; for instance, examines how a writer creates and expresses logical relationships between the different parts of a text (Eggins, 1994, p.105). As Halliday & Mathiessen (2004, p. 538-548) and Eggins (1994, p. 105- 109) explain, conjunctive relations contribute to build *elaboration, extension*, and *enhancement* clauses.

*Elaboration* denotes a clarification, where a sentence is provided as a re-saying or representation of a previous sentence (Eggins, 1994, p. 105, as cited in Emi, 2005, p.101). As Emi (2005) contends, "Common conjunctions used to express this relation are: *in other words, that is (to say), I mean (to say), for example, for instance, thus*" (p.101). *Extension* has to do with a relationship either in addition (one sentence adds the meaning made in another), or by variation where one sentence alters the meaning of another by opposition or by qualification (Halliday, 1994a, p.134). As Emi (2005, p.101) points out, "common conjunctions used to express this relation are: *and, also, moreover, in addition, nor, but, yet"*. Finally, *Enhancement* refers to the way in which a sentence extends on the meaning of another in terms of dimension such as time, condition, concession, comparison, or cause, Eggins, 1994, p.106). Types of conjunctions used in enhancement are presented by Emi (2005, p.101) in Table 3 below.

Table 2.
*Types of conjunctions*

| Types of conjunctions | Examples |
|---|---|
| Temporal | Then, next, afterwards, until, at the same time, before, after a while, etc |
| Comparative | Likewise, similarly, in a different way, etc |
| Causal | So, then, therefore, consequently, hence, because of that, for, in consequence, as a result, etc |
| Conditional | If, if not, otherwise, etc |
| Concessive | Yet, still, even though, etc |

**Note: \***Types of conjunctions. Taken and adapted from "A critical genre-based approach to teaching academic writing in a tertiary EFL context in Indonesia" Volume 1. Melbourne: The University of Melbourne; 2005.

Secondly, mood patterns of grammar relate directly to Modality, which according to Eggins (1994, p.179) has to do with the forms in which a language user intervene on his/her message to express different attitudes and types of judgments (moves). As Emi (2005, p.102) contends:

> These judgments can be of probability or certainty. The former is called modalisation (epistemic modality) and the latter modulation (deontic modality). These two types of modality, can be subjectively or objectively oriented. Subjective orientation, or *first person statement* indicates the writer's commitment to what she/he is saying and objective orientation, or *third person statement* shows the writer's detachment to what she is saying, making statements on behalf of others.

Emi (2005, p.102) provides some types of markers of modality, which are presented on Table 3 below.

Table 3.
*Types and markers of modality*

| Type of marker | Marker of modality |
|---|---|
| Modal operators | Will, can, may, might |
| Modal adjuncts | Really, inevitably, highly |
| Modal operator +modal adjunct | Should, undoubtedly |
| Participial adjectives | Needed, |
| Mental process clauses | I think, I believe |
| Modal adjectives | Possible, important |
| Relational processes (processes of appearance) | Seem, appear |

**Note: \***Types and markers of modality. Taken and adapted from "A critical genre-based approach to teaching academic writing in a tertiary EFL context in Indonesia" Volume 1. Melbourne: The University of Melbourne; 2005.

Lastly, the theme system of grammar refers to the organization of information within individual clauses, in which the clauses fall into two constitutes: *Theme* and *Rheme* (Emi, 2005, p.88). The Theme is the starting point of a sentence, and the Rheme is what complements it. For instance, in the sentence: they like oranges. The subject pronoun *they* is the Theme, and the verb *like* and the object *oranges* is the Rheme of the sentence. Based on the theme system of grammar, it is possible to state that the previous sample sentence is correct as the Theme *they* is situated in the initial position of the sentence, followed by the Rheme (the verb *like* and the object *oranges*). Thus, following the S-V-O agreement of sentences in the English language. Finally, it is important to mention that the relation Theme-Rheme is what gives cohesion to clauses, making parts of a sentence a communicative whole (Bussmann, 1998).

**4. 4 Defining digital literacy, competence and skills**

    **4.4.1 Defining digital literacy.** While the word *literacy* refers to reading and writing skills, when the word *digital* is placed before it, the term encompasses much more. For instance, The United Nations Education, Scientific and Cultural Organization (UNESCO, 2013) defines digital literacy (DL) as "the ability to use Information and Communication Technologies (ICT) to find, understand, evaluate, create, and communicate information, an ability that requires both cognitive and technical skills" (par. 2). Cognitive skills relate to the capabilities to think, read, learn, remember or reason, while technical skills consist in being able to use the IST (Information Society Technologies) such as computers or cellphones for typing, printing, or sending an email. On his part, Martin (2008) defines the term as the capability for "identifying digital resources and content, managing, combining, and making analysis, forming new data, as well as creating new ways of media expressions and making it possible to communicate with others" (p. 155).

    DL also encourages curiosity and creativity and enables students to assess the information that has been gathered in a critical way (Ozdamar-Keskin, 2015). This is very important, as gauging the validity of the information gathered from the Web, for instance, is a very important digital skills that every 21st century student must have, as there are a lot of fake news on the Web. Therefore, it is important that students learn how to weed out fake information. Lastly, it is worth pointing out that DL does not replace traditional forms of literacy; instead, it builds upon the foundation of traditional forms of literacy (Jenkins, 2009). That is why reading and writing are still very much at the core of DL.

*4.4.1.1 The Sub-disciplines of Digital Literacy.* In the field of educational technology, the sub-discipline areas of DL are: computer literacy, technology literacy, information literacy, media literacy, visual literacy, and communication literacy. Ozdamar-Keskin (2015, p. 74) provides the following chart (Table 4) for better understanding the sub-disciplines of DL:

Table 4.
*Sub-disciplines of Digital Literacy*

| Discipline | Definition |
|---|---|
| **Information literacy** | Finding and locating sources, analyzing and synthesizing the material, evaluating the credibility of the source, using and citing ethically and legally, focusing topics and formulating research questions in an accurate, effective, and efficient manner. |
| **Computer Literacy** | An understanding of how to use computers and application software for practical purposes. |
| **Media Literacy** | A series of communication competencies, including the ability to access, analyze, evaluate and communicate information in a variety of forms including print and non-print messages. |
| **Communication Literacy** | Learners must be able to communicate effectively as individuals and work collaboratively in groups, using publishing technologies (word processor, database, spreadsheet, drawing tools...), the Internet, as well as other electronic and telecommunication tools. |
| **Visual Literacy** | The ability to 'read,' interpret, and understand information presented in pictorial or graphic images; the ability to turn information of all types into pictures, graphics, or forms that help |

| | communicate the information; a group of competencies that allows humans to discriminate and interpret the visible action, objects, and/or symbols, natural or constructed, that they encounter in the environment. |
|---|---|
| **Technology Literacy** | Computer skills and the ability to use computers and other technology to improve learning, productivity, and performance. |

**Note: \***Sub-disciplines of Digital Literacy. Adapted from "Examining Digital Literacy Competences and Learning Habits of Open and Distance Learners". First edition. Turkey: Contemporary Educational Technology; 2015.

These sub-disciplines refer to the literacies used in the actual digital age, and which are necessary to understand all of the different genres of texts that exist nowadays, and eventually to create them too. Lastly, taking into consideration that DL is a broader term that requires a variety of skills and sub-disciplines, this study only focused on two specific sub-disciplines of DL, which are: Communication and Visual Literacies.

**4.4.2 Defining digital competence.** Among its many definitions, digital competence (DC) can be understood as the ability to use ICT confidently and critically for work, school, leisure, social communication and problem solving. Ferrari (2013) supports this assertion by explaining that DC "refers to the confident and critical usage of the full range of digital technologies for information, communication and basic problem-solving in all aspects of life" (p. 15). According to Brolpito (2018), DC: also referred to as digital literacy:

Encompasses a set of basic digital skills, covering information and data literacy, online communication and collaboration, digital content creation, safety and problem solving. Digital competence is about the ability to

apply those digital skills (knowledge and attitude) in a confident, critical and responsible way in a defined context (e.g. education) (p. 25).

For Ilomäki, Kantosalo, & Lakkala (2011), "digital competence is the most recent concept describing technology-related skills" (p. 1). As these authors explain:

> During the recent years, several terms have been used to describe the skills and competence of using digital technologies, such as ICT skills, technology skills, information technology skills, 21st century skills, information literacy, digital literacy, and digital skills. These terms are also often used as synonyms; e.g. digital competence and digital literacy (p. 1).

Based on these authors and others (e.g., Ananiadou & Claro, 2009; Calvani, Fini, & Ranieri, 2010), it is possible to argue that the concepts of digital competence and digital literacy overlap. However, as Krumsvik (2011) points out, "while digital literacy seems to be the concept which is most commonly used internationally, digital competence is the most commonly used concept in the Scandinavian countries in educational contexts" (p. 44). The main reason for this phenomena might be because competence as a concept has a broader and more holistic meaning than literacy. Finally, competences usually group skills, attitudes and knowledge needed for a determinate task (Erasmus, n.d), whereas literacy is considered as the capability to read and write.

In short, although different scholars and organizations around the world highlight diverse aspects of the concepts, they all agree that digital literacy or competence is an umbrella term that involves technical, cognitive and meta-cognitive processess and skills, as well as civic engagement and ethical awarness (Calvani, Fini, & Ranieri, 2010).

On the other hand, it is worth mentioning that The European Digital Competence Framework for Citizens (2015), also known as DIGCOMP, established the key components of DC in 5 areas with 21 sub-competences, which are summarized in the following infographic (Figure 2):

| DIMENSION 1: COMPETENCE AREAS | | DIMENSION 2: COMPETENCES |
|---|---|---|
| CORE | 1. INFORMATION | 1.1. Browsing Searching And Filtering Information<br>1.2. Evaluating Infrmation<br>1.3. Storing And Retrieving Information |
| | 2. COMMUNICATION | 2.1. Interacting through technologies<br>2.2. Sharing information and contet<br>2.3. Engaging in online citizenship<br>2.4. Collaborating through digital channels<br>2.5. Netiquette<br>2.6. Managing digital identity |
| | 3. CONTENT CREATION | 3.1. Developing content<br>3.2. Integrating and re-elaborating<br>3.3. Copyrigth and licenses<br>3.4. Programming |
| TRANSVERSAL | 4. SAFETY | 4.1. Protecting devices<br>4.2. Protecting data and digital identity<br>4.3. Protecting health<br>4.4. Protecting the enviroment |
| | 5. PROBLEM SOLVING | 5.1. Solving technical problems<br>5.2. Solving practical and theoritical problems with technologies<br>5.3. Identifying technological responses to needs<br>5.4. Identifying digital competence gaps |

*Figure 2.* The DigComp Conceptual Reference Model. Taken and adapted from Ikanos (2019, par.3).

At this point, it is important to clarify that this study only centered on the content creation area of DC. That is why only the content creation area and its sub-competences will be explained in the following paragraph.

To begin with, as Figure 2 shows, the content creation area of DC involves the development of digital content, the integration and re-elaboration of previous content, the application of copyrights and licenses as well as programming (Caccuri, 2018, p. 15). The first sub-competence of the content creation area has to do with the learners' capability to develop/produce digital content in different formats (text, audio, images, graphics, video) by using basic tools packages (Microsoft Word, Power Point, Audacity, Windows Movie Maker, Vegas Pro, among others). It also has to do with the students' capability to edit content to improve the final product (Caccuri, 2018). The second sub-competence is related to the students' capacity to re-elaborate existing material to create new content. For the third sub-competence, as Caccuri (2018) explains, students must be able to understand the regulations of copyright and licensing. In this sub-competence, students for

instance, must recognize the differences among copyrights, licenses, creative commons, copyleft and public domain (Caccuri, 2018). Finally, the fourth sub-competence refers to the understanding of how digital systems and processes work as well as knowing how to codify and program digital devices.

**4.4.3 Defining digital skills.** 'Skills' can be defined as the abilities or expertise that enable to do something well. Skills are learned/developed through life and work experiences; however, skills can also be leaned at school. There are many different types of skills for succeeding in all aspects of life whether it's school, work, or even leisure. For example, there are labor (job), personal, social, life, sports and digital skills, to name a few. These last skills relate to the abilities to apply knowledge and to use ICT to complete different tasks and solve basic problems. As mentioned in The IQ1: Reserch Skills Report, "digital skills are described as either cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments)" (p. 2). Here, it is necessary to elucidate that this study focuses on digital skills, which are both cognitive and practical. In cognitive terms, the study focuses on analyzing participants' capabilities to learn, while in technical/practical terms, it analyzes participants' capacity to use ICT for creating digital content.

What is more, digital skills are usually understood as transversal, soft or basic skills (European Comission, 2018), which might help develop and master other skills, such as communication, language, or basic skills in maths and science (Vuorikari, 2015). Finally as Esco (2018) contends:

> While sometimes used as synonyms, the terms skill and competence can be distinguished according to their
>
> scope. The term skill refers typically to the use of methods or instruments in a particular setting and in relation
>
> to defined tasks. The term competence is broader and refers typically to the ability of a person - facing new

situations and unforeseen challenges - to use and apply knowledge and skills in an independent and self-directed way (par. 2).

To conclude, although it is difficult to find a general definition about competence and skill, Esco (2018)  better explains the difference between them, and clarifies that a skill refers to the use of methods or instruments to complete a task, whereas a competence is a wider term that encompasses different skills, knowledge and expertise for facing a challenge.

## 4.5 Defining e-mail, infographics and blogs

**4.5.1 Defining e-mail.** Electronic mail (email or e-mail) is a global medium for exchanging messages between people using different electronic devices such as smart phones, tables or computers. The history of modern email services dates to the creation of the Advanced Research Projects Agency Network in the 1970s by the Department of Defense from the United States of America to establish a communication nexus among the different governmental organisms of the nation. Nowadays, email is not only a popular means of communication between people around the world (Tao & Reinking, 1996), but also a valuable tool in business communication. In fact, as Thompson & Lloyd (2002) point out, "e-mail has replaced the interoffice memo and is the primary means of business communication at the present day, as it can be easily forwarded, attached to another message or kept indefinitely in an electronic filing cabinet" (p. 1).

Regarding education, although not intentionally created for educational purposes, emails soon became practical tools in education, specifically because they could be created in accordance to the rules of a traditional letter, which made them perfect for developing and improving reading and writing processes (Smith, Whiteley, & Smith, 1999). Thus, because of the similarities between emails and letters, students could find the following parts in an email

structure: (1) Message Header (includes the e-mail address of the sender, e-mail address of the recipient, address of the user where the copy of the e-mail is wanted to be sent (Cc:), and the brief subject of the message), (2) the message's body (the text of the message), and (3) the signature of the person who sends the message.

Ultimately, when referring to email writing processes, it is necessary to consider some pragmatic aspects of language, such as the way language is used to produce different meaning. That is why the concept of register will be explained in the following section.

*4.5.1.1 Register. In* linguistics, register refers to the different ways of using language to communicate with different people in different contexts. This idea is supported by Nordquist (2019, par. 1), who claims that:

> Register is defined as the way a speaker uses language differently in different circumstances. Think about the words you choose, your tone of voice, even your body language. You probably behave very differently chatting with a friend than you would at a formal dinner party or during a job interview. These variations in formality, also called stylistic variation, are known as registers in linguistics.

It is important to mention that the variations in formality, from which Nordquist (2019) refers are characterized by factors such as purpose, audience, context or social occasion. Among the variable factors that characterize the linguistic register are: (1) The status, (2) the type of channel or communicative channel used, and (3) the customs of the society in which the communicative event takes place (Nordquist, 2019). Furthermore, as Nordquist (2019, par. 3) points out: "Registers are marked by a variety of specialized vocabulary and turns of phrases, colloquialisms and the use of jargon, and a difference in intonation and pace" (par. 3). Based on this, the use of jargon might affect or produce the interpretation of messages. In this train of thoughts, Nordquist (2019, par. 3) adds that:

Depending on grammar, syntax, and tone, the register may be extremely rigid or very intimate. You don't even need to use an actual word to communicate effectively. A huff of exasperation during a debate or a grin while signing "hello" speaks volumes.

On the other hand, although the common assumption is that there exist only two kinds of register: formal and informal, as Nordquist (2019) asserts, there are five distinct kind of registers: the frozen, formal, consultative, casual and intimate register. Nevertheless, as this study only concentrated on formal and informal emails, only the formal and casual registers will be explained in the following paragraphs.

To begin with, the formal register "is used in professional, academic, or legal settings where communication is expected to be respectful, uninterrupted, and restrained. Slang is never used, and contractions are rare" (Nordquist, 2019, par. 5). Examples of formal register may be: a job interview or a business presentation. On the other hand, the casual register occurs in acquaintances communication or among friends. This colloquial or familiar register is characterized by a lack of planning, preference of simple structures and expressiveness of the speaker. For Nordquist (2019), the casual register is:

The register people use when they're with friends, close acquaintances and coworkers, and family. It's probably the one you think of when you consider how you talk with other people, often in a group setting. Slang, contractions, and vernacular grammar are all common in this type of register (par. 8).

In other words, the causal register is used with close people (peers or friends), and does not use formal vocabulary or conventions. Instead, slang, vulgarities and colloquialisms are used in this type of register (Nordquist, 2019). Examples of casual register may include: a birthday letter, a picnic, a chat, a marriage anniversary, or a backyard barbecue.

**4.5.2 Defining Infographics.** Among its numerous definitions, it can be stated that an infographic or information graphic is a visual representation of information which is designed to make complex ideas and large amounts of data easy to explain and understand at first glance (Kibar & Pınar, 2014). In other words, an infographic is a combination of data (info) and design (graphics) which allows explaining or understanding complex ideas or processes through images.

An infographic involves several types of graphics and non-linguistic elements (pictograms, ideograms and logograms) forming descriptions and expository, argumentative or narrative sequences, and even interpretations (Kibar & Pınar, 2014). Following Walton (2018), "a good infographic leans mostly on the images contained within to get its point across" (par. 2). However, images on their own are one part of the infographic, the rest lies on the quality of text, which must be updated, reliable, relevant, engaging to read and easy understand (McCoy, 2014).

Nowadays, infographics are an increasingly popular way of sharing information in newspapers, magazines, television, and social media platforms because they help absorb and synthetize information. Fundamentally, the popularity of infographics has to do with three things: firstly, they're visual, which makes them a powerful visual tool. Secondly, "infographics are easy to share and simple to skim, which makes them perfect for our instant digital world" (McCoy, 2014, par. 2), and thirdly, they allow accessing information much easier than dense texts, which makes them more practical.

On the other hand, infographics can be classified according to several criteria. They can be classified; for example, according to their intention or purpose (Richards, 2017). Within this classification, it is possible to find Commercial infographics, which show the properties of a product or service and the needs it covers for its promotion; Story infographics, which tell stories

with the purpose of arousing emotions and creating bonds; and Educational infographics, which have the purpose of educate (Richards, 2017).

Furthermore, infographics are also classified as multimodal texts[2], which makes them more complex to create. In fact, creating an infographic is not an easy task (Kibar & Pınar, 2014) as it requires both: lower and higher order thinking skills such as synthetizing and organizing information.

At this point, it is important to mention that the term *thinking skills* was first coined by Benjamin Bloom in 1956, who created a taxonomy to classify reasoning skills into levels of specificity and complexity, ranked in order from the most basic to the most complex. His taxonomy covered reasoning skills in cognitive, affective and sensory domains named> knowledge, comprehension, aplication, analysis, and evaluation. Eventually, Bloom's taxonomy was revised an adapted by Anderson & Krathwohl (2001) to six levels of skills, namely, remember, understand, apply, analyse, evaluate and create, as show in Figure 3.
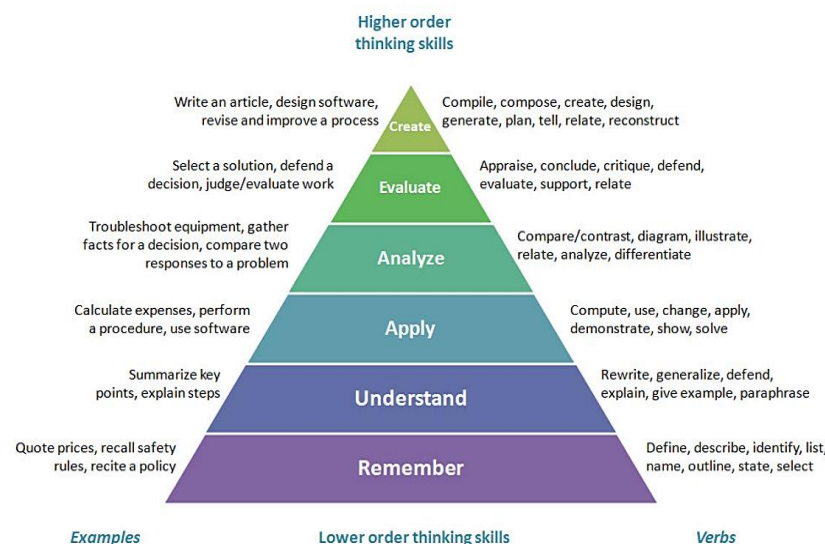


*Figure 3.* Revised version of Bloom's taxonomy. Taken from Jayasundara (2014, p.9).

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[2] A text that has two or more modes of communication

At the remembering level, students recall information and learn by observing or discovering. At this level, it is also common that students memorize, locate, list, name, repeat and duplicate information (Granello, 2011). At the understanding level, students learn by summarizing, paraphrasing or by explaining steps (Jayasundara, 2014). At the application level, students use and apply their prior knowledge to solve problems (Riazi & Mosalanejad, 2010 ). At the analytical level, students analyze and contrast patterns, organize ideas and recognize trends (Jayasundara, 2014). At the evaluation level, students evaluate (material, author, their outcomes, etc.,) by checking, judging, critiquing, recommending or rating. Lastly, at the creating level, students use old concepts and what they learned to create or reconstruct new material (Jayasundara, 2014).

It is important to mention that in Bloom's revised taxonomy the three lower levels correspond to lower order thinking skills, whereas the three upper layers relate to high order thinking skills. Thus, functioning in a hierarchical model, being the first three levels the basic levels to scaffold and develop higher order critical thinking skills.

On the other hand, when analyzing how an infographic is created, it can be noticed that it requires all the levels of Bloom's revised taxonomy. This is because to create an infographic, students first need to identify or define which the parts of the infographic are. Then, students need to summarize or paraphrase information as an infographic should not contain too much text due to space constraints. Consequently, students must apply their prior knowledge or technical skills to design the infographic, which relates directly to the applying level. In addition, students also need to analyze some patterns in the creation of the multimodal text and compare or contrast information gathered from different sources. Afterwards, students are required to evaluate the material to be included on the multimodal text, as not all of the material that exist nowadays is reliable or updated, which requires students to evaluate or critique the material to be used thoroughly before using it.

Lastly, creating and infographic also requires students to create texts, design graphs and tables, and reconstruct figures, which later will be compiled into the infographic to provide a more general meaning, which corresponds to the creating level.

Based on this, it can be suggested that creating an infographic requires all the levels in Bloom's revised taxonomy, as it requires cognitive, technical and design skills to identify, summarize, manipulate, analyze, contrast, evaluate, compile and create a new thing based on prior knowledge.

Ultimately, given the characteristics of an infographic, which is a text composed of two or more modes of communication, it is necessary to define the term *mode of communication*. This will now be done in the following sub-section:

**4.5.2.1 Modes of communication.** A mode of communication is generally defined as a communication channel that a culture adopts, such as the pictographic scrip for the Egyptians. Some other examples of modes of communication are writing, gesture, posture, gaze, proxemics, chronemics, font, color, images, video, among others. The New London Group (1996), as cited in Álvarez (2016, p. 101) defines the term as "Resources that permit the design of meanings". In semiotic terms, every resource (mode) expresses meaning by its own; however, by combining different semiotic modes, the multimodal text may provide a more general meaning, which may assure the viewer's understanding of contents (Álvarez, 2016). In the composition field, multimodal resources are commonly defined in terms of five modes of communication. Figure 4 shows the most common modes of communication and some of their characteristics:
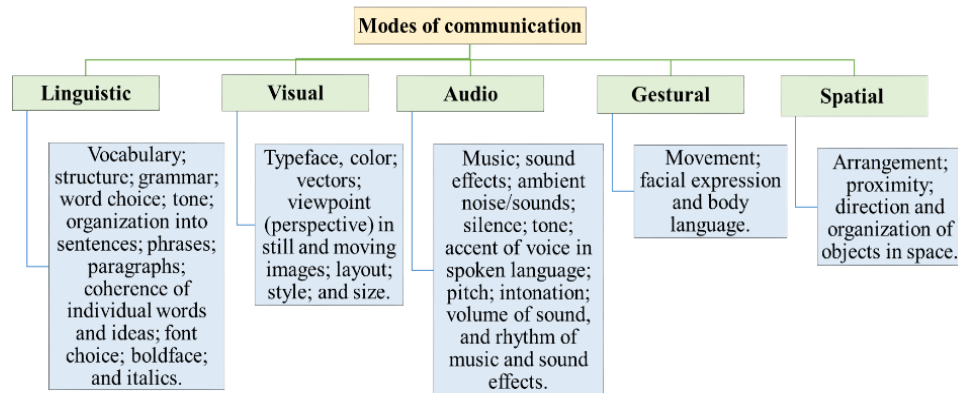
*Figure 4.* Modes of communication. Taken and adapted from The New London Group (1996, p.83).

Among these five modes of communication proposed by The New London Group (1996), this study focused on the linguistic, visual and spatial modes for the creation and analysis of the participants' infographics. Therefore, as the audio and gestural modes were not implemented in this study, only the linguistic, visual and spatial modes will be explained in the following paragraphs:

First of all, it is important to mention that the linguistic mode main function is navigation and access to content. Álvarez (2016) supports this idea as asserting that "the linguistic mode is not only employed to introduce contents (e.g. paragraph blocks), it also functions as a device that helps readers navigate and access the contents (…)" (p. 103). Word choice, delivery of spoken or written text (tone), the organization of ideas into sentences, phrases, paragraphs, as well as the difficulty of the written text, for example, may serve to attain a textual orientation by connecting what is written to the rest of the text (Álvarez, 2016). Additionally, as Álvarez (2016) points out, "other devices such as lexical organization and referencing can also be employed to create coherence and cohesion" (p. 104). Referencing; for example, may be used to establish connections between figures, words, phrases, sentences or ideas that appear in the text (Álvarez, 2016).

On the other hand, the visual mode is not only employed to catch the reader's attention towards the multimodal text, but also to provide aesthetic/visual cohesion and hierarchy (Álvarez, 2016). Color, for example, acts as a cohesive and coherence marker since it distinguishes conceptual hierarchy (Álvarez, 2016). This is supported by Machin (2007) as cited in Álvarez (2016, p. 104), who asserts that "color is deployed to indicate the order of things and to create flow around a composition".

Within the visual mode, typeface is of paramount importance as its main purpose is to facilitate legibility and readability and to make the text attractive to eye. Álvarez (2016) shares this thought as asserting that, "typeface or font family focuses on letter structure with the intention of communicating messages as clearly as possible while providing a pleasurable aesthetic depiction" (p. 104).

Other affordances of the visual mode are layout, style, size, and point of view. The layout, for instance, refers to an aesthetic design by combining several elements (image, paragraph blocks, color, broad margins) in a way that can be pleasurable to the viewer's eye (Álvarez, 2016). Style is what makes the multimodal text distinctive or unique. However, although it is known that style allows the designer to be as creative as to create the material as he/she wants (Chan, 2015), according to McCoy (2014), there is some format that must be followed for creating an infographic correctly. For example, as McCoy (2014) explains, an infographic must first include a header, followed by and introductory copy, a sub-header and the body of the text (facts), to later repeat the sequence including another sub-header and facts (if necessary), to finally include the reference where the information was gathered from. On its part, size corresponds to the dimensions of the different elements that compose the multimodal text (texts, graphs, images, tables, among others), which must have an appropriate size for the viewer's sight. On the other hand, point of view refers

to the perspective from which the text is seen. For instance, a multimodal text could be observed as usually, frontwards, however it can also be observed and analyzed sidewise or even backwards.

Finally, the spatial mode refers to the arrangement and proximity of the different objects that comfort the multimodal text. The arrangement of paragraphs in sequences; for instance, is used to help the reader navigate and better understand the text and to add up to a harmonious design to be legible, readable, and also aesthetically agreeable (Álvarez, 2016). Regarding proximity, this indicates a relationship amid objects in a space, particularly how close they are to each other. More specifically, proximity relies on the concept of leading or line spacing, which is studied by typographers. That is, typographers study how lines, "words and characters stretch out horizontally (termed kerning)" (Álvarez, 2016, p. 104). Finally, typographers also study if characters facilitate readability and if the lines, words, characters and another elements of the text allow the reader to make annotations amid them (Álvarez, 2016).

**4.5.3 Blogs or weblogs.** A blog (a blend of the words web and log) is a user-friendly web page in which content is published periodically in the form of messages, advertisements, news, articles, (entries or posts), and which is organized in a reversed chronological order with the latest postings on the top. When publishing content among one or several concrete topics, people interested on those topics visit the blog to read and get informed (Sprung, 2014). Therefore, a blog or a weblog is the ideal platform to practice literacy, to create audiences, to get followers and to create an online community (Campbell, 2003).

Initially, the content that was published on weblogs was only in the form of text (monomodal); however, over the years, this tendency evolved and more and more people started publishing graphic, audio and video files (multimodal). One significant characteristic of blogs is that they

allow visitors to comment on posts or blog entries, and the author (blogger) or other visitors can reply to them, thus creating an asynchronous conversation among visitors or between visitors and blogger. However, not all of blogs allow to leave comments or replies. This is because some bloggers decide to disable the comments option as some comments may be spam or because they do not add much to the conversation held. Other bloggers prefer to enable the comments option to have discussions that enrich the experience of visitors and that reinforce the community feeling among them, as well as the connection and access with the blogger. Thus, creating an online community.

Regarding education, as literature shows, blogs became very useful tools due to their great potential for developing writing and reading skills and because they allow rapid access to content (Campbell, 2003). In other words, blogs have been useful tools in education mainly because they not only provide a real audience for student writing, but also because they offer extra reading practice to learners (Zhang, 2009). Additionally, blogs have also been considered useful tools in education as they contribute to increase the sense of community in the classroom and to encourage students to participate or discuss a particular topic out of it (Shana & Abulibdeh, 2015).

*4.5.3.1 Types of blogs in education.* According to the British Council (2005), there are three types of blogs commonly used in education: the tutor, learner and class blog. Firstly, the tutor blog is what the teacher sets and runs for students to practice with their reading and writing skills. On a tutor blog, students can, for example, explore some Websites or read some digital articles and exchange opinions. Secondly, the learner blog is what an individual student creates and runs for his/her own. On a learner blog, students may post their thoughts related to their class readings or to a specific theme they desire to write about. A learner blog functions like a personal log or diary,

which encourages students' self-expression (Grose-Fifer, 2019) and also develops a sense of ownership. Lastly, the class blog is what the teacher sets and runs for both the teacher and students. Usually, the class blog is utilized by a whole class to work collaboratively or by small groups of students guided by the teacher, who posts questions and leads the teaching and learning process. The class blog may also be used to facilitate social interaction among students and teacher, to encourage critical discussion of target topics, or to offer a virtual space for an international classroom language exchange (Campbell, 2003).

Thus, in order to have the digital platform required for participants to create their blog entries, a class blog was implemented, which can be acceded online at: [class blog](class blog). The premise for implementing a class blog in this study was that through genre instruction, social discussions and collaborative learning, students could improve their skills to create blog entries.

## 5. Methodology

### 5.1 Type of study

This study is situated in the classroom Action Research (AR) design, which is related to the notion of reflective practice and the teacher as a researcher (Burns, 2010). In other words, in AR, teachers become researchers of their own practices and embark in a systematic and reflective process that allows for enquiry and discussion (Ferrance, 2000). The inquiry involved in AR has been characterized as a spiral or cycle of four stages between action and research (Kemmis & McTaggart, 1988; Burns, 1999), as shown in Figure 5:
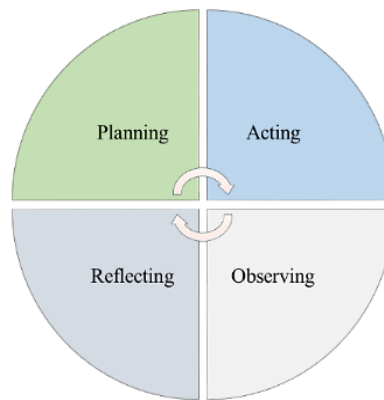
*Figure 5.* Action research cycle. Adapted from Kemmis & McTaggart (1988, p.10).

In the first stage, the TR develops a plan to improve what is already happening in his/her own teaching and learning context (Kemmis & McTaggart, 1988). Planning also implies the identification of a problematic situation and the designing of action strategies aimed at improving the situation. In the second stage, action strategies are put into practice and data is collected and analyzed (Ferrance, 2000). In the third stage, the TR observes and evaluates what happened with the action strategies and documents it. In the last stage, reflection about the research process is carried out "as the basis for further planning, subsequent critically informed action and so on" (Kemmis & McTaggart, 1988, p. 10).

Based on thee avobe mentioned, this study followed the AR cycle, as it first aimed at identify a "problematic" situation or didactic problem that the TR considered worth looking into his teaching and learning context—in this case, students' poor skills to create digigal content—and to attempt a positive improvement of it (Sisquiarco & Sánchez, 2007). In this stage, the TR also documented himself and planned some strategies, some of which included the incorporation of the GBA to tackle the research problem. Then, following the AR cycle, the TR implemented his teaching methodology and collected and analyzed data to better understand the didactic problem.

In the third stage, the TR observed the effects of the action strategies and documented what was observed. Finally, following Kemmis & McTaggart's (1988) thoughs of AR, the TR reflected about the research process and came to some conclusions and recommendations as the basis to continue with the AR cycle.

## 5.2 Research approach

This study used a mixed methods approach to research which corresponds to the combination of the qualitative and quantitative research methods. For the purpose of this section, the following definition of mixed methods is provided:

> *Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e. g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration* (Burke, Onwuegbuzie & Turner, 2007, p. 123).

Following Burke, Onwuegbuzie & Turner (2007), the methodology for conducting this research study involved collecting, integrating and analyzing both: quantitative (e.g., surveys) and qualitative (e.g., interviews and participants' artifacts) data to gain wide and deep understanding of the research problem and corroboration of final outcomes. Fundamentally, the basic premise for implementing a mixed methods approach was that the combination of the qualitative and quantitative approaches might enhance the validity of data, and thus credibility (Dornyei, 2007). Finally, it is necessary to clarify that the same significance was given to qualitative and quantitative results in this study. That is, qualitative and quantitative results were equally weighted in the interpretation of data.

**5.3 Description of the setting**

This study was carried out at Libre University, Socorro campus, a private and accredited university that provides educational services to almost 3,000 students in the Department of Santander, Colombia. The university's pedagogical approach is the Auto-structuring Cognitive Approach, which studies human behavior from the cognitive perspective, as well as the processes related to it, such as attention, intelligence, language, perception, among others (Libre, 2014).

As a high-quality institution, the university also stated its willingness to strengthen English within its Educational Project, and that is why the Foreign Language Center from Libre University, with its mnemonic in Spanish (CLEUL) was created in 2014. Through CLEUL, the university offers the community two foreign languages to learn: English and French. Thus, students decide between English or French and take five 48-hour language courses in their study plans, and after all that process, it is expected that students reach the B1 level according to the Common European Framework of Reference for Languages (CEFRL).

**5.4 Sample population**

This study focused on a first-year Law students group enrolled on a Basic English course. The group was comformed by 12 students (7 men and 5 girls) from which 4 (two women and two men) were selected randomly as participants for this study. When this study was conducted, participants were taking their second out of five English language courses offered in their pensum and according to the CEFRL, they had an elementary level, or an A2 level. The students' age ranged from 17 to 25 and their social strata from 2 to 4. Lastly, the participants of this study attended at Libre University from different homesteads, towns and cities of the region and country.

**5.5 Ethical issues**

For the purpose of this study, official permissions were obtained from the president of the University where this study was carried out, (See Appendix A), as well as from participants through consent forms (See Appendix B). Additionally, the group of Law students was informed about the aims, objectives and procedures of this study in advance. The group of students was also told that the course had been designed by the TR specifically for the purpose of the research study and that they would work one hour on the project in class, and two more hours in their free time. Moreover, the students were informed that they could withdraw or discontinue from the research study at any time they want without affecting the assessment of their normal classes. What is more, participants were told that data would be handled confidentially and destroyed after 3 years, and that their identities would be protected by using codes (See Appendix C) in writing transcriptions. Finally, participants were informed that this research study would not present any risk for them and that their rights would not be violated.

**5.6 Researcher's role**

The role of the researcher in this study was twofold: a teacher and a researcher. As a teacher teaching the target topics, asking guiding questions, describing relevant aspects of the study to students and leading the teaching-learning process to achieve improvements in skills for creating digital content. As a researcher, the researcher first began the study without taking an active part in the situation under scrutiny, just conducting observations and taking field notes from the periphery of the scene on a TR's journal.

The journal served to register the TR's practice and special details such as date, topic, learning objectives as well as the participants' behaviors and suggestions during the lessons given. The journal also served to reflect on, analyze and make conclusions for planning or adjusting coming lessons. The journal elicited reflections (e.g., how the GBA helped participants improve their digital skills) through simple prompts such as: What went well and why? What did not go so well and why?, and what conclusions can be made from this particular lesson? However, over the course of the study, the researcher took a more active part designing the intervention, applying the data collection instruments, observing the results of the process, analyzing data, documenting, reflecting and drawing on final conclusions.

**5.7 Data collection instruments**

In order to enhance the reliability and validity of this study, data was collected by using 3 different data collection instruments, namely, surveys, students' artifacts and a semi-structured interview. Although a teacher-researcher's journal was used, data from it was not included nor triangulated in this study. The following diagram (Figure 6) illustrates the data collection instruments used in this study:
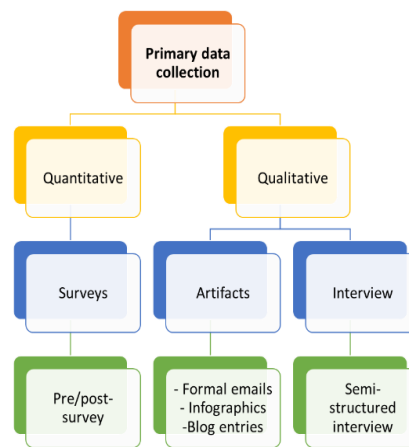


*Figure 6.* Data collection instruments

**5.7.1 Surveys.** This study included an electronic survey (See Appendix D) for assessing participants' digital skills to look for information, to evaluate material from the Web, to create content, and to organize and share information. The survey was applied in two different research moments: at the beginning and at the end of this study. In the beginning, a pre-survey or diagnostic survey was administered to establish students' needs and to obtain initial data about participants' general digital skills levels. At the end of the intervention, a post-survey (with the same items as the pre-survey) was applied to compare findings from the pre-survey and the students' artifacts and interview.

The survey was designed and implemented by using Google Docs[3] and took the form of a multiple-choice format with 50 closed-ended questions determined by three 5-point closed-ended scales. The main reason for implementing a survey in this study was because surveys can help identify opinions, attitudes, and characteristics of a sample of people (Creswell, 2012), as well as generalize results from participants. There lies the reason for implementing this data collection instrument in this study, as it was necessary to generalize the participants' answers. Finally, the survey was designed in Spanish taking into consideration the participants' level of understanding in English and to guarantee the reliability of the collected data.

**5.7.2 Artifacts.** The participants' written production (formal e-mails, infographics and blog entries) became the artifacts to be analyzed in this study. The bulk of written data from the four participants consisted on 48 artifacts: 12 artifacts by participant (4 formal e-mails, 4 infographics, and 4 blog entries). The students' artifacts were collected and analyzed periodically from the

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[3] A text processor that is included as a free software offered by Google through its Google Drive service

beginning to the end of this research study, which allowed having a track of their performance and also determine the effectiveness of the teaching method implemented in this study.

**5.7.3 Semi-structured interview.** In order to substantiate and deepen into the results from the surveys and students' artifacts, a semi-structured interview was conducted individually with all the participants at the end of this research study. The reason for implementing a semi-structured interview in this study lied in the fact that elements such as thoughts, perceptions and opinions can best be explored through it (Alshenqeeti, 2014). According to Clifford, Cope, Gillespie, & French (2016), a semi-estructured interview is:

> A verbal interchange where one person, the interviewer, attempts to elicit information from another person by asking questions. Although the interviewer prepares a list of predetermined questions, semi-structured interviews unfold in a conversation manner offering participants the chance to explore issues they feel are important" (p. 143).

Although in a semi-structured interview, questions can arise naturally and in no specific order, the TR designed a questionnaire that included open-ended and follow-up questions (See Appendix E). The interview questions were carefully designed to know the participants' opinions about the improvements of their skills to create digital content along the pedagogical intervention, and their assessement of the pedagogical interention. Lastly, the format of the interview was written in Spanish, so participants did not have to worry about listening or speaking in English. A sample of participants' interviews transcriptions can be seen in Appendix F.

## 6. Pedagogical intervention and implementation

This chapter presents the instructional design and methodology underlying the pedagogical implementation applied with a group of first-year Law students in order to determine the effectiveness of the GBA on the improvement of their skills to create digital content. But first, the theoretical referents and benefits that support the selection of the teaching and learning approach for addressing this study's research problem will be presented in the following paragraphs:

From the product, process and GBA, the GBA was the teaching and learning approach adopted to address this study's didactic problem because on the one hand, the product approach has been criticized a lot for resulting just on mindless copies of a determinate text type or style (Escholz, 1980). This is supported by Simpson (2016), who contends that the product approach does not have practical applications as it "focuses on writing tasks in which the learner imitates, copies and transforms models supplied by the teacher" (par. 8). Based on this, creativity will be limited, which will devaluate "the learners' potential", both linguistic and personal (Prodromou, 1995, p. 21).

Pincas (1982) also shares these thoughts as asserting that the product approach considers writing as being mainly about linguistic knowledge, thus focusing more on the correct use of vocabulary, syntax and cohesive devices, rather than to the social, context and content areas of language. Based on these definitions, it is possible to state that with the product approach, learners might only learn the rules of grammar and how to use them, without paying attention to "the processes" which successful writers use (Pincas, 1982). That is why this approach did not seem to fulfil participants' needs.

On the other hand, the process approach was not adopted for this study as it mostly focuses on the process writing named - prewriting, drafting, composing, revising and editing (Belbase, 2012),

without taking into consideration other social aspects of language such as context and purpose, as the GBA does. That is why the GBA seemed as a more capable approach for this study, as it might help participants identify the relationship between purpose and form as well as the specific vocabulary (polite vocabulary) and grammatical rules needed in each of the three different text types (in which this study focus) in a social manner. In fact, the characteristics of the GBA assure that the grammatical and vocabulary items are not taught in isolation, but in meaningful, interactive and social situations.

## 6.1 Pedagogical intervention

The hereby intervention took place in an English 2 course at a private university in Socorro, Santander. The intervention was designed following the AR cycle and addressing this study's research objectives. The intervention lasted a semester in which consent forms were obtained, data were collected and analyses were done. The following diagram (Figure 7) illustrates the length of the intervention:
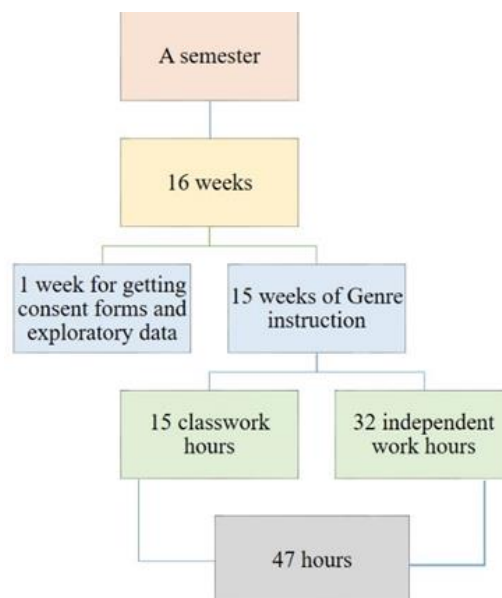


*Figure 7.* Length of the pedagogical intervention

More specifically, this pedagogical intervention consisted of 16 weeks from July16[th] to November 26th 2018. From the 16 weeks, the first week was used for introducing the project, getting consent forms and for collecting exploratory data regarding students' needs, interests and their digital literacy level. The other 15 weeks were dedicated to genre instruction. The English 2 course featured 48 face-to-face class hours. Of these hours, 15 were used for the specific purposes of this intervention. Additionally, the students worked 32 hours autonomously, completing 47 work hours in total.

**6.1.1 Instructional design.** Since this project had to be part of the university' academic schedule, the intervention was designed to match the sequence of the semester. Therefore, it was divided into three different terms or modules from which one specific genre was introduced per term/module. Thus, the first term corresponded to the creation of formal emails, the second to the creation of infographics, and the third module to the creation of blog entries.

On the other hand, in order to organize the intervention and the research process, the TR organized a research time-line (See Table 5) divided into fourth action research moments, namely, (1) planning, (2) acting, (3) observing, and (4) reflecting.

During the first phase of the intervention, the TR made a diagnosis via a needs analysis to determine the students' hindrances when writing digitally. This was done by analyzing the results of the pre-survey and participants' first artefacts. Then, the TR planned the intervention lessons based on the students' needs or difficulties detected on the need analysis. After that, the TR acted and applied the intervention in order to address the students' needs previously detected. Consequently, before finishing the university's semester, the post-survey and semi-structured interview were applied to learners in order to finish with their digital skills assessment. Lastly, the

intervention finished for the students with the end of the university's semester and the beginning

of the New Year's recess.

After the New Year's recess, data gathered were analyzed and interpretations were made from

final results, which helped drawing final conclusions on the participants' gains. The final phase of

the intervention concluded with the assessment of the entire pedagogical intervention.

Table 5.
*Research time-line*

| Stages | Date | Objective | Instruments |
|---|---|---|---|
| | July 9th 2018 | To get permission from the president of the university and students to conduct the project | Letters of consent |
| **Observation / Analysis** | July 9th | To assess the general and specific digital literacy skills the students have through the pre-survey and first artifacts | Pre-survey / Needs analysis |
| **Planning, design and construction** | July 16th | To design 5 lesson plans regarding formal email writing | Literature |
| | July 23rd | Lesson 1<br>To help students identify some lexico-grammatical features, patterns and social conventions used on formal and informal emails | Corpora |
| | July 30rd | Lesson 2<br>To provide the students with a list of words or expressions (polite vocabulary, social conventions) that the students could need when writing formal and informal emails | Word bank |
| | August 6th | Lesson 3<br>To instruct students about casual and formal register | Literature / Workshops |
| | August 13th | Lesson 4<br>To jointly construct a formal email by the teacher and the students | Whiteboard / Class discussions |
| | August 27th | Lesson 5<br>To help the students consolidate their skills for creating formal emails | Assessment / Teacher's feedback |
| **Planning, design and construction** | August 29th | To design 5 lesson plans regarding the creation of infographics | Literature |
| | September 3rd | Lesson 6 | Corpora |

| | | To familiarize students with the characteristics of the genre under study by identifying lexico-grammatical features of language as well as the purpose, context and content of the genre | |
|---|---|---|---|
| | September 10th | Lesson 7 To instruct the learners about the use of linguistics when creating an infographic | Literature / Corpora / Discussions |
| | September 17th | Lesson 8 To instruct students about visuals and spatial distribution when creating an infographic | Literature / Corpora / Discussions |
| | September 24th | Lesson 9 To jointly construct an infographic by the teacher and the students, so as to promote social interaction through cooperative activities | Whiteboard / Class work |
| | October 1st | Lesson 10 To help the students consolidate their skills for creating infographics | Assessment / Peer and teacher's feedback |
| **Planning, design and construction** | October 3rd | To design 5 lesson plans regarding the creation of blog entries | Literature |
| | October 8th | Lesson 11 To familiarize students with the characteristics of the genre under study by identifying lexico-grammatical features of language as well as the purpose, context and content of the genre | Corpora |
| | October 22th | Lesson 12 To instruct students about morphology | Literature / Corpora |
| | October 29th | Lesson 13 To teach students about syntax | Literature / Corpora |
| | November 19th | Lesson 14 To jointly construct a blog entry by the teacher and the students | Whiteboard / Class work |
| | November 26th | Lesson 15 To help the students consolidate their skills for creating blog entries | Assessment / Teacher's feed back |
| | December 10th | To know the students' perceptions regarding the intervention | Semi-structured interview |
| **Data Analysis** | February 11th to February 25th | To analyze the data gathered from the surveys | Tabulation and interpretation |
| | February 26th to March 15th | To analyze the data from the students' artifacts | Rubrics and interpretation |
| | March 18th to April 8th | To analyze of the data from the interviews' transcriptions | Open codification / |

| | | | Grounded theory |
|---|---|---|---|
| **Evaluation and reflection** | April 15<sup>th</sup> to April 30<sup>th</sup> | To determine the improvement of participants' skills to create digital content as an outcome of the learning experience | Triangulation of findings |
| | | To assess the impact of the intervention itself | Participants' assessment of the intervention |

## 6.2 Pedagogical implementation

As this study was founded on the GBA, the pedagogical implementation was carried out following its teaching and learning cycle - deconstruction, joint construction and independent construction (Rothery & Stenglin, 1994).

In the modeling or deconstruction phase, the TR's work consisted on introducing a specific genre and on guiding students through explicit talk, demonstration, and text type deconstruction. In this phase, the teacher's work also consisted on activating the students' prior knowledge in order to determine what the students already knew about the target topic and what they needed to learn. Students, in this stage, learned the rhetorical structure and lexico-grammar resources of a particular genre by discovery and analysis.

In the joint construction phase, the TR guided the students in jointly constructing a text in the particular genre being studied. Some activities in this phase required students to take turns to create a group text on the whiteboard, with the teacher as a scribe, having ideas, selecting words and structures, paraphrasing the students' sentences as well as leading the process, but always with students' hands on writing. In this phase, the TR shared responsibilities with the students for creating a similar text to that under study through rehearsal, peer work and teacher's feedback.

In the independent construction phase, participants independently constructed or emulated a text similar to that before studied in class to ensure their understanding of the elements of the genre and their meaning in a given context. In the independent construction phase, the students embarked on their own writing and practiced with the language patterns they learned during the training process.

Finally, it is worth mentioning that classwork and homework activities for students in this study were designed based on Hyland's (2004, p.87) ideas for genre-based writing activities such as:

*Text tasks:*

- Mentioning/recognizing the texts lexico-grammatical features, overall structure and its purpose/function;

- Narrating, sequencing, matching, and labeling text parts;

- Analyzing texts with exclusions, variations, or different constructions; and

- Identifying identical and different samples texts as specific genres.

**6.2.1 Didactic sequence.** In this section, a description of how the pedagogical intervention was applied step by step is presented. But first, it is important to remember that this study was divided in three different terms/modules, namely, formal emails, infographics and blog entries creation. This will now be explained in the following sub-sections:

*6.2.1.1 Module 1: Formal emails creation.* This module was designed aiming at improving participants' digital skills for creating formal emails. To achieve this objective, some class objectives and activities were specifically designed and organized following the GP teaching and learning cycle (See Table 6).

Table 6.
*Description of Module 1: Formal emails creation*

| Week / Phase | Class objective | Activity (ies) |
|---|---|---|
| 1 Modeling | To help students identify some lexico-grammatical features, patterns and social conventions used on formal and informal emails | - Analysis and discussion of corpora<br>- Analysis of rhetorical words in context<br>- Analysis of text structure<br>- Analysis and discussion of the elements of language that help soften digital interactions<br>- Analysis of context<br>- Identification of communicative intention (moves) |
| 2 Modeling | To provide the students with a list of words or expressions (polite vocabulary, social conventions) that the students could need when writing formal and informal emails | - Brain storming<br>- Word bank creation |
| 3 Modeling | To instruct students about casual and formal register in email writing | - Identification of formal and informal vocabulary or conventions on sample texts |
| 4 Joint construction | To jointly construct a formal email by the teacher and students | - Brain storming<br>- Class discussion |
| 5 Independent construction | To help the students consolidate their skills for creating formal emails | - Peer's feed back<br>- Teacher's feed back |

The modeling class focused on helping students recognize the characteristics of formal and informal emails. Specifically, the teacher focused on helping students find the elements (words, phrases, sentences) that help soften digital interaction. The idea was that students could identify or discover by themselves what the language patterns of each genre were by showing and analyzing different emails. Students in the modeling stage also had to determine what the purposes of the e-mails were by identifying some vocabulary features or tone of voice in them. In this way, the students learnt by discovering, analyzing and performing critical thinking tasks. Finally, it is important to mention that, as time was not enough for students to familiarize about all the

characteristics of the texts genre under study (formal and informal emails), the students suggested to create a list with the most common vocabulary or expressions used in formal and informal emails for next class.

Thus, for the second lesson, the students guided by their TR wrote on the whiteboard a list of words (polite vocabulary) and expressions (social conventions) needed for writing formal and informal emails. This was a social activity that allowed students participation and activation of their prior knowledge to construct new knowledge.

For the third class, students were instructed about the use of casual and formal register. In this particular lesson, students discovered the polite and impolite vocabulary and conventions used in formal and informal emails by analyzing and discussing corpora with their peers. In this class, students were also required to determine the purpose of each genre of text by recognizing key words and another paralinguistic features of language such as tone of voice, pauses and rhythm.

In the fourth class, a formal email was jointly constructed by the professor and students. The message was created imitating a situation in which a person asks for certain information to apply for a M.A on a university abroad. It is worth mentioning that this activity allowed students to collectively negotiate and construct meaning based on interactions and social knowledge with peers.

In the last class, students were assigned to individually write a formal e-mail emulating a situation in which a Lawyer asks his/her client for some information to conduct his/her case. Although it was expected that participants could create the emails by their own at first time, it was not like expected, as some of the students' texts were just drafts. Therefore, implementing the writing stages named: prewriting, drafting, revising, editing, and publishing; the TR asked students to exchange their drafts, revise them and provide feedback among them. Finally, as the students

could not end their formal emails in the class, in line with (Belbase, 2012), the TR assigned the students to edit their emails at home as part of their homework assignment.

To conclude, when revising the messages again, the TR found better results on the students' emails. This might have been because the TR included the writing phases in the writing process or because students helped each other (collaborative learning), which points out to the importance of including the different stages of the writing process as well as collaborative learning when teaching and learning writing.

*6.2.1.2 Module 2: Infographics creation.* Besides the instruction about linguistics, this module also included some graphic design lessons for students to improve their digital skills to create infographics as shown on Table 7. Although some students already knew how to create an infographic, their infographics lacked organization of objects in space, linguistics and visuals, which became the main objective of this module – to help students improve their skills to create infographics.

Table 7.
*Description of Module 2: Infographics creation*

| Week / Phase | Class objective | Activity (ies) |
|---|---|---|
| **1**<br>**Modeling** | To familiarize students with the characteristics of the genre under study | - Group analysis and discussion of aspects of infographics such as text structure, visuals, location of objects in space, font, lining, tone, and simplicity.<br>- Analysis of context<br>- Identification of communicative intention (moves) |
| **2**<br>**Modeling** | To train the learners about linguistics when creating an infographic | - Analysis and discussion of linguistic aspects of language needed for creating an infographic |

| 3 Modeling | To create awareness regarding visuals and spatial distribution when creating an infographic | - Analysis and discussion of visuals: color, size, font, content; and spatial distribution: lining, margins, etc. |
|---|---|---|
| 4 Joint construction | To jointly construct an infographic by the teacher and the students | - Class brain storming - Class discussion |
| 5 Independent construction | To help the students master their skills to create infographics | - Peer assessment |

In the first lesson, the teacher showed some corpora to students (real infographics) and asked them to find some characteristics of the genre such as header, sub-header, facts, graphics, text, body and sources. Students were also asked to mention which infographics were better, in terms of visuals (graphics, tables, pictures) and text organization.

For the second lesson, students were taught about some linguistics aspects of language such as the use of opening words, logical connectors, sequence words, prepositions, punctuation marks, etc., for creating a well-formed sentence or paragraph. Students were also taught about the principles of paragraph blocks organization to provide navigability and an aesthetic view of the text. Finally, the TR highlighted the use of an appropriate font (size) to make their texts readably.

In the third session, the students were trained about spatial distribution and visuals. First, the teacher-research introduced the concept of spatial distribution by explaining students that it consisted on the arrangement and proximity that there was among the different objects that conform the infographic, and in determining if those objects exceed the margins of the infographic template or not. Then, the TR explained the students the basic principles about visuals in an infographic: color, layout, style, objects size and point of view. It is worth mentioning that this lesson was based on the current literature about multimodality as well as on Álvarez's (2016) ideas of multimodal texts.

In the fourth session, the TR and students created an infographic by using Canva[4] and by following McCoy (2014) recommendations to create an infographic such as strike a balance between text and visuals; keep the text concise; create a narrative arc; start with the data; use accurate information; keep the information relevant; keep it cohesive; use emotion; use power words; and format the infographic correctly.

In the last class, students were taken to the English laboratory were they independently created an infographic following the principles for creating multimodal texts before taught. The students created their infographics and, at the end of the class, there was an infographic contest in which students showed and assessed their own multimodal texts. This was a social activity that allow students to judge their products, and thus obtain feedback about the quality of their works for future improvements.

*6.2.1.3 Module 3: Blog entries creation.* Besides encouraging social discussion, the aim of posting entries on the class blog was to improve students' syntax and morphology. To meet this objective, it was necessary to carefully plan some class objectives and activities (See Table 8).

Table 8.
*Description of Module 3: Blog entries creation*

| Week / Phase | Class objective | Activity (ies) |
|---|---|---|
| **1** **Modeling** | To familiarize students with the characteristics of the genre under study | - Analysis and discussion of the language and social features of the genre<br>- Analysis of text structure<br>- Analysis of context<br>- Identification of communicative intention (moves) |
| **2** **Modeling** | To train students about morphology | -Identification of free and bound morphemes in sample texts |

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[4] A graphic design Web site tool

| 3 Modeling | To teach students about syntax | -Identification of syntactic errors in sample texts |
|---|---|---|
| 4 Joint construction | To jointly construct a blog entry by the teacher and the students | - Brain storming<br>- Class discussion |
| 5 Independent construction | To help the students consolidate their skills for creating blog entries | - Teacher's feedback |

In the first lesson, the TR presented some corpora (blog entries about different topics) to the learners so as they could understand different language patterns used at the literal, inferential and critical level. The aim of this lesson was to familiarize students with the characteristics of the genre by identifying some linguistic and social features of language such as, grammar, word choice, punctuation marks, text structure and intention of the entries. This lesson was very significant as it allowed students to analyze and discuss with peers about the texts insights, thus performing analytical and critical tasks.

The second instruction consisted on teaching students specifically about morphology. To meet this objective, students were first shown some corpora and then asked to identify the prefixes, suffixes, possessive adjectives, genitive markers and tenses on it. After that, students create a list with these words and practiced with their TR creating new words from them.

For the third lesson, students analyzed and discussed about noun phrase elements such as infinitives, numbers, pronouns and prepositions. However, as the class only lasted one hour, students were assigned to consult about verb phase elements such as the verb *to be*, ing endings, word order, word choice, auxiliary system and the subject-verb agreement at home.

On the fourth lesson, the students and TR jointly constructed a blog entry simulating an opinion against the legalization of marihuana in Colombia. In this social activity, the students exchanged points of view and discussed about the topic, thus negotiating and constructing social meaning.

They also practiced with their grammar, with the TR monitoring their writing and providing feedback or scaffolds for students to reach the next level, the independent level.

On the last session, students were asked to write a blog entry on the class blog regarding Euthanasia in Colombia. Once the students posted their entries on the class blog, they were asked to reply to two of their classmates' postings, being respectful with each other points of view and building discussion. Finally, the teacher-researcher's work in this class consisted on guiding, monitoring and scaffolding students' writing process through corrective and supportive feedback.

## 7. Data analysis and results

The following chapter presents the analysis and results of the data collected (from the surveys, students' artifacts and interview) during the pedagogical intervention that took place from July to November 2018. Initially, the main findings from each data collection instrument are presented independently (except the surveys). Then, a holistic analysis, from which relationships found across the data collection instruments are presented.

### 7.1 Data analysis

Regarding quantitative and qualitative data, it is worth pointing out that quantitative data was analyzed by implementing a single item grade (1, 2, 3, 4, 5), which consisted of a specific score given to every question for every participant, and from which 3 was the minimum score assigned by the TR to approve the quantitative assessments. On the other hand, qualitative data was analyzed by using a 5-point closed ended scale (*very poor*, *poor, fair, good, and excellent*), from which *fair* was the lowest level of performance assigned to approve the qualitative assessments.

Additionally, percentages were adapted to qualitative marks by assigning a level of performance to a certain percentage (See Table 9). Lastly, qualitative and quantitative data was examined individually and then combined for comparing separate findings.

Table 9.
*Grading system*

| Score | Percentage range | Level of performance |
|:---:|:---:|:---:|
| 1 | 1 – 20 % | Very poor |
| 2 | 21 – 40 % | Poor |
| 3 | 41 – 60 % | Fair |
| 4 | 61 – 80 % | Good |
| 5 | 81 – 100 % | Excellent |

**7.1.1 Procedure for data analysis.** In this section, an explanation of how the TR did the analysis of the qualitative and quantitative data is presented. The methods for analyzing quantitative data (a scoring scale from 1 to 5) and for qualitative data (Grounded theory) are also presented in this section along with the techniques used (tabulation and interpretation of data, counting and grading, transcriptions and open codification) to analyze and come to the findings.

*7.1.1.1 Surveys Analysis.* First of all, once the results from the tabulation of the participants' answers on the surveys were obtained, the TR scrutinized them carefully looking for the information that could help answer this study's research objectives and that could be triangulated with results from other data collection instruments. Fundamentally, the analysis of the surveys included four different phases as shown in Figure 8:
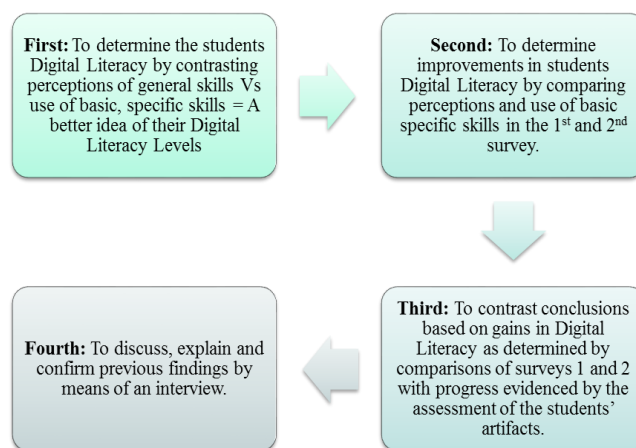
*Figure 8.* A pathway for analyzing the surveys

In the first phase, data collected from the pre-survey was analyzed in order to determine the students' needs and digital literacy level. This was done by contrasting perceptions of general skills versus the use of basic or specific skills. At this point it is worth remembering that the surveys were designed so as to verify students' reports in the general skills, with some specific/corroboration questions.

In the second phase, after getting the reports from the post-survey, these were analyzed by comparing the students' perceptions and use of basic specific skills in the 1st and 2nd survey. This triangulation[5] contribute to determine the improvements in the students' digital skills. Thirdly, conclusions based on gains in digital skills as determined by comparisons of the pre and post-surveys were triangulated with progress evidenced by the assessment of the students' artifacts. That is, results or conclusions from phase 2 were compared with those of phase 3. Finally, findings from the triangulation of the surveys and students' artifacts were discussed, explained, and confirmed by means of a semi-structured interview.

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[5] A technique that facilitates validation of data through cross verification from two or more methods, data sources or researchers (Honorene, 2016).

*7.1.1.2 Students' Artifacts Analysis.* After collecting the participants' artifacts, these were assessed and analyzed by using 3 different rubrics that the TR designed. As Stevens & Levi (2005) explain, "a rubric is an explicit set of criteria used for assessing a particular work or performance and offers more details than a single grade or mark" (p. 35). Rubrics can also reduce grading time, increase objectively and help interpret results (Wilson, 2006). This supports the creation and implementation of rubrics on this study.

More specifically, the rubrics functioned as check lists for assessing students' artifacts and to have a periodical track of their performance through the intervention. The rubrics also served to assemble all the information necessary to identify the participants' hindrances when writing digitally. On the other hand, it is important to mention that each of the rubrics was designed so as to meet one specific objective for this study, thus:

- To determine the students' improvement of skills for creating formal emails, a rubric based on the major principles of register proposed by Nordquist (2019) was elaborated and applied (See Appendix G).

- To determine the students' improvement on skills for creating infographics, a rubric based on current literature about Multimodality, as well as on Álvarez's (2016) ideas of multimodal texts was also created and implemented (See Appendix H).

- To determine the students' enhancement on skills for creating blog entries, a rubric based on Hananuraga's (2015) ideas about types of grammar errors: morphological and syntax errors was also designed and applied (See Appendix I).

In general terms, the rubrics took the form of a matrix or grid and included: criteria related to this study's objectives; levels of performance such as excellent, very good, good, insufficient and fail; descriptors for the criteria and scores (1, 2, 3, 4, 5). Essentially, the TR analyzed each one of

the participants' artifacts individually and meticulously and provided a grade against all the criterions on the rubric. Then, after assessing a participant' artifact, a final grade emerged from dividing the highest score (5) with the number of criterions in the rubric, and by multiplying the final score gotten from the summation of all the scores assigned to the criterions on the rubric, a simple rule of three. After assessing all the participants' artifacts individually, the results from the participants' artifacts were summed and divided by 4 to get a final score or percentage.

Additionally, the TR periodically compared the results gotten from the assessment of the participants' artifacts to determine possible improvements on their skills to create digital content. Lastly, final outcomes from participants' artifacts were triangulated with those of the other data collection instruments to validate their reliability.

*7.1.1.3 Interview Analysis.* The analysis process of the interviews can be summed up in the following phases: gathering the information, transcribing and sorting it out, codifying it, creating categories, interpreting results and making conclusions.

First of all, the analysis of the interviews initiated with the transcriptions of the audio-recorded data and the sorting of them in folders. Then, as Fernandez (2006) recommends, repeated reading sessions of the transcriptions were applied to get familiar with data. Afterwards, an open codification analysis was designed (See Figure 9). According to Fernandez (2006), "an open codification is a list of codes that when comparing them regarding their properties, dimensions and meanings, a classification is obtained from higher to lower level, called category. This process is called categorization" (p. 8).
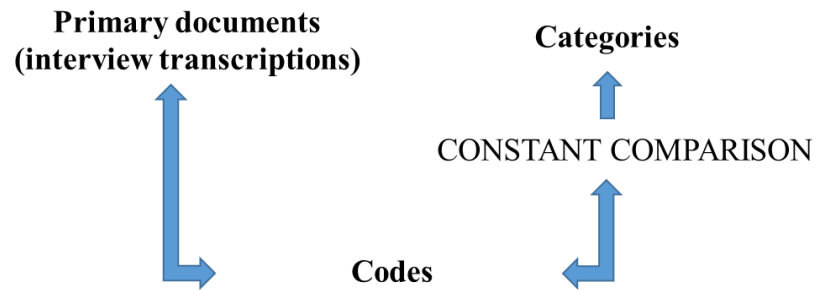
**Primary documents
(interview transcriptions)**

**Categories**

CONSTANT COMPARISON

**Codes**

*Figure 9*. Open codification system. Taken and adapted from San-Martín (2013, p.112).

After creating the open codification, the TR proceeded to look for key words in context, patterns or tendencies on the participants' paragraphs or fragments of text and to assign them codes. Once a series of words or themes were recognized and coded, the next step was to identify how those words relate among them in a theoretical framework. For that purpose, a list of apriory and sub-apriory categories were created by breaking down a set of themes or categorical descriptors that let relate the target theories with the gathered information. After this process, the segments of participants' texts, which contained the same patterns or similarities were labeled to a sub-apriory category, which at the same time was labeled to a broader category.

It is also worth mentioning that the codification process also included highlighting the segments, counting words, and labeling chunks. Codification was not a rigid process, instead it was a systematic process that allowed to refine the codes and categories as the analysis process progressed. For instance, the codification started with several apriori categories, but at the end it finished with two apriori categories divided in two sub-apriori categories. Additionally, codes served as indicators of main themes or emergent categories, from which the TR generated interpretations or explanations, which later became conclusions. Finally, findings and conclusions were compared to those derived from the analysis of the students' artifacts and surveys.

**7.1.2 Validation.** The implementation of the mixed methods approach helped validate data for this study, since according to Creswell (2012) the implementation of both methods can offer a better understanding of the problem and question under research than a method by its own. Additionally, the triangulation of the three data collection instruments also increased validity of results.

**7.2 Results analysis**

**7.2.1 Surveys Results Analysis.** As mentioned earlier, the analysis of the surveys consisted on 4 phases, which are presented in the following paragraphs. In the first phase, participants' perceptions to the general questions/statements versus the basic/specific questions are presented and analyzed per survey. In the second phase, findings from both surveys are compared. In the third phase, gains from both surveys are triangulated with those of the students' artifacts; and in the last phase, findings from the surveys are contrasted with those of the semi-structured interview.

*7.2.1.1 Phase 1.* The first phase of the surveys analysis consisted on analyzing participants' perceptions about the general and specific/basic questions on each survey. Consequently, after analyzing the pre-surveys' (general and specific) questions, it was possible to determine that what participants self-reported on the general question/statement (regarding content creation) did not match what they reported on the specific questions. For instance, on the pre-survey, 3 of 4 participants reported having "regulares" (fair) skills and 1 of them reported having "malas" (poor) skills (See Figure 10), but what the results from the specific/confirmation questions on the pre-survey revealed was that participants had poor skills, as getting a final mean of 2.62 out of 5.00.
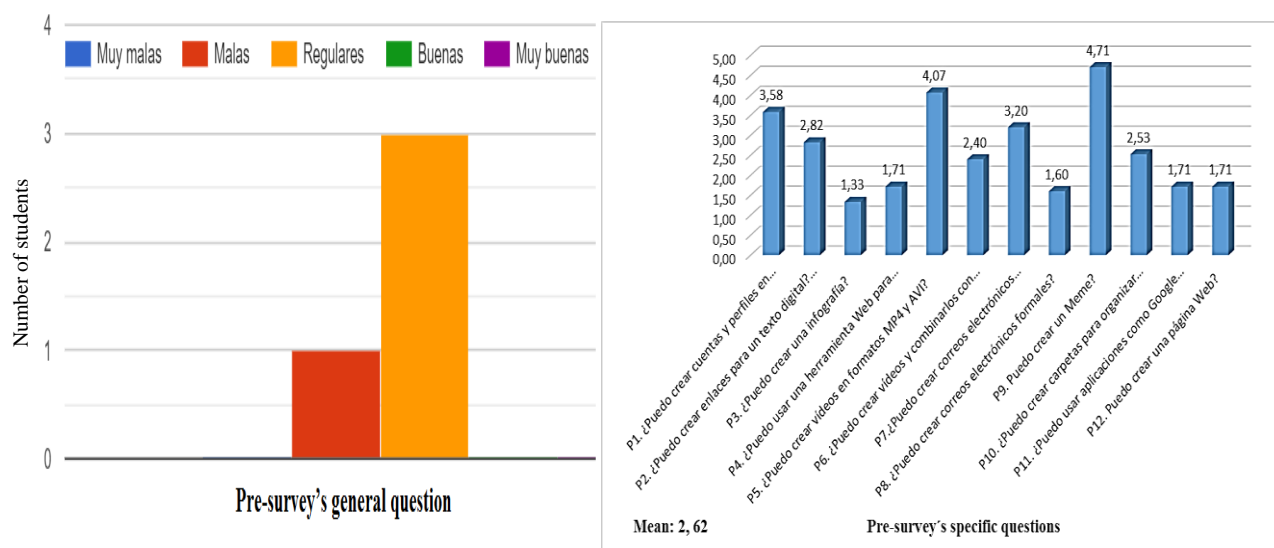
*Figure* 10. Participants' answers on the pre-survey to the general and specific questions for creating material

What this finding might mean is that students tend to think they have the necessary skills to create digital material (as 75% of participants chose the *fair* option to the question: my skills for creating digital material are: *very poor, poor, fair, good and excellent*). The reason why participants might have considered they had "regulares" (*fair)* skills to create digital content could be because they usually create memes, Power Point presentations, graphs, mind maps, among other digital material, which gives them some kind of confidence to support their option. Nevertheless, when asking participants some specific/corroboration questions to deepen into the assessment of their skills to create digital content, they did not answer this kind of questions with the same confidence they answered the general question, as self-assessing them with a lower grade than that given to the general question. In other words, although most participants considered they had the necessary skills to create digital material, when answering the specific questions, they probably realized they did not have the skills they expected to have and without knowing, they self-assessed them with *poor* skills.

On the other hand, in contrast to what was found on the pre-survey, when comparing the general and specific questions (regarding content creation) from the post-survey, it was found that students thought they had "buenas" (*good)* skills on the general question/statement (See Figure 11), which was similar to what they reported on the specific questions, as getting a final mean of 4.36, which adapted to this study's qualitative scale corresponds to *good* skills.
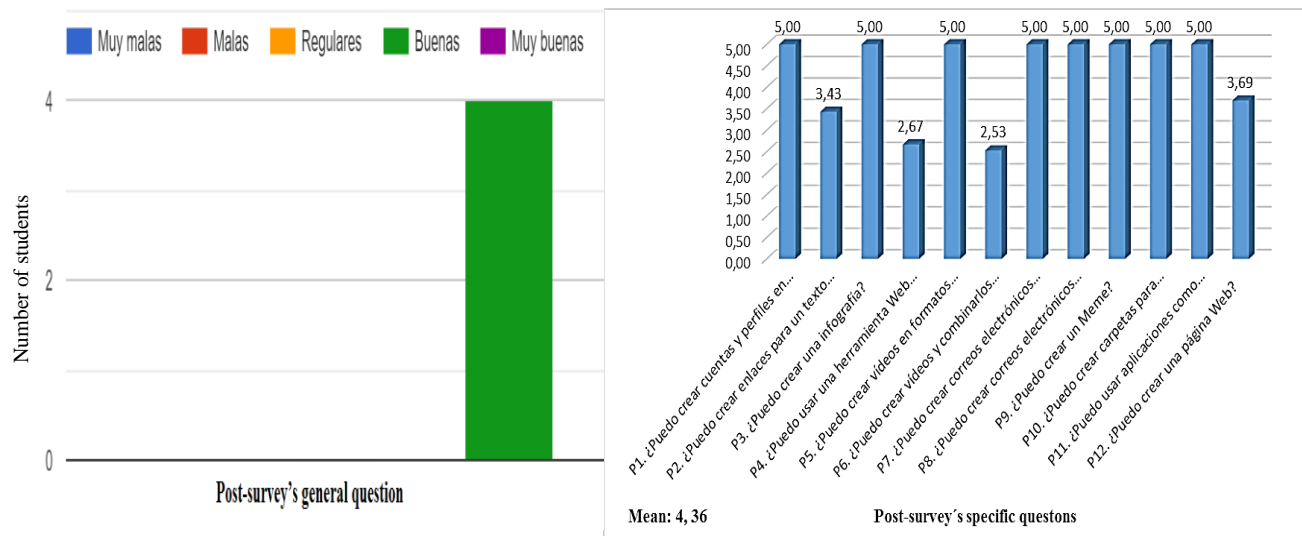


*Figure 11.* Participants' answers to the general and basic questions for creating digital material on the post-survey

The similarities found in the comparison of the general and specific questions in the post-survey show that after the intervention, participants were more precise to assess the level of proficiency of their digital skills to create content, as self-assessing them with *good* skills on both types of questions. Another striking finding relates to participants' improvement on the ability to evaluate material from the Web (See Figures 12 & 13), which is a sub-skill of the macro skill for creating digital content.
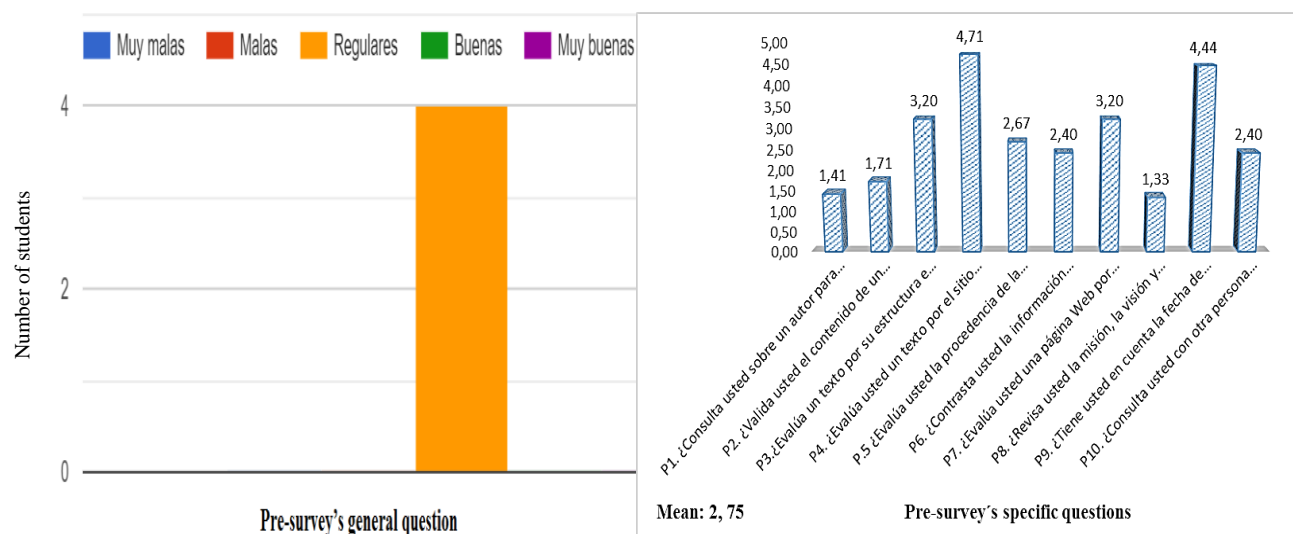
*Figure 12.* Participant´s answers on the pre-survey to the general and basic questions regarding the evaluation of material from the Web

As Figure 12 shows, what participants reported on the pre-survey's general question did not match what they self-reported on the specific questions. In other words, in the pre-survey's general question, all the participants considered they had "regulares" (*fair)* skills for evaluating material from the Web; however, results from the specific questions showed that participants had *poor* skills, as getting a mean of 2.75 out of 5.00.

This finding is similar to what was found in the comparison of the general and specific questions regarding content creation, in which 75% of participants though they had *good* skills for creating content on the general question, but when analyzing the results from the specific questions, it was found that participants really had *poor* skills. This shows that although students consider they have *good* skills at something, it is necessary to verify it to be really sure.

On the other hand, when comparing the general and specific questions from the post-survey, it was found that both reports matched. For instance, on the general question (See Figure 13),

students considered they had "buenas" (*good)* skills for evaluating material, which matched what

they reported on the specific questions: *good* kills, as getting a final mean of 4.01.
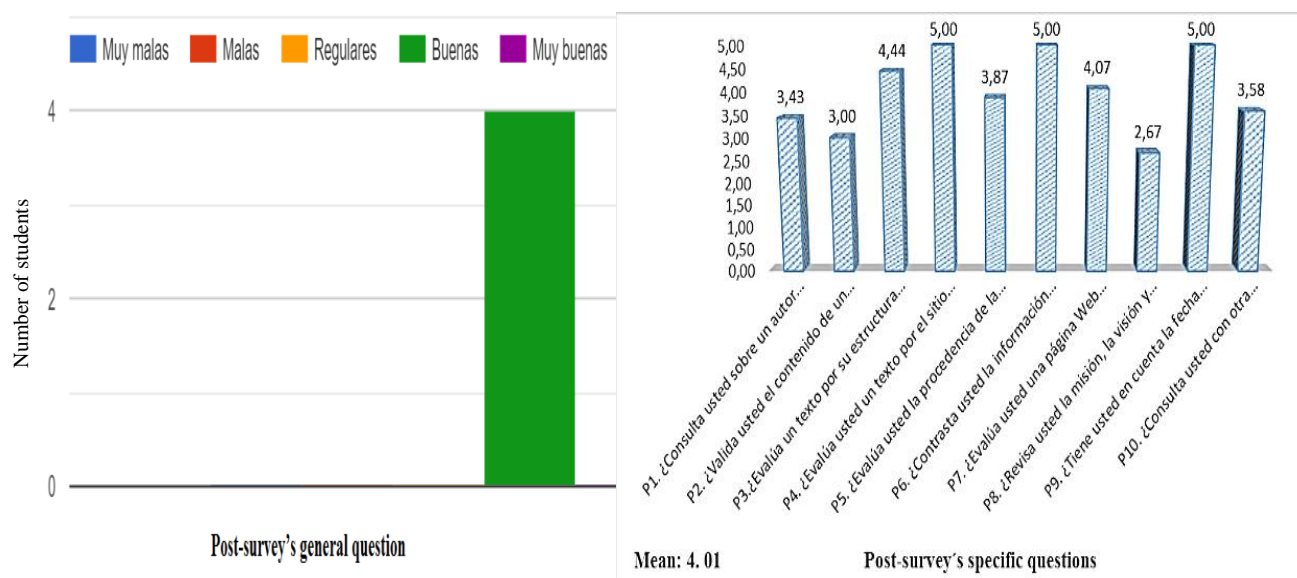


*Figure 13.* Participants' answers for evaluating material from the Web on the post-survey

Similar to what was found on the comparison of general and specific questions (regarding the

creation of digital content) in the post-survey, participants were more accurate about assessing the

level of proficiency of their skills to evaluate material from the Web, as self-assessing them with

*good* skills on both types of questions. This shows that at the end of the intervention, participants

were more accurate about assessing their digital skills than at the beginning of this study.

***7.2.1.2 Phase 2.*** After comparing results from the general and specific questions from each

survey individually, results from both surveys were compared. For instance, as mentioned before,

when asking participants on the pre-survey the general statement: "My skills for creating digital

material are: very poor, poor, fair, good and excellent"; 3 of 4 participants reported having fair

skills and 1 of them reported having poor skills (See Figure 10). However, in the post-survey, all the participants reported having good skills (See Figure 11).

In other words, participants' general perceptions about their skills for creating digital material changed from *poor* and *fair* to *good* from the pre-survey to the post-survey. According to this, it seems that after the pedagogical intervention, participants considered they had gained more knowledge or that they improved their skills for creating digital material as they increased their frequency of answer for the general statement from *poor* and *fair* to *good.*

Regarding specific skills, participants' perceptions about content creation increased, highlighting descriptor 3 (can I create an infographic?), which increased from 1.33 to a 5.00 from the pre-survey to the post-survey. Likewise, participants' perceptions for creating formal emails also augmented, as descriptor 8 increased from 1.60 to 5.00 (See Figures 10 and 11). Finally, participants' mean for the specific questions also increased from *poor* skills to *good* skills, as ascending from 2.62 to 4.36. What this finding might mean is that after the intervention, students considered they improved their skills to create digital content.

On the other hand and concerning the ability to evaluate material from the Web, when asking participants on the pre-survey the general statement: "My skills for evaluating material from the Web are*: very poor, poor, fair, good* and *excellent"*; all the participants reported having *fair* skills (See Figure 12). However, in the post-survey, all the participants reported having *good* skills (See Figure 13). As data show, it seems that participants taught they improved their skills for evaluating material from the Web after the intervention, as they increased their mean from 2.75 to 4.01 from the pre to the post-survey.

Regarding specific skills to evaluate digital material from the Web, all the specific descriptors on the post-survey increased their percentage when compared to those of the pre-survey (See

Figures 12 and 13). But specifically, the descriptors that increased the most on the post-survey

where descriptors 4, 6 and 9. For instance, descriptor 4: "*Do you evaluate a text for the place where*

*it has been published (e.g. El rincón del vago, SciELO Magazine)*?" increased from 4.71 to 5.00.

In the same way, students' perceptions about contrasting information retrieved from a Web site,

referred to descriptor 6, ascended from 2.40 to 5.00. For descriptor 9: "*Do you consider the date*

*of the publication of the information to determine its credibility*?" participants also increased their

frequency of answer from 4.44 to 5.00. This finding corroborates the assertion that after the

intervention, participants thought they were more skillful at evaluating material from the Web.

Finally, to conclude the second phase of the analysis of the surveys, the results from both

surveys were compared on a graphic to check the students' progress/improvement from the

beginning to the end of this study (See Figure 14), which allowed determining that participants'

perceptions about their digital skills improved as they increased their frequency of answer from

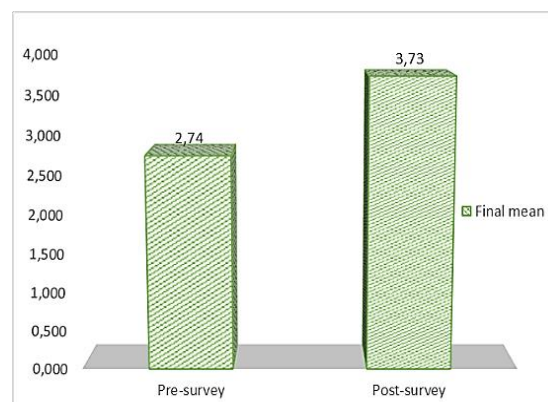*poor* to *fair* or from 2.74 to 3.73.



*Figure 14.* Participants' mean on the pre and post-survey

As Figure 14 shows, on the pre-survey, participants achieved a mean of 2.74 out of 5.00, which

adjusted to a qualitative valuation corresponds to a *poor* digital literacy level. This result evidences

that at the beginning of this study, participants did not report having the required skills/level to be

digitally literate. Nevertheless, on the post-survey, participants improved and self-evaluated them better, as getting a final mean of 3.73, which in this study's qualitative scale corresponds to a *fair* digital literacy level. The interpretation that the TR makes about this finding is that it seems that participants' improvements on skills to create digital content and to evaluate material from the Web self-reported on the pre-survey, contributed to increase participants' digital literacy level.

*7.2.1.3 Phase 3.* Once comparisons between reports of general and specific questions, both before and after the intervention, were done, the next step was to confirm or disconfirm these findings by triangulating data with the qualitative assessment of students' artifacts. In this sense, when comparing results from the surveys with those of the participants' artifacts, it was possible to determine that findings from the surveys matched what the results from participants' artifacts revealed: a significant improvement on skills for creating formal emails and infographics. For instance, on the post-survey, participants self-reported improvements on skills for creating these multimodal texts, specifically on descriptors 3 and 8 (See Figure 10), which matches the improvements evidenced on participants artifacts (See the results of participants' artifacts in the next section). What is more, the similarities found on these two data collection instruments further confirms the findings from the qualitative analysis of the semi-structured interview.

Lastly, it is right to mention that gains about evaluating material from the Web reported on the post-survey could not be validate as there were no data from the students' artifacts and interview that allow for a triangulation. Nevertheless, the similarities found on the triangulation of both surveys gives some credibility to this finding.

***7.2.1.4 Phase 4.*** In this phase, findings from the surveys (specifically gains for creating formal emails and infographics) were compared to those of the semi-structured interview. This triangulation allowed to conclude that what participants reported on the surveys corresponded to what they informed on the interview. For example, the following are P1 and P3's answers to the question: "Do you think that through the method used this semester to teach you write digitally, your skills to create formal emails improved?, which was asked on the interview and which confirms the previous finding:

P1IQ3: "Si bastante porque ahora se las convenciones sociales que se necesitan para hacer los correos de una forma más formal, que se vean decente (sic)".

**P1IQ3: Yes, a lot, because now I know the social conventions that are needed to make the emails in a more formal way, that look decent.**

As mentioned by P1, after the intervention, s/he improved on knowing the social conventions needed to make emails more formal. In other words, what P1 seems to mean is that s/he learned to use the linguistic conventions required to achieve a formal purpose through an email, which supports the increase of descriptor 8 on the post-survey's specific questions and what was found on the analysis of P1's last email concerning the gains on the use of polite vocabulary/conventions. Based on this, having instructed P1 about the conventional and functional features of a formal email seems to have enabled him/her to better comprehend what s/he was expected to ultimately write in his/her last email.

On the other hand, P3 also reported improvements on the use of formal aspects of language when creating a formal email. The following is P3's answer to the previous question which supports this assertion:

P3IQ3: "Si… claro, pues incluso, digamos ahora sé la organización que debe tener un correo electrónico formal, el lenguaje formal que se debe usar, como es el tema, digamos el asunto, la despedida, y el cuerpo como tal del mensaje".

**P3IQ3: Yes ... of course, well, let's say that now I know the organization that a formal email must have, the formal language that must be used, how is the topic, let's say the subject, the farewell, and the body of the message as such.**

As P3 specifically mentions, s/he improved in recognizing the polite vocabulary (social conventions) that must be used to create a formal email. Similar to P3, P1 documented that to create a formal email polite vocabulary/conventions must be used. Based on this, it seems that these participants understood that emails are created with specific vocabulary to meet an intended audience or to achieve a particular purpose.

Additionally, P3 also mentions that s/he improved on knowing the structure that a formal email must have, and mentions that it must have a subject, a body and a farewell, thus reporting gains in the content-organizing skill. Perhaps, the analysis of the internal structure of the sample emails presented to participants in the phase *building the context of the text*, helped P3 learn the internal organization of a formal email.

Lastly, these findings provide evidence to claim that after the intervention, participants not only learnt to pay attention to the social conventions of a formal email, but also to the schematic structure that it must follow (to achieve a formal purpose), which supports the increase of descriptor 8 on the post-survey's specific questions and what was found on the analysis of participants' last emails regarding the use of polite vocabulary and the organization of the text's structure.

Concerning infographics, P2 and P4 considered the methodology implemented contributed to the improvement of their abilities for creating these multimodal texts as replying to the question: "Do you think that the methodology used this semester contributed to the improvement of your abilities to create infographics?" the following:

P2IQ7: "Si, si claro y además también lo hemos llevado a la práctica en otras materias, o sea nos ha servido lo que nos enseñó, y nos dio ideas diferentes para crear las infografías, y hacerlas de forma más animadas, más visuales, más atractivas".

**P2IQ7: Yes, of course, and we have also put it into practice in other subjects, that is, what we were taught has been useful for us, and gave us different ideas to create the infographics, and to make them more animated, more visual, more attractive.**

P4IQ7: "Si porque con ello aprendí a crear infografías, a utilizar las imágenes correctas, y utilizar los adecuados tipos de letra y gráficas".

**P4IQ7: Yes, because with it I learned to create infographics, to use the correct images, and to use the appropriate fonts and graphics.**

These participants' samples confirm the gains regarding the creation of infographics reported on the post-survey and found on the students' artifacts.

To conclude, after the entire surveys results analysis, it is possible to suggest that findings regarding the improvement of skills to create formal emails and infographics have a lot of credibility and validity, as similar results emerged from the triangulation of the three different data collection instruments used in this study. According to this, an interpretation that the TR makes is that, it is more likely that the GBA had contributed to improve participants' skills for creating

formal emails and infographics, rather than the participants had improved theirs skills by themselves or by causality.

### 7.2.2 Participants' Artifacts Results Analysis

    *7.2.2.1 Participants' Emails Results Analysis.* To begin with, when comparing participants' first and fourth emails, a remarkable increase in their skills to create this kind of digital messages was found. In fact, participants evidenced more improvements on the use of lexico-grammatical aspects of language as well as on the correct organization of the different parts of the email, which in turn helped participants attain the formal purpose required for their last emails. The following are P1's and P3's first and last textual emails that can be taken as evidence for this claim:

| | |
|---|---|
| From: P1 | From: P1 |
| To: Teacher-researcher | To: Teacher-researcher |
| Subject: "Escuse | Subject: "Homework |
| Good night boss | Dear Mr. Zuluaga, |
| I am sorry because tomorro I will not go work due to a family calamity. | Please find attached the files about my formal and informal emails. |
| Bye" (P1E1) | I really appreciate your attention |
| | Sincerely, |
| | Participant 1<br>Law student" (P1E4) |

| | |
|---|---|
| From: P3 | From: P3 |
| To: Teacher-researcher | To: Teacher-researcher |
| Subject: "Excusa | Subject: "Excuse |
| Hello, | Dear Sir. Zuluaga, |
| The present is with purpose the excuse me the day 03 august in the work, the reason is because I have a medic in the city of Bucaramanga. | I'm writing to apologize for my no attendance to the last English class, but I was traveling with my family to Aguas Calientes. |
| Thankey" (P3E1) | Yours Sincerely, |
| | Participant 3 Law Student" (P3E4) |

First of all, as can be observed on P1's and P3's first emails, there is a low level of formality as including informal language such as "Good night boss", "Bye", "Hello", and "Thankey" (sic), and not the polite vocabulary or conventions required in formal emails such as "Dear", "Mister", "Sir", "Sincerely", "Yours truly", "Best regards", among others. Thus, the omission of polite vocabulary and social conventions on P1's and P3's fist emails, and instead, the inclusion of informal vocabulary entailed the use of the *casual register* and not the *formal register*, which in turn did not help achieve the formal purpose required in this particular social context, which was to inform in a correct, formal and meaningful manner a situation to a professor (this will be explained later on).

However, the register these participants should have selected for their first emails should have been the *formal register* and not the *causal register* because as Nordquist (2019) explains: "the

formal register is used in professional, academic, or legal settings where communication is expected to be respectful, uninterrupted, and restrained" (par. 6), while the casual register is:

> The register people use when they're with friends, close acquaintances and coworkers, and family. It's probably the one you think of when you consider how you talk with other people, often in a group setting. Use of slang, contractions, and vernacular grammar is all common, and people may also use expletives or off-color language in some settings. Examples: a birthday party, a backyard barbecue (Nordquist, 2019, par 8).

To put it other way, P1 and P3 should have selected the formal register in their first emails because they were addressing a superior in a professional context. However, participants' use/selection of the casual register at this level may be normal because they had not been taught about the use/inclusion of polite vocabulary or conventions in formal emails. That is, these errors may be common because as Tuan (2011) explains, "students cannot produce a particular text-type successfully if they are not taught explicitly about linguistic conventions of that text-type with respect to language features and schematic structure" (p. 124). This finding also supports Puerta's (2010) major finding which showed that "students at the moment of writing the messages, do not take into consideration the use of register, structure and style that the written communication requires through the genre of email" (p. 1). Puerta's (2010) finding points out to the need of creating awareness on students about the use of respectful language and register when writing formal emails or communicating politely.

However, unlike what was found on P1's and P3's first emails, on their last emails, P1 and P3 showed language gains on the use of some of the polite remarks and social conventions studied in class such as: "Dear Sir.", "Dear Mr.", "Please", "Sincerely", "Yours Sincerely" and "really appreciate" to salute and farewell their addressees in a formal manner. In fact, the inclusion of polite vocabulary and conventions in P1's and P3's last emails resulted on a language gain regarding the appropriate use/selection of the vocabulary/register for writing a formal email. In

other words, the use of polite vocabulary in these participants' last emails seemed to have been the trigger for them to select the formal register (as the formal register implies the use of polite vocabulary), which in turn helped these participants achieve the formal purpsose requiered on their last emails.

Another relevant finding coming from the comparison of participants' first and fourth emails relates to grammar improvements. For instance, as can be observed on P1's and P3's first emails, there are some spelling errors as in, *escuse* and *excusa* instead of "excuse", in *tomorro*, instead of "tomorrow", and in *thankey* instead of "thanks". However, on their last emails there are not any spelling errors. In fact, P3 correctly wrote "excuse" instead of *excusa*, which might mean that P3 was more aware about writing well in English on his/her last email. This enhancement might have taken place because participants created awareness about email subject lines by analyzing the model texts presented to them in the deconstruction phase.

Participants also showed improvements on the use of punctuation marks. For instance, on his/her first email, P1 omits 1 comma in, *Good night boss,* 1 comma in *Bye*, and 1 comma in, "*I am sorry because tomorro I will not go work due to a family calamity" (P1E1),* as not writing: "I am sorry, but tomorrow I will not be able to go to work due to a family calamity". In total, out of the 3 times in which P1 used or had to use commas in his/her first email, he used them incorrectly 3 times, which gives him a 0% of efficacy for using commas at the beginning of this study. However, unlike what was found on his/her first email, P1 showed improvements on the use of punctuation marks on his/her last email, as from the 3 times in which P1 used commas on his/her last email, he used them correctly 2 times and incorrectly 1 time, which gives him/her a 66% of efficacy for using commas when writing formal emails. This positive improvement might be the

result of the teacher's feedback given to participants' emails or the awareness that the P1 created about using punctuation marks through the analysis of the model texts.

On his/her part, P3 also evidenced grammar improvements when comparing his/her first and last emails. For example, out of the 3 times in which P3 used commas on his first email, he/she used them correctly 2 times and incorrectly 1 time, which corresponds to a 66% of efficacy for using commas. Nonetheless, after this study, P3 showed improvements in terms of the use of punctuation marks, as from the 3 times in which P3 used or had to use commas in his/her last email, he used them correctly 3 times, which gives him/her a 100% of efficacy for using commas or punctuation marks after the intervention.

It is important to mention that P1's and P3's grammar enhancements might have been because of the methodology implemented in this study. This is because although the main focus of the GBA is not grammar, the GBA might facilitate students' enhancement of grammar, as the GBA considers writing predominantly linguistic (Hyland 2004). Additionally, these two participants' enhancements on grammar also relate to Shang's (2007) finding, which points out that the use of email may help students improve grammatical accuracy.

On the other hand, participants also showed improvements on the organization of the internal structure of their last emails when comparing them with their first messages. For instance, P1 and P3 correctly organized/sequenced their last emails by including a subject line, a greeting, a body, a farewell and a signature, which according to Nordquist (2019) helped participants structure their last emails in a correct way. Different from their first emails in which P1 and P3 did not include all the parts of a formal email and did not structure the emails correctly. For instance, regarding all the parts of a formal email, these participants failed at not including a signature at the end of their first emails; and concerning the organization of the different parts of the email, P1; for

instance, failed at writing "good night boss", in the greeting part of the email. The expression "good night boss" is incorrectly placed on P1's first email as it is a farewell not a greeting. So, it should have been placed at the bottom of the message, not at the beginning of it.

However, these schematic errors were not evidenced on P1's and P3's last emails. In fact, these participants correctly and appropriately structure their last emails, thus achieving the texts' formal purpose. For example, on their last emails, P1 and P3 included all the parts of a formal email and structured them correctly according to (Nordquist, 2019), as first including a subject, then a greeting, a body, a farewell and finally a signature from the person who wrote the electronic message. Additionally, it is important to mention that the schematic structure presented on P1's and P3's last emails indicate their understanding of the requirements of the generic form of a formal email. This relates to their awareness of *why* and *to whom* the text was constructed, and shows participants' enhancement of digital skills, particularly the content-organizing skill.

Finally, when deconstructing P1's and P3's last emails and looking for their general purpose, it was found that the emails' lexico-grammatical features of language as well as their schematic structure helped achieved their general communicative purpose; which, as mentioned earlier was to inform in a correct, formal and meaningful manner a situation to a professor. For instance, the content words (polite vocabulary/conventions) used on P1's and P3's last emails, which are the linguistic elements that most carry the social purpose of a message (Swales, 1990), were appropriate for the formal context in which the electronic communication took place and also served as the elements which helped soften the communication. Regarding the schematic structure of P1's and P3's last electronic messages, according to (Nordquist, 2019), it can be said that the emails were correctly sequenced and with the appropriate parameters of a formal communication (formal register). Based on this, it is suggested that the coherence between the schematic structure

and the polite vocabulary used in P1's and P3's last emails was really what allowed achieving the general formal purpose required on their last emails.

These finding also shows P1's and P3's improved maturity in using "the forms of language in written mode" (Kress,1985a, p.47), to create more confident, mature and purposeful texts than those of their diagnosis texts. If fact, P1's and P3's fourth emails' language and schematic structure characterizes that of an adult discourse (Halliday, 1994a, p. 342), and also presents a more academic register (which is one of the requierements of writing at the undergraduate level (Dudley-Evans, 2002), thus building interpersonal metafunctions, since the writer is aware of the features of the text type and audience (Swales, 1990). Perhaps, this improvement took place because of the TR's effort to teach students the formal conventions/lexicon and generic structure required on a formal email.

In short, it seems that after the intervention, P1 and P3 learnt to use the generic lexicon/register of a formal email and to construct its internal schematic structure in a correct and coherent way so as to achieve its main purpose. This finding goes in line with Emi (2005), who claims that when implementing the GBA the student writer will learn to choose/decide the internal organization and language features of his/her text to effectively achieve its social purpose.

Nevertheless, in order to corroborate previous findings and to have a detailed track of every participant's performance along the intervention, participants' performance was also analyzed individually and quantitatively (See Figure 15).
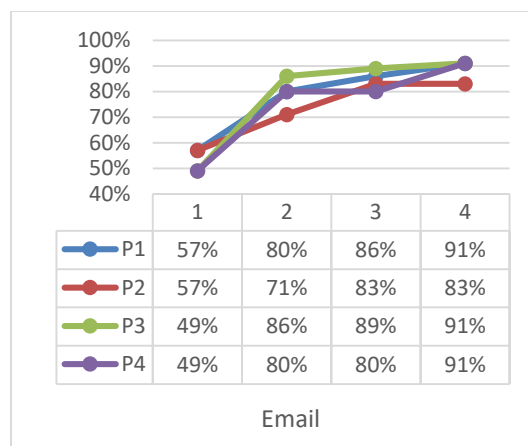
| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| P1 | 57% | 80% | 86% | 91% |
| P2 | 57% | 71% | 83% | 83% |
| P3 | 49% | 86% | 89% | 91% |
| P4 | 49% | 80% | 80% | 91% |

Email

*Figure 15.* Participants' individual improvements on the creation of formal emails

As Figure 15 shows, as per the designed scale P1's skills to create formal emails steadily increased from 57% in his/her first email to 91% in his/her last email, which resulted on a gain of 34%. This quantitative result supports what was found on the qualitative analysis of P1's first and last emails. That is, this quantitative gain might correspond to P1's improvements on grammar and on the ability to use/select the appropriate vocabulary/register. On her/his part, P2, who first evidenced a percentage of 57%, augmented to 83% in his/her last email, thus increasing a 26% on his/her skill to create formal emails and moving from a *fair* to an *excellent* level of proficiency after the intervention. On the other hand, P3, who first showed a percentage of 49% ascended to 91% in his/her last email, which resulted on a gain of 42%. Similarly, P3's quantitative gain might be the result of the linguistic improvements found on his/her last email. Lastly, P4, who reported an initial percentage of 49% also ascended to 91% on his/her last email, which resulted on a gain of 42%. Likewise the other participants, P4 also moved from a *fair* to an *excellent* level of performance when converting their final quantitative gains to a qualitative level of performance.

To conclude the analysis of participants' emails and to have a more exact idea of how much they improved their ability to create formal emails, all of the participants' individual data were

reunited and analyzed quantitatively, which allowed determining that, in average, participants improved their ability to create formal emails a 37%, as shown on Figure 16.



| | |
|---|---|
| First emails | 52% |
| Last emails | 89% |
| Final gain | 37% |
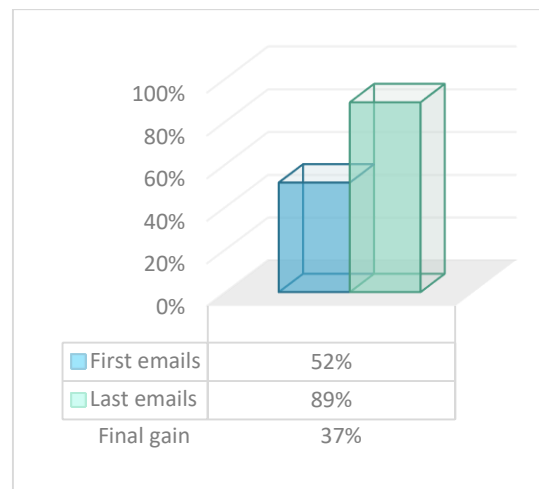
*Figure 16.* Participants' performance on their first and last emails

As can be observed on Figure 16, participants' proficiency level for creating formal emails was *fair* at the beginning of this study as reporting a percentage of 52%. However, at the end of the intervention, participants reported improvements as they augmented from 52% to 89% their proficiency level, which resulted in a significant gain of 37%. This increase in participants' proficiency level seems to be the result of their improvements on skills to create formal emails reported on their last emails. In other words, it seems that the grammar enhancements reported on participants' fourth emails contributed to increase their proficiency level, and thus their ability to create formal emails.

*7.2.2.2 Participants' Infographics Results Analysis.* Regarding the creation of infographics, students also showed positive improvements. For instance, after the intervention, participants were able to create better infographics than they created at the beginning of it. Specifically, participants evidenced more improvements on the ability to place an object in the available space (spatial

distribution), followed by the ability to organize the text structure (linguistics), and finally on the

ability to select appropriate and appealing images (visuals). Moreover, participants also reported

improvements on the information-summarizing and interpersonal-meaning making skills.  Figures

17 and 18 correspond to P2's and P4's first and last infographics, which show qualitative proof of

participants' improvements regarding the creation of infographics.



*Figure 17.*  P2's first and last infographics

First of all and regarding spatial distribution, as can be observed on P2I1, P2 surpassed the

margins of the template (at the top and at the bottom of it) as placing two pictures out of them.

However, P2 did not surpass any of the margins of his/her last infographic template. This might

mean that P2 learned and applied the principles for placing objects in space taught in class. Furthermore, some elements on P2I1 (texts, pictures, graphs and headings) are very close, leaving little space for a reader to make notes amid them. However, although in P2I4 there are a few (3) objects very close, they only represent the 25% of the whole objects (3 out of 12) included into the infographic, different from P2I1, in which the 57.14% of the objects included into the multimodal text (4 out of 7) are almost linked. What this finding might mean is that, P2 learned what he/she was instructed in class about proximity when creating infographics as he/she showed improvements on this feature on his/her last infographic.

Regarding linguistics and as can be seen of Figure 17, P2 reported improvement on the information-organizing skill as better organizing and sequencing his/her last infographic. For instance, as P2I1 shows, there are problems regarding the organization of the beginning, middle and final of the multimodal text. In fact, it is difficult to know what the headline and headers are in P2I1. Although it is known that style allows the designer to be as creative and free so as to organize the different parts of the multimodal text as he/she wants (Chan, 2015), according to McCoy (2014), there is some format that must be followed when creating an infographic. For example, following McCoy (2014), an infographic should have a header, an introductory copy, a sub-header and the body of the text (facts), to later repeat the steps including another sub-header and facts (if necessary), to finally include the reference where the information was gathered from. Nevertheless, P2 did not seem to follow a definite format on his/her first infographic.

Unlike what P2 reported on his/her first infographics, P2 reported progress on his/her last infographic and probably applied what s/he was instructed in class about the construction of the internal schematic organization of an infographic, as P2 organized his/her last infographic in  a better form than that of his/her first infographic, following a kind of curved-line format and using

logic elements such as numbers and arrows, which in line with Álvarez (2016) helped P2 structure his/her last multimodal text, and also provided a path to read it. In fact, the use of arrows and numbers on P4's last infographic may suggest P2's ability to efficiently structure his/her text by applying logical relations and indicators, which functioned like "road signs" or "directions to the readers" (Reichenbach, 2001, p. 158).

Additionally, it seems that the schematic structure of P2I4 contributed to accomplish the infographic general purpose, which was to inform a specific audience (a learning community) about how to make a right to petition. This is because the schematic structure of P2I4 clearly enlightens the procedures or steps required to make a right to petition, which makes it easier for the reader to navigate, understand, and perhaps, remember the procedures for creating a right to petition. Based on this, it seems that providing students with explicit knowledge of the genre under study can be beneficial for them in determining which schematic structure should be implemented (Tuan, 2011). In short, it seems that after the intervention, P2 learnt to create the rhetorical structure of an infographic, as better organizing his/her last infographic generic structure, which in turn contributed to accomplish the multimodal text general purpose. This finding goes in line with Payaprom (2012), who claims that by using the GAB, "students' awareness will be raised about the organization of the texts as well as how language works to achieve a particular purpose" (p. 32).

Concerning visuals, as can be observed on Figure 17, P2I1 is not very readable nor appealing to eye. In fact, the little zoom/size given to pictures and graphs make some texts really difficult to read. Additionally, some of the texts are too reduced/small and with so little resolution that they are not readable at all; different from P2I4, in which all the objects' zoom/size is appropriate and texts are more readable. What is more, the colors and contrast amid them, as well as the pictures,

numbers, arrows and other paralinguistic elements included on P2I4 make the multimodal text more appealing to eye than P2I1. Perhaps, the assessment of his/her classmates contributed on the improvement of P2's skills to create infographics, which matches Vigotsky's ZPD theory. Vigotsky's ZPD theory proposes that the social and cultural contexts are necessary for the acquisition of language and that a student can learn certain things related to his/her level of development, but that there are other outside his/her scope that must be learned with the help of an adult or more advanced peer, until the student gradually develop the capacity to do certain tasks by his/her own, which can be labeled as scaffolding. Based on this, it can be suggested that P2's peers' assessment might have functioned as the scaffolds for him/her to create a better infographic than the first infographic he/she created at the beginning of this study.

P2 also reported improvements on the information-summarizing skill when creating his/her last infographic. For instance and as can be observed on P2I1, there are many images and texts (7 images and 15 texts), which saturates the infographic and makes it too information loaded. However, on his/her last infographic, P2 showed enhancements on the digital skill to summarize information as including fewer images and texts (4 images and 8 texts) than on his/her diagnosis infographic. What this finding might mean is that, at the end of the intervention, P2 was more aware about the importance of summarizing information when creating an infographic.

Additionally, as can be seen on Figure 17, there are improvements on the ability to create interpersonal meanings. This is because on P2I4, P2 interpersonally used modalization (epistemic modality) to communicate with his/her reader (Halliday, 1994a). This kind of modality was carried out internally on the use of modal verbs such as *will, can, may* and *must.* The modality *will* occurred in, *He will be obliged to indicate his electronic address,* and in, *…where they will receive correspondence.* The modality *can* took place in, *the legislator can guarantee fundamental rights*;

while *may* realized in, *the petitioner may add the fax number or the electronic address*. Finally, the modality *must* happened in, *these are the necessary aspects that a right to petition presented in written form must contain,* and in … *who must be registered in…* However, any of these probability and certainty modalities were reported on P2I1. In fact, P2 does not use any instances of modality on his/her diagnosis infographic, hence it can be considered as an "unmodulated" text (Kress, 1985a).

On the other hand, all the modalities used on P2BE4 seem to indicate his/her confidence, "honesty, modesty, proper caution and diplomacy when presenting information" (Swales' 1990a, p. 174). What is more, the presence of modalities on P2BE4 seems to have helped P2 better express his/her attitudes and judgments (moves) on his/her last infographic. This finding goes in line with Ding's (2007) major outcome, which points out that the GBA can be effective for increasing the salience of the communicative moves in the students' texts.

Similar to P2, P4 also showed gains on the skills to place objects in space, to organize the text's structure, to include or select appropriated pictures/graphs, and to create interpersonal meanings. The following are P4's first and last infographics that support this assertion:
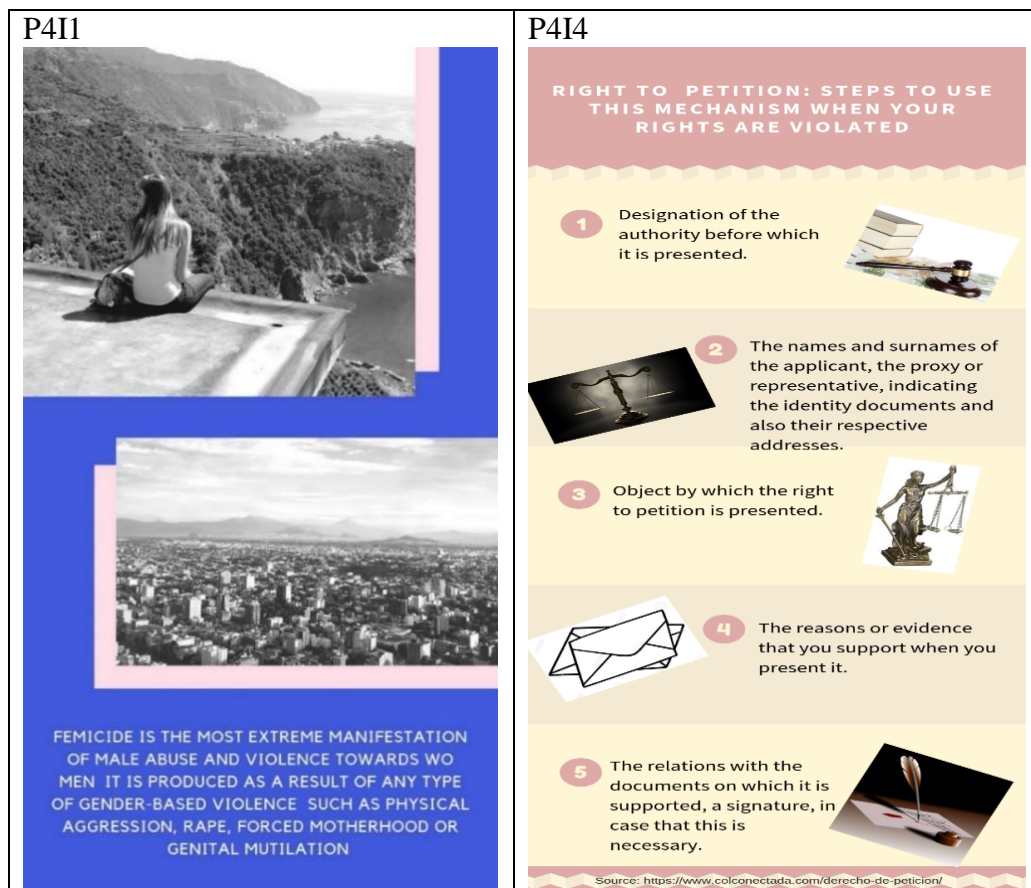
*Figure 18.* P4's first and fourth infographic

Regarding spatial distribution, as can be seen on the figure above, the two pictures included on P4I1 exceed the margins of the template, which goes against the principles of spatial distribution (Álvarez, 2016). However, although P4I4 evidences the same problem, it is in less quantity than on P4I1. For example, from the 5 pictures included on P4I4, only 2 exceed the limits of the template, which corresponds to a 60% of efficacy for placing objects in space; different from what P4 showed on his/her first infographic, in which all the pictures included (2) exceed the margins of the template, which corresponds to a 0% of efficacy for placing object in space. Perhaps, P4 improved his/her ability to place objects in space because of the principles of spatial distribution taught in class. However, it is evident that P4 needs more training, as there are still problems with this area of multimodality on his/her last infographic.

In what respect to linguistics, P4 reported improvements on the ability to organize the text's structure. For instance, as can be seen on P4I1, P4 did not seem to follow any defined format or structure for presenting the information such a headline, a header, the facts and the source where the information was taken from. Instead of that, on his/her first infographic, P4 just included some facts in a kind of introduction to the target topic located at the bottom of the multimodal text, not in the superior part of it, as it should be; and although P4 included an introduction or beginning on his/her first infographic, it is written in capital letters (which in virtual communication means the writer is shouting). However, on his/her last infographic, P4 seemed to be more aware about the different elements that conform an infographic and how to structure them in space, as including an appropriate headline and header (at the top of the infographic), followed by the body of the text with short facts (in the middle of the multimodal text) and finally the source where P4 took the information that was included in his/her last infographic, which is correctly located at the bottom of the infographic as McCoy (2014) recommends.

Additionally, it is worth mentioning that to create the schematic organization of his/her last infographic, P4 used a set of numbers which seem to have functioned like logic/sequence devices to structure the text and help the reader navigate through it. Based on this, it seems that providing the student writers with genre instruction, can be beneficial for them in deciding the internal organization of their texts (Emi, 2005).

Concerning visuals, as can be seen on P4I1, the pictures used do not seem very appropriate for the infographic target topic (feminicide). That is to say, the pictures included in P4I1 do not denote any feminicide. Nonetheless, on P4I4 all the pictures are related or appropriated for the infographic target topic (a petition right) and attractive for the viewer's eye, which derived in a significant gain about the ability to select appropriate and appealing material.

Another striking feature of participants' improvements on digital skills to create content was P4 ability to create interpersonal meanings/relationships with the reader, as realized through the use of the possessive adjective "your" on P4I4, which according to McCoy (2014) creates emotion and serves as a hook to engage the reader into the text, as well as to build an interpersonal realtionship or inner dialogue between the writer and reader. What is more, the presence of the possessive adjective "your" on P4I4 also shows P4's understanding of writing for a distant reader, which in other words can be understood as P4's awarness of the audience (*to whom*) s/he was writing his/her last infographic (Wallace, 1992b). On the other hand, it is also worth mentioning that as Emi (2005) contents, P2 used modality of certainty on his/her last infographic, as writing it in the present simple tense, which asserts a more confident relationship with the reader, thus showing enhancements on the "interpersonal-meaning making skill".

To conclude, after making a semiotic analysis to P4I4, it was concluded that P4I4 accomplished its communicative purpose, which was to inform (provide real information) about how to create a right of petition to a learning community, as all the elements that compose the multimodal text such as linguistic (vocabulary, grammar, texts), and paralinguistic features (pictures, graphs) of language, as well as the schematic structure (internal structure) of the multimodal text orchestrate together to achieve the infographic global purpose. For instance, regarding the vocabulary/register used on P4I4, it can be said that it was appropriated and functioned accordingly to meet the infographic target topic and audience. On the other hand, the pictures and graphs were also appropriate and helped transmit a more global meaning of the target topic by supporting written information; and finally, the schematic structure contribute to organize the content of the multimodal text in such a way that it was easier for the reader to understand and remember the

steps in making a right to petition, thus showing awareness for determining *why* and *to whom* the text was created.

However, in order to verify previous findings, participants' performance about the creation of infographics along the intervention was also analyzed individually and quantitatively. Figure 19 shows participants' individual performance for the creation of infographics along the intervention.
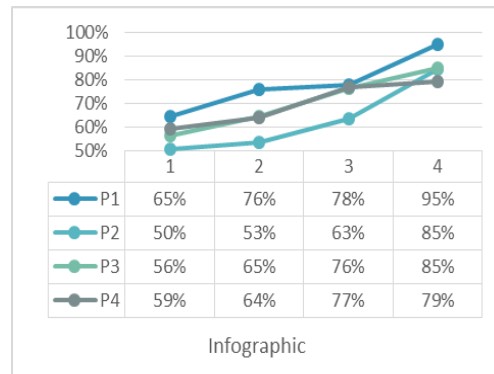


|  | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| P1 | 65% | 76% | 78% | 95% |
| P2 | 50% | 53% | 63% | 85% |
| P3 | 56% | 65% | 76% | 85% |
| P4 | 59% | 64% | 77% | 79% |

Infographic

*Figure 19.* Participants' individual improvements on skills for creating infographics

As Figure 19 shows, P1's skills to create infographics steadily increased from 65% in his/her first infographic to 95% on his/her last infographic, thus gaining 30% on his/her abilities to create infographics. On the other hand, P2, who first evidenced a percentage of 50% ascended to 53% in his/her last infographics. This means P2 improved a 34% his/her skills to create infographics. This positive gain supports what was found on the qualitative analysis conducted to P2's first and last infographics, in which an increase in skills to create infographics was also evidenced. On his/her part, P3 started with a percentage of 56% and ascended to 85% on his/her last infographic, which resulted in a gain of 29%. From a qualitative scale it can be said that, P3 moved from a *fair* to an *excellent* level of performance. Ultimately, P4, who first showed a percentage of 59% increased to 79% on his/her last infographic, which means P4 improved his/her skills to create infographics a 20% after the intervention. These positive quantitative increments might be the result of the

participants' improvements on skills for creating infographics found on the qualitative analysis done to their first and last infographics.

Lastly, in order to know how much participants improved their ability for creating infographics along the intervention, participants individual results were condensed and graphed, which show us that, approximately, participants enhanced their ability for creating infographics a

28%, as they increased from 58% to 86% (See Figure 20) their level of proficiency at this skill. In qualitative terms, this means that participants moved from a *fair* to an *excellent* level of performance from the beginning to the end of the intervention.

| | Linguistic | Visual | Spatial distribution | Global Percentage |
|---|---|---|---|---|
| First infographics | 49% | 66% | 58% | 58% |
| Last infographics | 76% | 90% | 92% | 86% |
| Final gain | 27% | 24% | 34% | 28% |
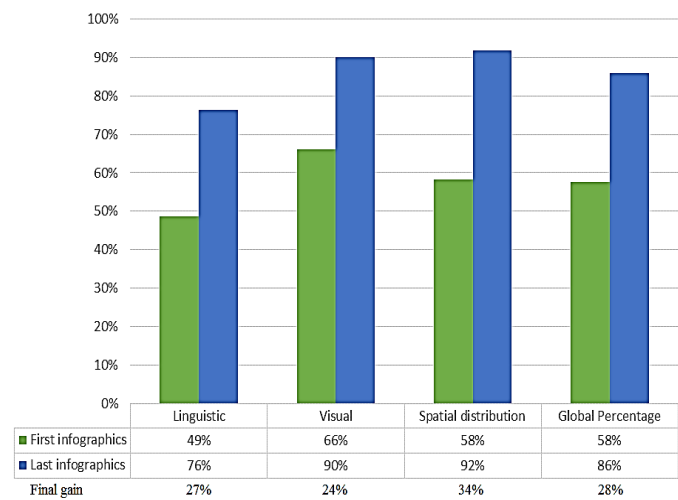
*Figure 20.* Participants' performance for their first and last infographics

As Figure 20 shows, after the intervention, students improved a 27% their linguistics abilities to create infographics as they reported a starting percentage of 49%, which augmented to 76% on their last infographics. Concerning visuals, students first evidenced a percentage of 66% which considerably increased to a 90% at the end of the intervention, thus gaining a 24%. Lastly, for the spatial distribution area of multimodality participant reported the major improvements. This is because participants first showed a percentage of 58% and then, at the end of the intervention, they reported a percentage of 92%, which means there was a significant gain of 34% on the students' abilities to place objects in space. An interpretation that can be made from these results is that,

these improvements might be the result of the teacher-researcher's effort to instruct students about the placement of objects in space on module 2.

   *7.2.2.3 Participants' Blog Entries Results Analysis.* When analyzing participants' first and fourth blog entries qualitatively, it was found that participants improved on the "content-organizing", "grammar" and "interpersonal-meaning making" skills. For instance, the following is P2's first and last blog entries which can serve as proof for this assertion:

| P2BE1: "With the announcement of the financing law proposed by the Ministry of Finance, many Colombians are worried about the remarkable increase the prices of the products of the family basket can have. The extension of VAT to food previously did not pay taxes or were only taxed with 5 percent has household accounts, especially those who are part of strata 1, 2 and 3". | P2BE4: "Euthanasia in Colombia: A Great Success |
|---|---|
| | Euthanasia is an alternative for people with terminal illnesses and who lead a painful life. It is about ending the person's life in an assisted way and thus ending their suffering. Colombia is the fourth country in the world to legalize it after Belgium, Luxembourg and Holland. Regarding this issue there are many ideas found, both for and against, which will be explained below. |
| | I believe that euthanasia is a very good option for people who do not want to continue living an incomplete and suffering life, since the right to a dignified life is more important than the right to a simple subsistence. In a decent life the person can develop their abilities and carry out all the activities that allow them to feel fulfilled. |
| | In opposition to this are religious beliefs strongly rooted in our Colombian culture, mainly the Catholic Church, which is radically opposed to any idea that goes against life, even when it is a life of pain. |
| | To conclude, I believe that the legalization of euthanasia is a great step forward for Colombia, and I recommend that other countries promote the legalization of this alternative. |

   Regarding the "content-organizing skill", it is worth mentioning that P2 showed little control of the general features of an expository text at the beginning of this intervention. In fact, as evidenced on P1BE1, the entry looks more like a Description than a Discussion text. Hence, whereas it indicates some control of vocabulary and grammar, it does not include all the parts of

an expository text. Aditionally, the writer does not present any arguments to support the Thesis nor a conclussion/recommendation, two distinguished features of an expository/epistolary text.

However, P2 reported enhancements on the control of these features as showing a more a complete, stuctured, obvious, relevant, presise and clear blog entry at the end of this study, which in turn seems to have triggered P2's cabability to discuss points of view in an organized manner, or in the "content-organizing skill" (Lipman, 2003). This shows the possitive effect that the implementation of the GBA had on participants' improvement of digital skills to crate content.

What is more, it is clear that P2BE4 can be considered as a successful example of the Discussion genre when compared to P2BE1, as it has the necessary conventional markers of a written English argument. First, it presents a thesis statement; which introduces the issue and the writer's point of view (Emi, 2005). In fact, as Emi (2005) suggest, P2 used modality of certainty on his/her last entry, as writing in the present simple tense the topic sentence (Euthanasia is an alternative for people with terminal illnesses and who lead a painful life), which permits the reader to comprehend what euthanasia is about and also identify the kind of genre being read. This matches McCarthy & Carter's (1994, p. 63) suggestion that "genres become quickly established in their opening phases."

Then, P2BE4 presents the arguments for and against to support his/her thesis. As Emi (2005) explains, the presence of arguments for and against on P2BE4 implies breath and sufficiency, as well as the student's capability to cluster information regarding diverse point of views or interpretations (Lipman, 2003, p. 180-181). What is more, the balanced arguments on P2BE4 offers a signal about his/her endevor to provide "a fair presentation" of the topic being discussed by treating different arguments as equal (McPeck, 1990), a key feature of a successful Discussion genre. Finally, P2 presents a recommendation at the end of his/her last entry, which specifies the suggested course of action to follow. This is supported by Ennis (1987), who contends that the

precence of a recommendation on a disscussion genre indicates the writer's capability to decide on an action, particularly "tentatively decide what to do".

On the other hand, the presence of higher and lower-level Themes on P2BE4 permitted the entry to be structured not only locally, but also globally. For instance, as Emi (2005) explains, the title: *Euthanasia in Colombia: A Great Success*, functioned as a higher-level Theme, founding the field of the whole text and presenting its supreme hierarchy (Martin & Rose, 2003). Additionaly, the sentence: *which will be explained below*, might have operated as "the opening generalization in a text which can predict its overal development" (Coffin, 1997, p. 218). And finally, the closing words, *to conclude,* served as a lower-level Theme, which presented the reader the end and summary of the whole text. Based on this, it seems that providing clear instructions of the internal structure of a genre to students can be beneficial for their output regarding the construction of the text's schematic structure.

Regarding grammar, P2 showed more improvements on syntax, specifically on the use of conjunctions. For example, from the 5 instances in which P2 used or had to use conjunctions on his/her first text, s/he used them correctly 3 times and incorrectly 2 times, specifically in, *the extension of VAT to food previously did not pay taxes or were only taxed with 5 percent…,* which gives him/her a 60% of effectiveness for using conjunctions at the beginning of this study.

As can be observed on this textual sample, the error relates to the not inclusion of the conjunction *that* on the sentence, which in turn made a section of the text difficult to understand. Hence, this sample sentence could have been written as, "the extension of VAT to food that previously did not pay taxes or that were only taxed with 5 percent…, to make the sentence clearer or more coherent. However, P2 reported gains on the use of conjunctions on his/her last entry, since from the 13 instances in which P2 used conjunctions, s/he used all of them correctly, thus

getting a 100% of efficacy for using conjunctions after this study. What is more, P2 not only included the conjunctions "and" and "that" on his/her last entry, but also the conjunction "when", which shows P2's learning and use of different cohesive devises (conjunctions) than those reported on his/her diagnosis entry.

P2 also showed enhancements on morphology, especially at the use of the genitive case. For instance, as can be observed on P2BE1, P2 failed at using the genitive marker *'s* as writing, *the prices of the products,* rather than *the products' prices.* However, P2 revealed improvements on the use of the genitive case as correctly writing: "the person's life" on his/her last entry. This shows the positive effect that the intervention had on participants' improvement of grammar skills.

Concerning the "interpersonal-meaning making skill", it is right to say that the presence of Location features on P2BE4, specifically in, *Colombia is the fourth country in the world,* shows evidence of P2's effort to create a precise dialogic text to the reader, which in other words shows P2's awareness of *to whom* the text is intended (Swales, 1990). On the other hand, in the sentence, *In opposition to this are religious beliefs strongly rooted in our Colombian culture, mainly the Catholic Church*; P2 shows his/her effort to communicate, at the "ideational level", the experimental/ideational information of his/her culture to the reader (Eggins, 1994, p.78), a feature that was not evidenced on P2BE1. Other interpersonal relationships were realized through the use of modalities (modal verbs) such as *will* and *can*, which were not also reported on P1BE1, and which functioned as meaning-making devices to express the writer's moves through the text. The modality *will*; for instance, served to express promise, whereas *can* functioned to express possibility.

In short, it seems that P2 carried out his/her moves through the text by using these mood patterns of language (modalities), which in turn helped him/her create a more confident and dialogic/social realationship with his/her readership (Swales, 1990) than that evidenced on his/her diagnosis entry.

Similar to P2, P1 also reported improvements on the "content-organizing", "grammar" and "interpersonal-meaning making" skills. For instance, the following is P1's first and last blog entries that show qualitative proof about this assertion:

| P1BE1: "The Colombian state approved a tax reform that establish that the percentage of IVA will rise to 19%. | P1BE4: "Colombia in 2015 positioned itself as the only country in Latin America to legalize euthanasia in adults, now for this year 2018 in March it ranked as the third country that regulates this practice for minors. Euthanasia is practiced so that a person who is suffering from a terminal illness decides not to continue suffering with the help of a third party. |
|---|---|
| The actual government is being harshly criticized by most Colombian because they feel dissatisfied, because this increase also reach the products in the family basket, directly affecting the economy of the least favored people. | In view of what the Constitutional Court of Colombia has said about euthanasia, it is agreed that, beyond ethical and religious issues, a patient with a terminal illness that causes severe suffering should be able to decide on the termination of his life covered by the legal procedures such as free consent expressed by the patient. |
| I think the rise in the value of IVA will affect industrial, commercial products and products of the family basket. | On the contrary, the Catholic Church strongly opposes euthanasia because according to religion they must be subjected to palliative care which will prolong their suffering further, torturing them. |
| | As a conclusion, it is recommended that doctors receive more guidance on this practice, so that they can act with greater confidence and certainty". |

First of all, as it can be observed on P1BE1, P1 fails at not including all the parts of an expository text, (thesis statement, arguments, and conclusion/recommendation), this shows P1's unawareness

of the parts of a discussion text at the beginning of this study. What is more, although P1 presents

an introduction to the issue to be discussed (the tax reform), it is not very clear, structured and

well-developed. Furthermore, P1 presents the problematic situation about implementing the tax

reform, without discussing the benefits of it, showing unawareness of the requirements of a

Discussion genre. Finally, P1 introduces his point of view about the issue to be discussed in, *I think*

*the rise in the value of IVA will affect industrial*, at the end on his/her last blog entry, not at the

beginning of the text as (Emi, 2005) suggest. In fact, the writer's point of view should have been

situated following the Thesis statement; which introduces the issue and the writer's point of view

(Emi, 2005).

Nevertheless, P1 showed improvements on the use of these schematic features on his/her last

entry as clearly including all the parts of the Discussion genre and organizing them in a hierarchical

order, starting with the topic sentence, followed by the facts/arguments for and against the issue

and ultimately by providing a recommendation. First, the topic sentence contextualizes the reader

about the issue to be discussed and allows him/her to predict how the text would be read, by

functioning as a higher-level Theme. Then, the arguments for and against show P1's impartiality

or multiple interpretation of the issue under discussion (Lipman, 2003, p. 180-181). They also

show participants' use of interpersonal strategies to express meaning. This is because as Ennis

(1987, p.15) explains, interpersonal strategies also include "presenting argumentation in written

form", and "effectively communicating with an audience" (Norris and Ennis, 1989, p. 140).

Finally, P1 wraps up his/her entry and indicates the move into the text's main point – his/her

recommendation, which suggests P1's engagement with the contemporary Colombian practices of

Law and his/her capability to interpret Euthanasia. Specifically, by highlighting the role that

doctors should play on it, which promotes the accuracy, credibility and soundness of a disscussion

text (Ennis, 1987). Perhaps, P1 gained awareness of the schematic structure of an argumentative blog entry through the model texts presented to him/her, which in turn helped P1 create a final blog entry with a clear internal structure/sequence.

On the other hand, the intervention also affected P1's grammar positively, specifically at the syntax and morphology level. Regarding syntax, P1 showed more improvements on the use of conjunctions. For instance, on his/her first entry, P1 used a limited set of conjunctions such as *that* and *because*. Nevertheless, on his/her last entry, P1 not only used the set of conjunctions he/she already knew, but also some other conjunctions such as *so that,* and *as,* which shows P1 leaning and use of new conjunctions. What is more, from all the instances in which P1 used conjunctions on his/her first and last blog entry, s/he used more conjunctions incorrectly on his/her first entry than on his/her last entry. For example, from the 3 times in which P1 used conjunctions on his/her first entry, he/she used them correctly 2 times and incorrectly 1 time, which resulted on a 66, 66% of effectiveness for using conjunctions. However, on his/her last blog entry, from all the instances in which P1 used conjunctions (10), he/she used all of them correctly, which gives him/her a 100% of efficacy for using cohesive devises such as conjunctions at the end of this study.

This finding supports what participants self-reported on the interview (improvements on their abilities to use cohesive devises such as conjunctions). This is because when asking P1 on the interview whether he/she thought his/her grammar had improved through the method implemented in this study, P1 replied the following:

P1IQ9: "*Sí, sí, creo que gramaticalmente mejore bastante en la parte de usar los conectores lógicos para hacer oraciones compuestas (...)*".

**P1IQ9: "Yes, yes, I think that grammatically I improved a lot in using the logical connectors to make compound sentences (...)".**

As mentioned by P1, s/he improved on the use of *conectores logicos* for creating compound sentences. By *conectores logicos*, this student might mean "conjunctions", which supports what was found on his/her last blog entry. This shows the positive effect of the GBA on the improvement of P1's use of grammatical features of language (conjunctions) for creating a blog entry.

Additionally, there are some other syntax errors referred to word choice on P1BE1. For instance, in the use of the word *actual* instead of "current" or *value* instead of "price", as well as in the inappropriate selection of the preposition *in* when requiring the preposition "of". However, on his/her last blog entry, P1 did not use any words inappropriately. In fact, all the words included on P1's last entry are well chosen and appropriate for the text's type and audience.

Based on this, it seems that P1 understood that written texts are created for an intended audience and that these concerns determine the language choices the writer needs to make to appropriately and effectivity transmit his/her message (Emi, 2005). Perhaps, the phase *Building Knowledge of the Field* of the intervention, as well as the model texts presented to participants, could have contributed on the improvement of P1's syntax skill.

Regarding morphology, P1 showed more improvements on the use of the subject-verb agreement. For instance, out of the 6 times in which P1 used the S-V agreement on his/her first entry, s/he used it correctly 4 times and incorrectly 4 times, specifically in, "a tax reform that establish", in, "most Colombian" and in, "this increase also reach", which gives P1 a percentage of efficiency for using the S-V agreement of 50% at the beginning of this study.

Here, it is important to mention that on P1BE1 there three S-V agreement errors because as Hananuraga (2015) explains, a subject-verb agreement error occurs when the subject of the sentence does not agree with the verb in number, as in the case of "many complication" and "if we

looks". Nevertheless, P1 improved on the use of the S-V agreement after the intervention, as out of the 21 times in which P1 used the S-V agreement on his/her last blog entry, he/she used all of them correctly, which gives him/her a 100% of effectiveness for using the S-V agreement at the end of this study. This positive enhancement is very significant, as learners had to study about syntax by their own, which shows that under the GBA students may also learn autonomously.

In brief, P1's improvements on morphology and syntax show evidence of the positive effect that the intervention had on participants' grammar, which relates heavily to what was found on the qualitative analysis of P1's first and last emails (grammar enhancements), which gives more credibility to this finding. Finally, it is worth mentioning that P1's improvements on grammar are significant since participants only received a few hours of instruction during the intervention about grammar and its social function.

On the other hand, P1 also showed enhancements on the "interpersonal-meaning making skill" as using Location markers/indicators on his/her last infographic. For instance, in the sentence, *Colombia in 2015 positioned…,* and in, *for this year 2018 in March,* which contributed to provide precise experimental information concerning the issue under discussion to the reader (Emi, 2005). Based on this, it seems that P1 learned what was taught in class about the inclusion of Location indicators on a discussion text to provide more precise information to the reader, a digital skill which was not evidenced on P1BE1.

Another striking feature of P1's enhancement of the "interpersonal-meaning making skill" relates to the nonappearance of the first and second person pronouns on his/her last infographic, which shows awareness of *to whom* the text is intended (Wallace, 1992b) and also the writer's detachment to what s/he was saying/writing, making statements on behalf of others (Emi, 2005, p.102), a remarkable feature of a Discussion text. What is more, the absence of first and second

personal pronouns on P1BE4 indicate P1's endeavor to provide arguments in an impersonal manner, thus by using a plural or objective register. This shows participants' awareness of the requirements or social conventions needed for creating a Discussion genre.

As a final point, it is argued that the lexico-grammatical and interpersonal features of language as well as the schematic structure on P1's and P2's last entries orchestrate together to achieve the entries' general purpose, which was to argue a point of view (either in favor or against euthanasia) in a formal and convincingly manner. This is argued because on the one hand, the vocabulary used on both entries was appropriated for the entries' target topic and to persuade the reader about a particular point of view. On their part, the grammatical structures functioned accordingly and appropriately to the text type. They also make the text clear and coherent. Lastly, the use of Location markers as well as a plural or objective register seems to have contributed to make P1's and P2's last entries more precise and confident, thus showing enhancements on the "interpersonal-meaning making skill".

Nonetheless, in order to validate previous qualitative findings and to have a detailed track of every participant's performance for creating blog entries along the intervention, participants' performance was also analyzed individually and qualitatively (See Figure 21).



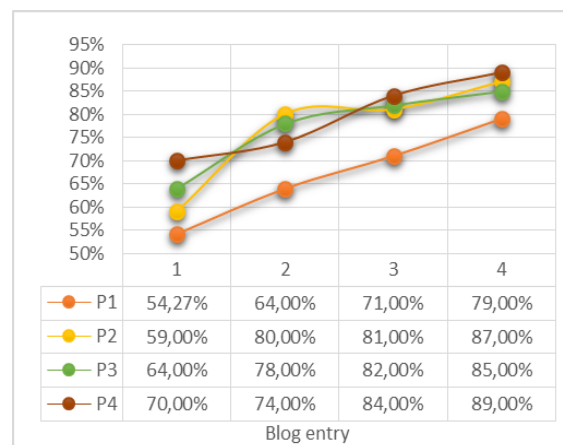| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| P1 | 54,27% | 64,00% | 71,00% | 79,00% |
| P2 | 59,00% | 80,00% | 81,00% | 87,00% |
| P3 | 64,00% | 78,00% | 82,00% | 85,00% |
| P4 | 70,00% | 74,00% | 84,00% | 89,00% |

*Figure 21*. Participants' individual improvements on skills to create blog entries

As can be observed on Figure 21, P1's skills for creating blog entries steadily improved as first reporting a percentage of 54, 27%, which ascended to 79% on his/her last blog entry, thus improving a 24, 73%. In the same way, P2 also evidenced a steadily increase on his/her skills for creating blog entries, as first reporting a percentage of 59%, which augmented to 87% on his/her last blog entry, thus increasing a 28% his/her level of performance for creating entries at the end of the intervention. On his/her part, P3 reported a starting percentage of 64% and finally reported an 85%, thus gaining a 21%. Lastly, P4 steadily rocketed his/her performance for creating blog entries as starting with a percentage of 70% to finally achieve a 89% on his/her last blog entry. This means there was an increase of 19% on P4's performance for creating blog entries after the intervention. In short, these improvements seem to be related to the qualitative findings found on participants' artifacts and semi-structured interview.

To conclude the analysis of participants' blog entries, participants' individual results were condensed on a graphic for being analyzed as a whole (See Figure 22). This allowed determining in which of the two areas of grammar this study focused on> morphology and syntax, students improved the most. The graph also helped determining the extent to which students improved their grammar.
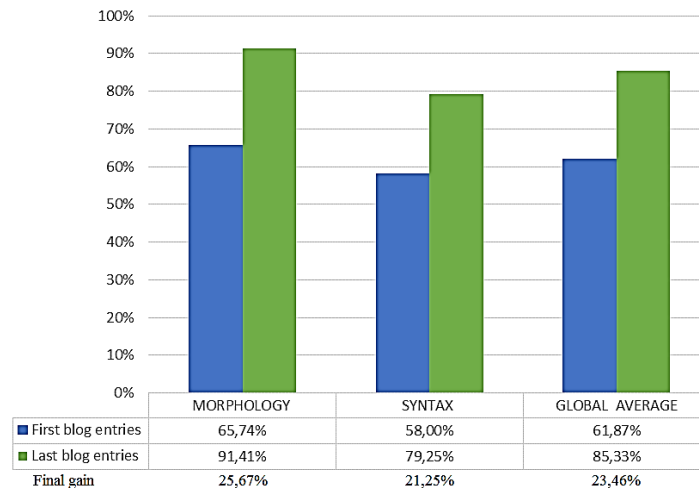
| | MORPHOLOGY | SYNTAX | GLOBAL AVERAGE |
|---|---|---|---|
| ■ First blog entries | 65,74% | 58,00% | 61,87% |
| ■ Last blog entries | 91,41% | 79,25% | 85,33% |
| Final gain | 25,67% | 21,25% | 23,46% |

*Figure 22.* Participants' improvements on specific areas of grammar

Specifically, the grammar area that participants improved the most was morphology, as participants first started with a percentage of 65, 74 and finally achieved a 91, 41%, which represents an increase of 25, 67% on their proficiency level regarding morphology. Following morphology was syntax, in which participants reported a starting percentage of 58, 00% and finally peaked it at 79, 25%, thus gaining a 21, 25% on their proficiency level concerning syntax. An interpretation that can be made about this finding is that, students probably improved more on morphology because they were instructed about this area of grammar in class, whereas for syntax, they had to study by their own. But, no matter what area of grammar the students improved the most when creating their blog entries, what is important here is that, as data suggest, participants improved their grammar.

**7.2.3 Interview Results Analysis.** In this section, the main results of the analysis done to the semi-structured interview is presented. It is worth mentioning that for reducing the amount of information, the TR used the Grounded theory approach for looking for segments (chunks) of text that had key words or tendencies in participants' samples. According to Cohen & Morrison (2007)

Grounded theory is "the process of summarizing and reporting written data – the main contents of data and their messages" (p. 457).

Hence, once the tendencies were found, they were coded and sorted out in electronic folders. After this process, an open categorical system (See Figure 23) was designed to label the tendencies to emergent categories. Then, the emergent categories were linked to a set of sub-apriory categories, and these to a broader apriori category.
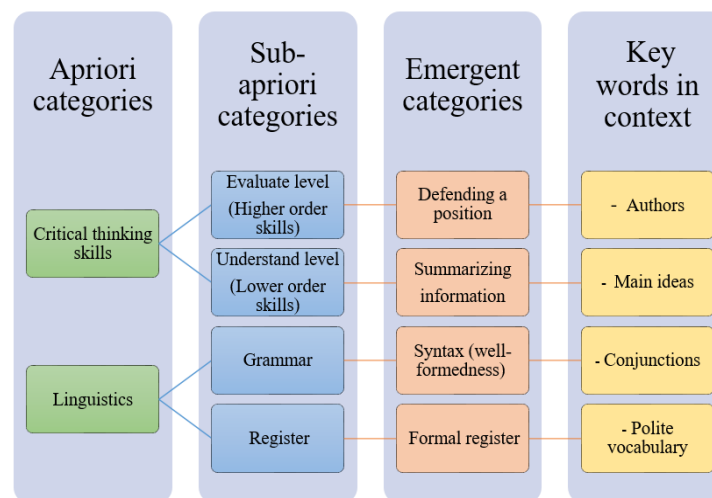


*Figure 23.* Open Categorical System

Finally, after analyzing all the data gathered from the semi-structured interview meticulously, 4 main categories emerged, namely, (1) defending a position, (2) summarizing information, (3) syntax and (4) formal register. This will now be described in the following sub-sections:

***7.2.3.1 Defending a Position.*** First of all, when asking participants on the semi-structured interview: Do you think that through the method used this semester to teach you write digitally, your skills to hold discussions on the class blog improved?, two participants reported improvements on the ability to defend a position. For instance, P1 answered the following to the question:

*P1IQ8: "Umm, sí, demasiado, porque aprendí que en las discusiones se debían citar autores para defender la posición de uno sobre un tema, y, eh, entonces ya empezaba uno a buscar autores para respaldar la posición tomada, y así se hacían como mejor las discusiones".*

**P1IQ8: Umm, yes, too much, because I learned that in the discussions authors must be cited to defend one's position about a topic, and, eh, then I started to look for authors to support the adopted position, and thus the discussions were better. "**

As mentioned by P1, s/he learned that authors can be employed for defending a position towards a topic, thus showing improvement on the ability to defend a position. In other words, it seems that the need for including authors in the class blog discussions contributed to P1's improvement of the ability to defend a position, and at the same time, allowed him/her to use his/her high order skills at the evaluate level in Bloom's (1956) revised taxonomy, as defending a position requires these skills and level.

On his/her part, P3 also showed enhancements on the ability to defend a position by referencing sources or using authors. For instance, the following is P3's reply to the previous question:

*P3IQ8: "Sí, claro, me parece que sí, porque eh… al principio no sabíamos que podíamos defender una posición frente a un tema con autores. Pero luego con lo que usted nos enseñó, ya uno sabía que se podía referenciar".*

**P3IQ8: Yes, of course, I think so, because eh… at the beginning we did not know that we could defended a position about a topic with authors. But then with what you taught us, I already knew that it was possible to reference.**

As P3 mentions, s/he did not know that authors could be cited to defend a position about a topic at the beginning of this study. However, after the teaching and learning process, s/he reported

already knowing it. Based on this, it seems that P3 learnt what was instructed to him/her in class about the use of sources for increasing the level of credibility and defense of a position taken, either in favor or against a topic.

Ultimately, it is important to mention that the enhancements reported by these two participants on the skill to defend a position were confirmed on their last blog entries. For instance, the following is a fragment from P3's last entry (P3BE4) that provides qualitative proof of this finding:

> P3BE4: "(…) But the reality is that other authors such as Villabona and Quimbay (2017) argue that the fiscal benefits in some sectors do not lead to the generation of employment (…)"

As can be observed on P3BE4, P3 indirectly cites two authors to contrast a point of view that was being discussed paragraphs above on his/her text, an ability which was not observed on P3BE1. In fact, it seems that P3 used citation on his/her last entry as an strategy to express "the writers reading position, and hence the writers capability to select writing material (of all available to them), as well as to introduce other voices into a text, which is a typicality of literate members of a culture" (Schirato & Yell, 1996, p. 92).

Another significance of citation was realized through topical Themes, appreciated in the use of proper names, such as *Villabona and Quimbay*; which made P3BE3 sound background knowledge about the issue under discussion. What is more, the presence of proper names on P3BE4 also helps strengthen the precision and accuracy of arguments and shows improvements on  digital skill, such as "try to be well-informed", and "use and mention credible sources"; abilities which were not reported on P3BE1. Finally, this finding also relates to P3's awareness of "what the text is about", as including the necessary elements for defending and argument.

Similar to P3, P4 also showed gains on the skill to defend a position on his/her last entry. The following is an excerpt from P4BE4 that supports this assertion:

P4BE4: "(…) I think that if the tax reform would be good, as the politician and Colombian lawyer Varón Cotrino said "This initiative aims to stimulate the productive sector, produce formal employment and alleviate a little the burdens that natural persons and business sectors have (…)".

Although P4 fails at not including the year and page where the information cited in his/her BE4 was gathered from, s/he includes the author's last names and uses quotation marks on the author's textual words, which shows some knowledge of referencing standards. However, it is clear that P4 needs more training on the quotation system, so that s/he can eventualy apply all the social conventions requiered to cite information correctly, and thus make the persuacive communication of an argument work well (Emi, 2005, p. 201).

In short, as data suggest, it seems that the use of *authors* (references) for supporting a point of view in the class blog contributed to the improvement of students' skill to defend a position. Furthermore, it seems that the need to defend/support a position with references triggered students' use of high order and critical thinking skills at the evaluate level in Bloom's (1956) revised taxonomy.

*7.2.3.2 Summarizing Information.* When asking participants on the interview: Which skills do you think you improved the most in the creation of infographics?, three participants reported improvements on the ability to summarize (information). For instance, the following is P4's answer to the previous question:

> P4IQ6: "*Umm, principalmente lo de resumir, de por ejemplo siempre colocar las ideas*
>
> *principales (...)*".
>
> **P4IQ6: "Umm, mainly to summarize, for example to always include the main ideas (…)".**

As P4 mentions, the skill that he/she improved the most when creating infographics was the ability to summarize. Perhaps, as he/she points out, because P4 learned to always include main ideas when creating infographics. Similar to P4's previous answer, P1 replied:

> *P1IQ6: "Eee, yo diría que en lo de resumir, en usar ideas principales".*
>
> **P1IQ6: "Eee, I would say that in summarizing, at using main ideas**".

As mentioned by P1, the skill that he/she improved the most for creating infographics was the ability to summarize, highlighting the use of main ideas as part of the process. An inference that can be made from this participant's textual sample is that, P1 recognizes that main ideas are closely linked to summarizing, as P1 mentions the words "summarizing" and "main ideas" in a hierarchical order.

Based on these results, it appears that the use of main ideas is an issue involved with the enhancement of participants' skill for summarizing information. In other words, it seems that the use of *main ideas* contributed to improve participants' skill for summarizing (information) and that also led students to the understanding level in Bloom's (1956) revised taxonomy, in which they were required to use their lower order skills, since summarizing involves the use of these skills and level (Bloom, 1956).

*7.2.3.3 Syntax.* When asking participants whether they thought their grammar improved through the method used in this study, three participants reported improvements on the ability to

use coordinating conjunctions, which is a sub-skill from syntax, and this, an area of grammar. Some examples of the participants' replies to the previous question were:

> P2IQ9: "*Si porque, eee, con lo que aprendí en clase sobre formular oraciones, y la forma correcta de hacer las oraciones compuestas con los conectores, incluso los signos de puntuación y eso, eeh, pude hacer mejor las discusiones en el blog*".
>
> **P2IQ9: "Yes because, eee, with what I learned in class about formulating sentences, and the correct way to make the compound sentences with the connectors, and even the punctuation marks and that, eh, I could make better discussions on the blog.*"***

As can be observed on this textual citation, P2 explicitly highlights that he/she could make/hold better discussions on the class blog by creating correct compound sentences with *connectors,* "conjunctions". Based on P2's reply, it seems that he/she learned what was instructed in class about using the conjunctions: *for, and, nor, but, or, yet* and *so* for creating well-formed compound sentences. This finding matches what was found on P2BE4, in which a well-formed compound sentence was recognized. The following is a fragment of P2BE4 that shows qualitative proof of this finding:

> P2BE4: "To conclude, I believe that the legalization of euthanasia is a great step forward for Colombia, and I recommend that other countries promote the legalization of this alternative".

As can be seen on this excerpt of text, P2 correctly created a well-formed compound sentence. This is because the sentence has two independent clauses separated by a comma and at the same time connected by the coordinating conjunction *and*. Additionally, the sentence includes two nouns with two verbs that express related ideas. Finally, the sentences ends in a period. Thus, after

including all the features and following the grammar rules for making a compound sentence, it is possible to say that this sample sentence is a successful example of a compound sentence (Nordquist, 2019).

Likewise P2, P1 also considered his/her grammar abilities improved through the methodology implemented, especially at using conjunctions for creating compound sentences as mentioning:

P1IQ9: "*Sí, sí, creo que gramaticalmente mejore bastante en la parte de usar los conectores lógicos para hacer oraciones compuestas (...)".*

**P1IQ9: "Yes, yes, I think that grammatically I improved a lot in using the logical connectors to make compound sentences (...)."**

As P1 explains, s/he improved on the use of *conectores lógicos* for creating compound sentences. By *conectores lógicos*, this student might mean coordinating "conjunctions". According to this, it seems that the use of conjunctions helped P1 create compound sentences. In order to corroborate this finding, the TR analyzed P1BE4, and found improvements on skills to create compound sentences. The following is an excerpt from P1BE4 that supports this claim:

P1BE4: "As a conclusion, it is recommended that doctors receive more guidance on this practice, so that they can act with greater confidence and certainty".

As can be observed, this is an example of a well-formed compound sentence because it includes two nouns with two verbs that express related ideas, because it includes two independent clauses, separated by a comma and connected by the subordinating conjunction "so that" and also because it properly finishes with a period.

A final interpretation that the TR makes about these finding is that, having made the students aware of using conjunctions for writing compound sentences, seems to have helped them improve their syntax, and thus their grammar skills. In other words, it seems that the use of conjunctions was just the trigger for participants to enhance their skills at the linguistic level.

*7.2.3.3 Formal Register.* When asking participants whether they thought the methodology used had improved their abilities to create formal emails, two participants reported improvements on the use of formal aspects of language such as polite vocabulary. For example, P1 replied the following to the previous question:

P1IQ3: "*Sí, bastante porque ahora sé el vocabulario que se necesitan (sic) para hacer los correos de una forma más formal, que se vean decente".*

**P1IQ3: "Yes, a lot because now I know the vocabulary needed to do the emails in a more formal way that look decent."**

As mentioned by P1, after the intervention, P1 learned the required vocabulary to create formal emails, which shows proof of the positive benefits that the intervention had on the enhancement of this participant's skills to create formal emails. Perhaps, P1 learned the vocabulary required for creating a formal email through the sample texts introduced in phase *building the field of the text,* or by the support that received from his/her peers and teacher to construct his/her own texts.

On the other hand, the necessary vocabulary for creating formal emails from which this participant refers on his/her sample text, is no other than the polite vocabulary, which in turn seems to have helped P1 utilize the appropriate register (formal register) for his/her fourth email. This

finding is linked to the results from P1E4, in which improvements on the use of polite vocabulary

were reported. This will now be supported by P1E4:

---

Subject: "homework

Dear Mr. Zuluaga,

Please find attached the files about my formal and informal emails.

I really appreciate your attention

Sincerely,

Participant 1" (P1E4)

---

As can be seen on this email, there is a high level of formality represented on the use of polite

words such as "dear Mr.", "please" "really appreciate" and "sincerely", which seems to have

contributed to soften and strengthen the social relationship between the student and his/her teacher-

researcher. Similar to P1, P2 also recognized that the intervention helped him/her acquire the polite

vocabulary required on formal emails as replying to the previous question:

---

**P2IQ3:** "*Sí, porque por medio del método, pude aprender las palabras de cortesía que hay*

*que usar en los correos formales y en Internet".*

**P2IQ3: "Yes, because through the method, I was able to learn the polite words that are**

**used in formal emails and on the Internet.*"***

---

By *palabras de cortesía*, this student might mean "polite vocabulary" and as can be observed

on his/her sample text, P2 highlights the importance of using polite vocabulary on formal emails.

This might mean that, P2 was more aware of using polite vocabulary on formal emails after the

intervention, which in turn could have helped him/her use/select the appropriate register (formal

register) for his/her fourth email. However, in order to corroborate this finding, the TR analyzed

P2E4 and discovered similar results. For instance, the following is P2E4 that provides qualitative

proof of this statement:

> Subject: "Excuse
>
> Dear Teacher. Zuluaga
>
> I am writing to apologize for not having attended the class the day of today. The reason why I did not attend is because I was in poor health.
>
> I hope you inform me of the tasks and commitments that were left for the next class.
>
> Thanks for your collaboration,
>
> Participant 2
> Law student" (P2E4)

As can be seen on P2E4, P2 uses formal lexicon to address his/her professor, specifically in,

"Dear Teacher. Zuluaga", "apologize" and "Thanks for your collaboration", which provides

evidence of P2's improvement on the use of formal aspect of language to create formal emails.

Perhaps, P2 learned the formal vocabulary used in the creation of formal emails through the

instructions given to him/her in class.

To conclude, a final interpretation that can be made about this finding is that, although

participants reported improvements on the use of polite vocabulary when creating their last emails,

it seems that what they really improved was their use of the formal register, as using polite

vocabulary leads to the use of the formal register (Nordquist, 2019).

**7.3 Holistic Analysis**

In order to answer this study's research question and to achieve the objectives proposed, all the findings resulting from the analysis of the three different data collection instruments implemented in this study were triangulated (See Figure 24).
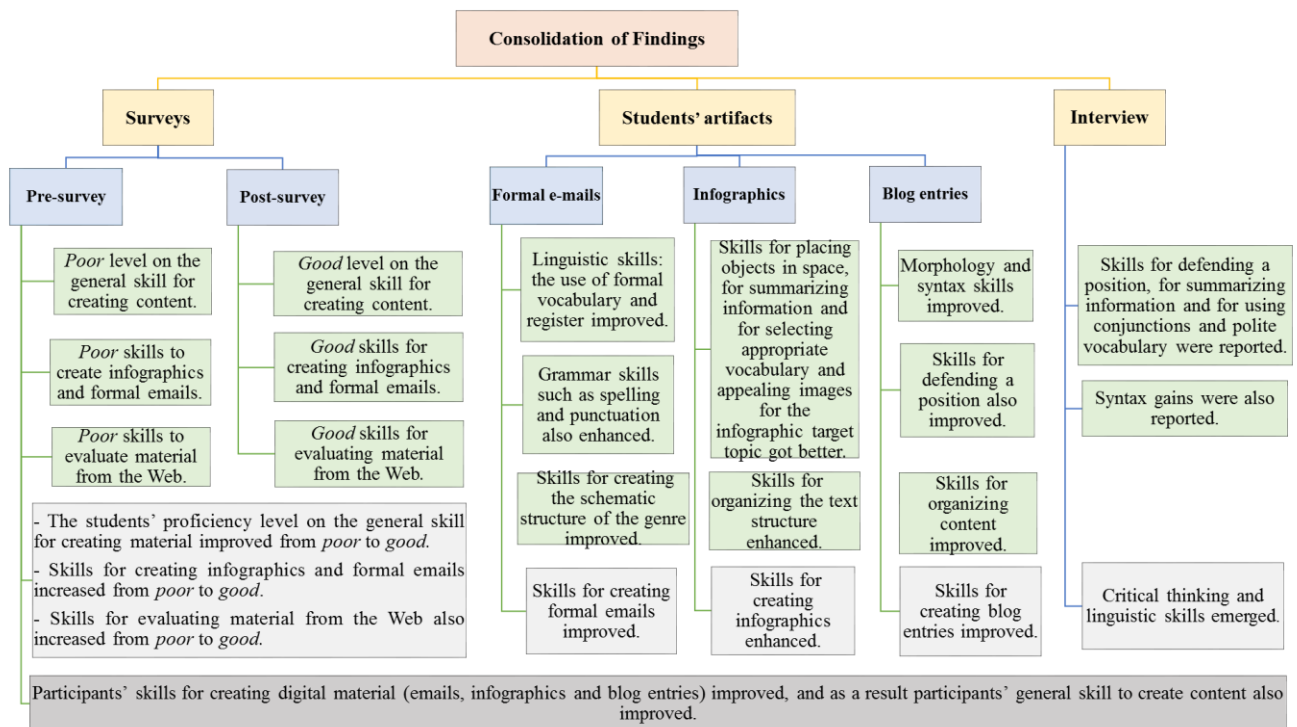


*Figure 24.* Consolidation of Findings

As Figure 24 shows, on the post-survey, students reported gains on their skill to create content, which seems to be the result of participants' improvement of specific skills for creating formal emails, infographics and blog entries. This finding validates what was found on participants' artifacts and interview.

In addition, as can be seen on Figure 24, students also reported gains at skills for evaluating material from the Web on the post-survey. However, there was no evidence from the students' artifacts nor the interview to validate this finding.

Regarding the creation of formal emails, participants reported linguistic improvements on grammar, on the use of appropriate vocabulary/register and on schematic organization. Fundamentally, it seems that the need for using polite vocabulary on participants' formal emails led them to use the formal register; and that the need for writing well-formed sentences boosted the students' improvement of grammar.

On the other hand, it is worth mentioning that participants' grammar improvements on their last emails relate to the grammar improvements found on their last blog entries, which confirms this finding. However, this finding is not new because as Hyland (2004) contends, the GBA may positively affect participants' grammar accuracy, especially because "the genre-based approach also resembles the product approach in that a model text is analyzed on the basis of grammatical and text features" (Widodo, 2006, p. 174), which increases the opportunity to acquire lexico-grammar features of language.

With reference to the creation of infographics, as Figure 24 shows, students reported more improvements on skills for placing objects in space, for summarizing information, for selecting appropriate vocabulary and appealing images, as well as for organizing the text structure, which were validated by the increase of descriptor 3 on the post-survey's specific questions (See Figure 11) and further confirmed through the interview.

Concerning the creation of blog entries, improvements on syntax and morphology were evidenced on participants' last entries, which matches what participants self-reported on the interview: gains at syntax. However, although participants reported gains at syntax on the interview, their blog entries provided a more solid evidence to claim that their most significant grammar improvement relates to morphology. In addition, participants also reported gains on the

creation of the schematic structure of their last entries, which shows evidence of participants' awareness of the "content-creation skill" after the intervention.

Regarding the interview, it can be said that the gains for defending a position as well as for using conjunctions match what students reported on their last blog entries, which confirms this finding. On the other hand, the improvements for summarizing information reported on the interview relate heavily to what was found on participants' last infographics and confirms the increase on descriptor 3 on the post-survey's specific questions. Lastly, participants also self-reported improvements on the use of polite vocabulary on the interview, which was validated in their last formal emails and confirmed by the increase of descriptor 8 on the post-survey's specific questions.

In short, after holistically analyzing the findings from the three data collection instruments, it was possible to determine that the methodology implemented had a positive impact on participants, as they improved their digital skills for creating formal emails, infographics and blog entries at a great extent, which in turn seems to have contributed to enhance their general skill to create digital content.

## 7.4 Assessment of the Pedagogical Intervention

In order to evaluate the intervention and to know the participants' opinions about it, participants were asked on the interview the following question: How would you assess the methodology used this semester to teach you write digitally in English?

To the question, participants provided different answers; nevertheless, the Grounded theory approach helped identifying similarities on participants' answers, which were grouped in a wordle

(See Figure 25) to determine participants' most common opinions or tendencies about the intervention.



*Figure 25.*  Participants' Assessment of the Intervention

As Figure 25 shows, the most remarkable word in the wordle is *excelente* "excellent". The reason why excellent is the most remarkable word in the wordle is because all the participants considered the intervention had been excellent. Participants also mentioned some of the reasons why they considered the intervention had been excellent. The following are some samples from participants' replies to the previous question in which they explain the reasons why they considered the intervention had been excellent:

P1IQ12: "*Yo la calificaría como excelente porque me parece que el profesor da muy bien cada paso a seguir, es como que entienden este paso y hasta que no lo entendamos no pasa al siguiente paso*".

**P1IQ12: "I would assess it as excellent because I think that the teacher explains each step to follow very well, it is like, do you understand this step?, and until we understand it, he/she does not continue to the next step".**

On his/her answer, P1 assesses the intervention as excellent and also refers to a pedagogical concept that he/she probably is not familiar with, but that can be labeled as scaffolding. In other

words, P1 unconsciously recognizes a feature of GP on his/her answer, which is the scaffolding process that his/her TR followed along the intervention.

On his/her part, P4 reported that the methodology had been excellent and useful for him/her as replying to the question matter:

P4IQ12: "Umm, ¿la metodología como la calificaría?, pues a mí me pareció excelente y útil porque aprendimos y lo aplicamos a otras materias".

**P4IQ12: "Umm, how would I assess the methodology? Well, I think it was excellent and useful, because we learned and applied it to other subjects".**

What this participant seems to say in his/her answer is that, the intervention was excellent and meaningful for him/her, as he/she could apply what he learned in the English class to develop other subjects at the university. This shows the positive transcendence that the intervention had on participants' academic lives.

## 8. Conclusions and pedagogical implications

### 8.1 Conclusions

This pedagogical intervention reported the experience that a group of Law students had at a private university in Colombia in order to improve their digital skills to create content. By means of a mixed-methods approach, data was gathered and analyzed regarding the research question: *What is the effectiveness of the GBA on the improvement of undergraduate students' digital skills for creating content?* The interpretation of data led to concluding findings that allow to answer the

research question taking into consideration the objectives proposed in this study. Hence, the following paragraphs inform the conclusions reached during this research study:

Concerning specific objective (a), which was to identify language problems in the students' digital written production, it can be said that through the analysis done to the pre-survey and participants' first artifacts, it was possible to determine that participants had different hindrances when writing digitally. For instance, when writing formal emails, participants reported more problems regarding the use of lexico-grammatical features of language and with the selection of register, which in turn did not contribute to achieve the social purpose required on participants' first emails. For creating infographics, participants showed more hindrances regarding the linguistic area of multimodality, followed by the spatial distribution and visual areas respectively. When creating their first blog entries, participants also evidenced grammar problems, specifically syntax and morphology problems. Concerning syntax, participants reported more difficulties at using infinitives, auxiliaries, conjunctions and the subject-verb agreement. Participants also reported syntax difficulties to select appropriate English words (word choice) and to correctly organize words into sentences (word order). Regarding morphology, participants showed more difficulties at using prefixes, possessive adjectives, verb tenses and the genitive marker.

With reference to the specific objective (b), which was to design a pedagogical intervention within the framework of the GBA for the improvement of undergraduate students' digital skills to create content, it can be concluded that the design of the intervention, specifically the different phases of the GP cycle, ensured that the grammatical, lexical and social aspects of language for content-creation were not taught in isolation, but in a meaningful, interactive and social manner. This is supported by Hyland (2004), who explains that the deconstruction phase may have helped students identify specific vocabulary and language structures, that the join construction stage could

have helped learners negotiate and construct meaning collaboratively, and that the independent stage might have facilitated the consolidation of what the students learnt during the teaching and learning process. Perhaps, from these three phases, the deconstruction phase was the one that helped students the most as it is in this stage where learners learn to deconstruct the text under study and to find its context and purpose/function.

Furthermore, it is important to mention that the students participate actively during the intervention as the classes were designed taking into consideration the students' needs, likes and realities. Furthermore, students learnt by being active participants, rather than passive beings consuming information. Lastly, the GBA required participants to take charge of their own writings by selecting their own topics to write about and by determining how their topics would be developed and what the final product would be.

In respect of specific objective (c), which focused on analyzing the extent to which the GBA could help students improve their skills for creating formal emails, infographics and blog entries, as data show, it was concluded that the GBA helped the learners improve their skills for creating these multimodal texts at a great extent. For instance, regarding the creation of formal emails, on their last emails, participants reported gains on the use of lexico-grammatical features of language as well as on the construction of the internal organization of a formal email, which in turn contributed to make their last messages correct and appropriate for the purpose of the communicative situation under context. This finding supports Emi (2005), who claims that when working with the GBA the student writer will learn to choose/decide the internal organization and language features of his/her text to appropriately achieve a social purpose.

Concerning to the creation of infographics, it was concluded that the GBA seemed to have helped participants improved their skills to create infographics at a great length, since at the end

of this study, participants reported enhancements on the abilities to place objects in space, to organize the text structure and to select appropriate vocabulary and appealing pictures for the infographic target topic. Additionally, participants reported enhancements on the use of the "interpersonal-meaning making" skill. In fact, the use of different modalities on their last texts seems to have helped participants better express their attitudes and judgments (moves). This is stated because their modalities seem to indicate their confidence, "honesty, modesty, proper caution and diplomacy when presenting information" (Swales' 1990a, p. 174), which in other words can be understood as participant's awarness of the audience (*to whom)* they were writing their last infographics (Wallace, 1992b).

With reference to the creation of blog entries, it was concluded that the GBA seems to have helped enhance participants' skills to create blog entries at a great extent, as at the end of the intervention, participants reported gains on the creation of the schematic structure of a Discussion genre, on the use of the genitive case, on the selection of appropriate vocabulary (word choice), on the use of coherence devices (conjunctions), on the use of the subject-verb agreement and on the syntax ability to crate compound sentences. This conclusion goes in line with Hyland (2004), who contends that the GBA has positively contributed to the enhancement of students' grammar through time, especially because the GBA usually focuses on analyzing a model text on the basis of learning specific language structures (grammar, syntax, morphology), which increases the opportunities for students to acquire lexico-grammar features of language.

Additionally, participants also showed enhancements on the use of the "interpersonal-meaning making" skill, as creating more precise, confident and dialogic entries, which reveals that the intervention not only affected participants' grammar skills positively, but also their social skills.

This finding supports Swales' (1990); Eggins' (1994); Emi's (2005); Hyland's (2007) & Tuan's (2011) major findings.

For the general objective, which was to determine the effectiveness of the GBA on the improvement of undergraduate students' digital skills to create content, it was concluded that the GBA appears to be an effective approach for the improvement of university students' digital skills to create content, since at the end of this study, participants could create well-formed and purposeful multimodal texts by controlling the key features of the genres under study in terms of language features, schematic structure and social purposes, which supports Tuan's (2011) findings. In language terms, as data shows, participants learned to use some language features such as formal vocabulary/register, social conventions and grammar. Regarding schematic structure, participants learnt to structure their multimodal texts according to the generic characteristic of the genres studied and to the purpose they served. Concerning social purposes, it seems that participants enhancements on lexico-grammatical features of language as well as on the creation of the schematic organization of a genre, was the trigger to achieve participants' last artifacts' social purpose.

To sum it up, the approach seems to have enabled students to gain control of the genres under study by developing a better understanding of the text structure and by heightening their awareness of the linguistic conventions needed to achieve a formal purpose through a text. That is why it is argued that the GBA appears as an effective approach to improve undergraduate students' digital skills to create content as well as to teach them write correctly and purposefully by using model texts designed for specific purposes.

**8.2 Pedagogical implications**

The results of this study demonstrated that the GBA positively affected undergraduate student participants' enhancement of digital skills to create formal emails, infographics and blog entries. Hence, a pedagogical implication for higher education institutions should be the gradual implementation of a GBA writing program based on the creation of these genres, as these genres and others (twits, flyers, brochures) are the genres that undergraduate students are supposed to produce at their professional contexts. What is more, in an increasingly globalized working word, it is crucial for future employees to effectively create different kind of digital content such as formal emails, infographics, PowerPoint presentations, reports, flyers and much more to be competent and competitive. So that, preparing students to be competent and competitive in their working place becomes a significant objective for higher education institutions.

Additionally, it is also important for language teachers who want to improve their learners' writing skills to explore about the GBA, as this is an approach which allows students to become more aware of the text parts, linguistics features of language as well as the social context in which language occurs (Hyland, 2004). In writing, it is of paramount importance that students not just know how to write grammatically correct texts but also know how to write appropriately texts for a particular context and purpose, which is something language teachers should take into consideration if they really want to improve their 21$^{st}$ students' writing skills.

Finally, rubrics should always be implemented when teaching and learning writing, as these instruments allow to assess the students' work more effectively, consistently and objectively, as well as to provide them specific feedback on their weaknesses, so that they can eventually improve their writing performance.

**8.3 Limitations of the study**

One limitation this research study had was that, as the intervention was short, there was not enough time to deepen into all the GP teaching and learning stages, specifically at the deconstruction stage in which students analyze the genre's characteristics. Another limitation was that because of time constraints, the different stages of the writing process, namely, prewriting, drafting/composing, revising, and editing could not be applied in all the teaching and learning modules.

**8.4 Recommendations**

Considering this study's limitations, it is recommended for similar studies to design the research time-line for at least one year and to give more emphasis to the first stage of the GP teaching and learning cycle named deconstruction, due to its vital role in the writing process. Furthermore, it is recommended for writing instructors to tie the linguistic and social aspects of language together in order to facilitate students' recognition of how language is used to achieve a particular purpose. Tying the linguistic and social aspects of language might provide students with an understanding of why a genre is the way it is through an analysis of its social context and purpose. Teaching writing focused on grammar only benefits students in expanding their knowledge about lexico-grammatical features/rules of language; nonetheless, it does not help students realize and control other features of language such as purpose, audience and context, which are of paramount importance of any genre. In fact, given the correlation between context and text, it is imperative for writing teachers to recognize that if students can know about a text context, they could make predictions about its grammar; and similarly if students analyze a text's grammar, they could grasp information about its context (Martin, 1993), which in turn will help them create more well-formed and purposeful texts. In view of this, writing instructors should consider the integration of the

linguistic and social aspects of language if they really want to teach writing linguistically and purposefully in the 21^(st) century.

On the other hand, it is important for further research to give more attention to the GBA, because as Cheng (2006) contends Genre-based writing pedagogy is still a less-developed area of research, which sets the need for more research about this particular writing approach. In addition, it is also recommended for further research to deepen and explore more on digital skills, as these skills are not only needed at school, but also at work and social contexts and are fundamental for current students to face and overcome the challenges that today's digital world imposes them. The digital world is here to stay and students will have to face the challenges and threats that come with technology whether we prepare them for it or not (Promethean, 2017). Therefore, certainly it is better to teach them some of the digital skills they need to thrive in today's modern world.

To conclude, it is necessary to highlight that, as data suggest, skills to create digital content were improved in this study; however, other skills also emerged. So, a question that came up for further research is: can the GBA help improve critical thinking skills on undergraduate students?

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