

Article

Collaborative Multimodal Writing via Google Docs: Perceptions of French FL Learners

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Abstract: In spite of the growing integration of computer-mediated collaborative writing and multimodal composition in second language (L2) classrooms, research on collaborative multimodal writing, as an innovative writing pedagogy, is still underway and largely underrepresented particularly in non-English learning contexts. To bridge this research gap, the author of this study implemented a multimodal writing task in which seven French FL learners jointly created digital postcards describing their vacation activities in groups of two or three over the period of eight weeks. The study sought to explore learners' perceptions of the benefits and challenges of this type of pedagogy and the factors mediating their writing processes. The analyses of a post-task questionnaire survey and semi-structured interviews, triangulated with the finished products, indicated that overall, collaborative multimodal writing was a motivating learning experience. Several themes emerged regarding the perceived benefits (i.e., improvement in their writing skills, genre awareness and semiotic awareness, mutual learning through peer assessment and easy synchronous writing and revising via Google Docs), as well as challenges (i.e., tensions between partners largely due to frustrations over unequal participation, lack of control over the joint text and technical glitches). This paper provides significant implications for collaborative multimodal writing research and pedagogy.



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Keywords: L2 writing; collaboration; digital multimodal composition; perception; computer-assisted language learning; Google Docs; French; L2/FL learning

1. Introduction

For years, second language (L2) writing had been viewed as a solitary activity intended for L2 learners to practice linguistic forms (Reichelt et al. 2012). However, in recent decades, this perception has shifted due to the development of various digital technological tools such as Google Docs, wikis and other collaborative writing spaces. Previous research has shown that collaborative writing not only fosters language negotiation and mutual scaffolding during the writing process (Li and Zhu 2013; Li and Kim 2016; Storch 2019; Swain and Lapkin 1998), but also contributes to L2 writing development (Bikowski and Vithanage 2016; Strobl 2014) and prepares learners for future collaborative work in the professional world (Ede and Lunsford 1990; Storch 2005). In addition to this current shift from individual to collaborative writing, it has been noted that learners' authentic texts (e.g., posters, PowerPoint slides, digital stories, blog posts, videos and scientific documentaries) produced both inside and outside of the classroom have been increasingly multimodal (Oskoz and Elola 2019; Yi et al. 2020). Consequently, a plethora of studies (e.g., Hafner 2014; Smith et al. 2020) have been devoted to examining digital multimodal writing in recent years. Prior studies have reported several pedagogical benefits, including a heightened awareness of metafunctions of semiotic modes (Nelson and Hull 2008; Shin et al. 2020), improved multiliteracy skills, motivation and autonomy (Hafner 2014; Jiang and Luk 2016; Yi and Angay-Crowder 2016), as well as multiple opportunities for learner self-expression and identity development (Belcher 2017; Jiang et al. 2020; Vinogradova 2011), and overall improvement in linguistic and writing competencies (Oskoz and Elola 2014,

2016; Vandommele et al. 2017). In view of these paradigm shifts and the growing interest in the pedagogical implications of collaborative and multimodal writing, the purpose of this paper is to provide more insight on the implementation of a collaborative multimodal task in a French FL learning context. I opted to focus on the French FL setting at the tertiary level, due in part to the underrepresentation of scholarship within this domain (Yiğitoğlu and Reichelt 2019) and the fact that research at the secondary level has been conducted by Smith et al. (2020). Moreover, an understanding of learners' perceptions of the benefits and challenges of collaborative multimodal writing is timely in that it helps to shed light on this new writing pedagogy, locate areas that need improvement, identify both affordances and constraints and mediating factors, and inspire more future research efforts.

In the following section, I outline the theoretical underpinnings of collaborative writing, i.e., sociocultural theory (Vygotsky 1978), and multimodal writing, i.e., multimodality (Kress 2003, 2010; Kress and Van Leeuwen 2001) and multiliteracies (Cope and Kalantzis 2009, 2015; The New London Group et al. 1996), and review representative empirical studies. The subsequent sections present the research questions and methodology that was used to address them. Lastly, I discuss the findings and pedagogical implications of incorporating collaborative multimodal writing in a French FL class.

2. Theoretical Background

Defined by Storch (2011) as “the joint production or the coauthoring of a text by two or more writers” (p. 275), collaborative writing has received much attention in recent decades resulting from the “social turn” in L2 writing studies (Trimbur 1994). This social turn in L2 studies and paradigm shift towards collaborative learning can be largely attributed to Vygotsky's (1978, 1981) sociocultural theory and the work of activity theorists, Leont'ev (1978) and Wertsch (1988). Sociocultural theory posits that all cognitive activity is socially mediated (Vygotsky 1981). Therefore, from this perspective, language learning occurs through the knowledge co-construction process between learners and their peers rather than through an individual, isolated process (Swain and Lapkin 1998; Van Lier 1996). This sociocultural view to L2 learning further implies that all writing is in effect collaborative and involves the division of labor and co-authorship (Prior 2006). Two constructs are pivotal to this theory: (1) Zone of Proximal Development (ZPD), i.e., the idea that for successful L2 learning to take place, expert members in a pair/group interaction need to provide assistance to the novice members (Vygotsky 1978); and (2) scaffolding (Wood et al. 1976), specifically collective scaffolding (Donato 1988, 1994). Scaffolding is defined by Wood et al. (1976) as “a kind of process that enables a child or novice to solve a problem, carry out a task, or achieve a goal which would be beyond his unassisted efforts” (p. 90). Bruner (1985) also described it as the gradual reduction in the assistance provided by the expert. Further work from Donato (1988, 1994) later extended this definition beyond the typical expert-novice interactions to peer interactions and coined the term “collective scaffolding” to describe the scaffolding that occurs between peers. Donato (2004) asserted that learners can simultaneously act as individual novices as well as collective experts as they pool resources and provide mutual scaffolding to solve language problems.

In addition to the social turn, L2 writing has also witnessed a visual turn (Li and Storch 2017; Purdy 2014) as evidenced in digital multimodal writing, which Kress (2003) described as the practice by which a writer deploys an arsenal of semiotic resources (e.g., textual, aural, linguistic, visual, spatial, etc.), in order to create what Stein (2008) calls coherent “multilayered communication ensembles” (p. 871). Theoretical support for this practice stems from two intersecting frameworks: (1) the multimodality approach (Kress 2003; Kress and Jewitt 2003; Kress and Van Leeuwen 2001), which drew on Halliday's (1978) social semiotics theory to describe the intricate combination of different socially-shaped semiotic resources or modes to make meaning; and (2) the multiliteracies framework (Cope and Kalantzis 2009, 2015; The New London Group et al. 1996), which expanded the definition of literacy to encompass multiple literacies. Central to both of these frameworks is the concept of meaning design which considers any meaning-making activity as a semiotic

experience whereby language is used to produce and consume texts (The New London Group et al. 1996). According to Paesani et al. (2016), learning in this context is considered to be a discovery process and as such, meaning design is defined as “a dynamic process of discovering form-meaning connections through the acts of interpreting and creating written, oral, visual, audiovisual, and digital texts” (p. 23). Therefore, writing from this perspective implies the use and recycling of several linguistic, cultural and social resources (also known as Available Designs) that L2 learners have at their disposal to create new multimodal texts through multiple communication channels. According to Zapata and Lacorte (2017), a key element of the multiliteracies pedagogical model, i.e., *Learning by Design*, is to encourage “learners’ depth of involvement and engagement in the learning process” (p. 4). In line with this model, multimodal writing not only invites L2 learners to make meaning through a variety of modes such as textual, visual, audio, spatial, gestural and behavioral modes (Miller 2010), but also to critically reflect on the social implications of the modes on communication (Gilje 2010; Smith 2019).

3. Empirical Research

3.1. Learners’ Perceptions on Collaborative Writing

Research in computer-based collaborative writing has increased during these decades in line with the social turn in L2 writing studies. One of the main research areas that published studies have investigated focuses on learners’ perceptions of the collaborative writing experience. Much of this work relies on the analysis of data collected from surveys, interviews and observations. Some of the studies have reported positive responses from L2 students about their collaborative writing experiences. These positive reports include the value of peer support (e.g., Ducate et al. 2011; Elola and Oskoz 2010; Lund 2008) heightened motivation (e.g., Li and Zhu 2013; Storch 2005, 2013; Wang 2015) and overall improvement of writing skills (e.g., Kessler et al. 2012; Bikowski and Vithanage 2016; Elola and Oskoz 2010). For instance, Kessler et al. (2012) recorded positive attitudes from L2 students regarding collaborative writing via Google Docs. After conducting a content analysis of students’ comments, they reported that students found Google Docs to be effective and convenient and helped to facilitate their writing process. Along the same lines, Li and Zhu (2013) underscored the benefits of wiki-based collaborative writing for the development of academic writing skills. They qualitatively analyzed data collected from surveys and interviews and noted that students found that writing collaboratively not only broadened their writing perspectives but also ultimately improved their writing strategies and language skills.

In spite of the positive reports from students about collaborative writing, some constraints have also been noted. These mainly include concerns about accountability and frustrations over unequal participation and late contributions (e.g., Arnold et al. 2012; Ducate et al. 2011; Kessler and Bikowski 2010; Lee 2010), issues with time management (e.g., Bikowski and Vithanage 2016) as well as a general hesitation to edit others’ work stemming from students’ insecurity about their own writing (e.g., Lee 2010; Lund 2008; Arnold et al. 2012). With regards to unequal contribution, Kessler and Bikowski (2010) analyzed data from student interviews and wiki archives and found that more than half of the students (22 out of 40) contributed unsatisfactory work just before the deadline. These behaviors are referred to in the literature as “free-riding” or “social loafing” (Strobl 2014). Such attitudes were also reported in Strobl’s (2014) study which explored German FL students’ collaborative writing on Google Docs. Although some of the students expressed positive attitudes about the collaborative writing task, more than two thirds preferred to work alone if given the choice simply because of unequal participation, and one out of the seven groups actually failed the task as a result of some members’ free-riding attitudes. A suggested solution to this problem is reducing the group size as studies with smaller groups/pairs seem to encounter fewer issues with accountability (e.g., Kessler et al. 2012; Kost 2011).

Another challenging issue has to do with students' reluctance to edit their peers' written texts due to feelings of inadequacy and the fear of offending others. For example, [Lund \(2008\)](#) observed that majority of students were hesitant to show their writing drafts to their classmates and give them feedback. Similarly, [Lee's \(2010\)](#) case study in the Spanish FL context found that although students generally liked the revision process, more than 40% of them were reluctant to edit their peers' writing because they had low confidence in their own writing. Based on the challenges identified by L2 students in the previous studies, it is important to understand the extent to which these mediating factors affect students' perceptions of their writing process.

Working collaboratively within a group of students from diverse backgrounds also brings additional challenges. As a result, some studies (e.g., [Adams et al. 2005](#); [Janssen et al. 2009](#)) have examined the impact of group member familiarity on learners' perceptions of collaborative work. For instance, [Adams et al. \(2005\)](#) reported that when students know their group members well, they tend to trust any information they provide and are less critical of their work. Likewise, [Janssen et al. \(2009\)](#) also noted that although group member familiarity contributed to more positive perceptions about online collaborative work, it had a negative effect on overall group performance.

3.2. Learners' Perceptions on Multimodal Writing

Much like collaborative writing, there has been growing interest in multimodal writing resulting from the visual turn in writing studies ([Li and Storch 2017](#)). A substantial part of this scholarly work stems from ESL/EFL contexts (e.g., [Dzekoe 2017](#); [Koelzer 2017](#); [Lee et al. 2019](#); [Yeh 2018](#)) but only a limited number of studies have investigated multimodal texts produced in the FL context, specifically in Spanish FL (e.g., [Castañeda 2013](#); [Oskoz and Elola 2016](#)) and in Dutch FL (e.g., [Vandommele et al. 2017](#)). Although work in this area is still underway, the existing literature has already addressed a variety of issues. One main line of research is in connection with learners' writing processes, i.e., their use of semiotic resources (e.g., [Cimasko and Shin 2017](#); [Smith 2017](#); [Yang 2012](#)), remix practices (e.g., [Hafner 2014](#); [Hafner and Miller 2011](#)), synesthesia, transformation and transduction (e.g., [Kress 2003](#); [Nelson 2006](#); [Oskoz and Elola 2016](#)). The second research strand deals with the analysis of the finished writing products. This mainly consists of a close examination of the qualities of the multimodal texts in terms of complexity, lexical diversity and text length ([Vandommele et al. 2017](#)) and the analysis of the links between the writing processes and writing products ([Lee et al. 2019](#); [Maqueda 2020](#); [Vinogradova 2014](#)). Other studies ([Cimasko and Shin 2017](#); [Jiang 2018](#); [Jiang and Gao 2020](#); [Nelson 2006](#); [Tardy 2005](#)) have explored themes such as students' identity expression, voice, digital empathy, investment and motivation and how these are manifested in the final writing products. However, it is important to note that the focus of the above-mentioned research has been on individual multimodal writing projects but not within the collaborative writing task environment, in which students co-own and co-design a single multimodal product ([Storch 2011](#)).

The third area that researchers have explored is learners' perceptions on multimodal writing and its pedagogical implications on L2 classrooms. Within the FL context, [Oskoz and Elola \(2016\)](#) examined Spanish FL learners' perceptions of digital storytelling. [Yeh's \(2018\)](#) study also sought to investigate EFL advanced learners' views about the role of DMC in developing multiliteracies, L2 writing skills and semiotic awareness. The main recurring theme has been the perceived benefits and challenges of this pedagogy on overall learning experiences. For instance, some studies have found improvement in learner autonomy, with regards to motivation, authenticity and teamwork ([Hafner 2014](#); [Hafner and Miller 2011](#)). Others have also reported a transformation in learner identity ([Lam 2000](#); [Tardy 2005](#)) as well as a heightened awareness of semiotic resources and agentive voice ([Nelson 2006](#)). [Dzekoe \(2017\)](#) likewise noted an increased awareness of linguistic and organizational structures.

On the contrary, other studies have reported some perceived drawbacks to multimodal writing. For example, in [Bawarshi and Reiff's \(2010\)](#) study, the students viewed

multimodal writing as “oppositional to ‘academic’ writing” (p. 186). Other students have been reported as perceiving multimodal writing mainly as an out-of-class practice and not serious in-class work (Hung et al. 2013). The main sources for gathering data about students’ perceptions are surveys, questionnaires and observations triangulated with stimulated-recall interviews. For example, Hung et al.’s (2013) study mentioned earlier sought to investigate how their proposed rubric affected learners’ multimodal text production. This study not only evaluated the quality of students’ multimodal products, but also collected a survey of their perceptions. They triangulated these data by conducting stimulated-recall interviews. The learning perception survey was made up of eight statements about the effectiveness of the feedback instrument ranked on a five-point Likert scale ranging from 5 for strong agreement and 1 for strong disagreement. They performed a descriptive statistical analysis by calculating the mean and the standard deviation of the students’ perception survey responses so as to determine if differences existed between the exploratory and control groups.

Although current research recognizes computer-mediated collaborative writing and multimodal writing (Li and Storch 2017) as ideal ways for developing L2 writing skills in the 21st century, there is still a lack of methodological consensus within the field (Matsuda 2003). As a result, some scholars have called for a more integrated approach to writing that incorporates multiple elements such as collaboration and multimodality (Allen 2018). To respond to this call, I aimed to explore elementary-level French FL learners’ perceptions using a qualitative, multiple case study approach in order to paint a contextually rich picture of this type of writing pedagogy. The study was guided by the following research questions:

1. How do French FL learners view the benefits and challenges of collaborative multimodal writing?
2. What factors do French FL learners perceive as mediating their writing processes in the collaborative multimodal writing task?

4. Methods

4.1. Context and Participants

This study is part of a larger research project that explored the process by which French FL learners collaboratively work to complete multimodal writing projects, the quality of the finished products and their perceptions on the integration of collaborative multimodal writing. Specifically, the present study was conducted in a second semester elementary French class at a southern public university in the U.S., where about thirteen students were enrolled in the course in Fall 2020. This course is aimed at helping students develop both linguistic knowledge and socio-cultural awareness that allows them to feel comfortable listening, reading, writing and speaking in French. The main instructional tool used for this course is *En Avant! Beginning French* (Anderson and Dolidon 2020) which covers foundational topics such as talking about family and friends, food, education, occupations and leisure activities, etc. This textbook also has a companion website known as *Connect French* that provides students with an electronic copy of the textbook in conjunction with videos, audios, podcast programs, tutorials, games and many other valuable resources. The instructor designed the course by drawing on the pedagogy of multiliteracies and created lessons around three main units based on the textbook’s chapters, i.e., family, food and vacation. In each chapter, learners engaged in a variety of instructional activities including reading and viewing authentic texts from several textual genres such as blog postings, personal ads, TV commercials, videos on YouTube, Google Forms surveys, online articles, etc. These activities required learners to interpret, collaborate, problem-solve and reflect on the texts used. At the end of the third chapter, learners completed a collaborative multimodal task which served as 20 percent of their final grade.

A total of seven students (four females and three males) volunteered to participate in this study. The demographic information of the participants is shown in Table 1. The majority of them (five participants) were first-year students and two indicated that they

had previously taken Advanced Placement French courses in high school. Almost all were comfortable using technology with the exception of one participant who was neutral.

Table 1. Participants' background information.

	Name ¹	Age	Gender	Major
Group 1	Britney	2020	Female	Theatre
	Eva	20	Female	Art
Group 2	Joshua	21	Male	Music
	Christine	20	Female	English
	Brian	20	Male	History/Political Science
Group 3	Alejandro	23	Male	Music
	Mary-Ann	21	Female	Music/Theatre

¹ Pseudonyms are used. Information was retrieved from the pre-task questionnaire surveys.

4.2. Task Description

Drawing on the multiliteracies framework *Learning by Design* (Cope and Kalantzis 2015; The New London Group et al. 1996) and genre-based writing pedagogy (Hyland 2007), a multimodal task was designed. Learners were asked to collaboratively create a digital postcard describing their vacation activities via Google Docs by drawing on the linguistic and cultural knowledge acquired over the course of the chapter. Learners were also required to apply genre knowledge by referring to three examples of postcards that were used as model texts. The description of the assignment is as follows:

“Imagine that you and your partner(s) are on vacation somewhere and would like to send a digital postcard to a French speaking friend. In this multimodal writing activity, each team will jointly create their own postcard which will provide details such as date, appropriate greeting, recipient's name, address (including house/apartment number, street, town/city, country, ZIP code), a postage stamp, your message (including information about the weather, your vacation activities, the duration of your stay, your return date etc.) and an appropriate closure”.

4.3. Description of Data Sources

At the beginning of the study, all seven participants completed a pre-task questionnaire survey (File S1) in order to gather demographic information such as age, gender, ethnicity, as well as academic program/major, classification/degree level, past language learning experiences and past experiences with technology such as Google Docs. They also took a post-task questionnaire survey (File S2) after completing the collaborative multimodal assignment along with the rest of the class as part of the requirements for the course. At the end of the semester, students were individually invited to participate in a semi-structured interview in English with the researcher via Zoom where they were asked to reflect on their experiences and opinions about the collaborative multimodal writing project. All interviews were audio-recorded and transcribed verbatim.

4.4. Data Collection and Instructional Procedures

The data collection for this study took place in a fully-equipped multimedia classroom where participants worked simultaneously on separate laptops. As recommended by Hron and Friedrich (2003), “suitable multimedia equipment, communication tools and transmission time are basic prerequisites for providing net-based collaborative learning” (p. 73). In addition, the writing sessions were screen and audio recorded for the analysis of peer interactions as part of the larger research project.

The entire task was completed over a period of six weeks followed by two more weeks of individual interviews conducted via Zoom at the end of the semester. To ensure that learners are able to successfully complete the task and co-create the multimodal text, the instructor created pedagogical activities and tasks based on the *Learning by Design*

model developed by [Cope and Kalantzis \(2015\)](#) which features four knowledge processes (i.e., experiencing, conceptualizing, analyzing and applying). [Zapata and Lacorte \(2017\)](#) expound on each of these knowledge-based processes as follows: (1) experiencing involves allowing learners to depart from known concepts and experiences and embrace new situations; (2) conceptualizing requires the ability to classify meanings into categories, make connections between concepts and develop theories; (3) analyzing invites learners to focus on structures and functions and draw logical conclusions; and (4) applying engages them in real-world tasks that require the creative application on new knowledge. Following this model, the pairs/small groups co-designed their digital postcards as part of the instructional practice over the course of six weeks.

During the first week of the study, the instructor created a shared Google Docs folder for the entire class and gave access to each pair/small group to a designated file in a joint Google folder within the class folder where they discussed and co-created their digital multimodal postcards. Afterwards, the whole class attended an instructor-led orientation workshop to become reacquainted with using Google Docs, but only consenting participants' data are presented in this paper. Specifically, the groups were trained on the use of certain features on Google Docs such as adding comments through the "Insert" tab, changing the page layout, inserting hyperlinks and adding images directly from Google Images. Similar training workshops have been very effectively used in previous multimodal composition studies (e.g., [Cimasko and Shin 2017](#); [Jiang and Ren 2020](#); [Oskoz and Elola 2014, 2016](#)). The instructor also took advantage of the training workshop to scaffold learners' design process during the "experiencing" phase. Specifically, learners were encouraged to share their past experiences either as senders or recipients of postcards and answer questions such as "what did type of post card was it (e.g., digital or print)?", "who was sender/recipient?", and "why do people typically send postcards?" Learners were then introduced to images of postcards written in French found on the internet to enable them to familiarize themselves with the digital postcard genre. Next, during the "conceptualizing" stage of the knowledge-based instructional sequence, learners were invited to further explore the images of digital postcards, paying particular attention to the use of various modes. They then began reading the example texts together in small groups and pairs and jointly identified specific multimodal elements used. Next, during the "analyzing" stage, the instructor led an open discussion where learners discussed with their partner(s) the affordances of multiple modes and the ways in which they contribute to the overall meaning of a text by drawing on the criteria in the multimodal grading rubric that included explanations of semiotic modes, such as the use of multiple visual elements (e.g., graphics, fonts, colors, memes, emojis, images, etc.) as well as spatial elements (e.g., positioning of texts, margins, spacing and the general layout). Therefore, the rubric served as a useful scaffolding tool during the orientation/training workshop prior to the collaborative multimodal writing session. The "applying" stage occurred over the subsequent three weeks during which each pair/small group jointly wrote and co-designed their own digital postcards by drawing on the instructions on the task prompt and the grading rubric. Lastly, they shared their products with the rest of the class and received both instructor and peer feedback via the comment feature in Google Docs. Each team then completed the necessary revisions based on the feedback received and submitted their final finished products via the course management system, Desire2Learn, as part of the course requirements for the semester.

Figure 1 presents an illustrative example of students' final multimodal postcards, featuring the use of multiple semiotic resources (both text and non-text) such as texts, colors, images/pictures and hyperlinks. As Figure 1 depicts, Britney and Eva co-created a postcard intended to be sent to a mutual friend in France named Jennifer Monet. They described the weather at their current vacation site, narrated their experiences thus far and their plans for the next destination. They also included a stamp, hyperlinks to the tourist attraction sites they visited and designed a collage of pictures as the cover of the postcard.

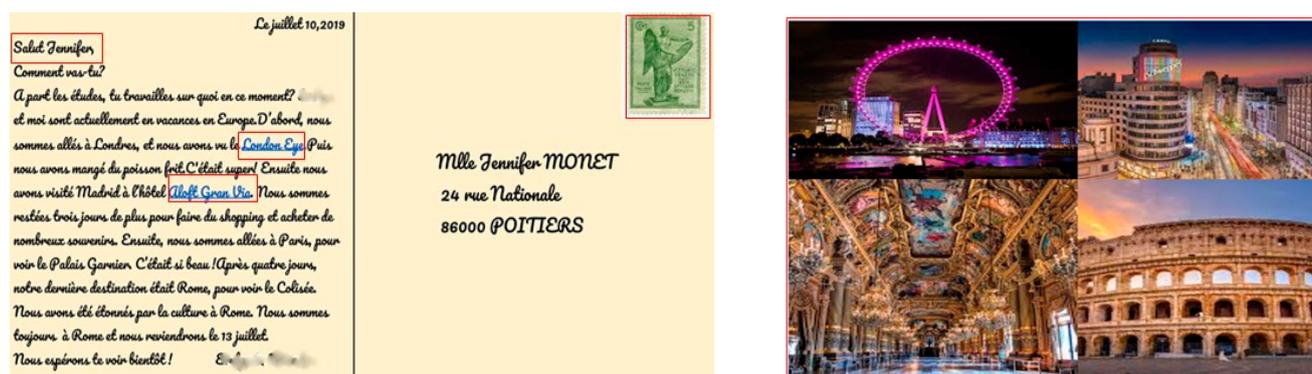


Figure 1. A screenshot of Britney and Eva’s digital postcard entitled “Un voyage touristique en Europe” (Sight-seeing in Europe).

4.5. Data Analysis

The main data sources used in this study were the transcripts from the semi-structured interviews conducted with the seven participants as well as their responses to the post-task questionnaire surveys. I first conducted a descriptive analysis of each individual participant’s responses to the eight 5-point Likert scale questions from the post-task questionnaire survey. I gathered all the responses in an Excel spreadsheet file and calculated the average of the points which provided me with a general overview of learners’ perceptions. Next, I used the constant comparative method (Corbin and Strauss 1990) to analyze the transcripts from the semi-structured interviews and participants’ responses to the four short-answer questions at the bottom of the post-task questionnaire survey. Specifically, I conducted a content analysis by reading and rereading the data during the iterative stages of coding (Saldana 2016), in order to obtain emerging categories rather than forcing the existing data to fit pre-determined categories. I also used *vivo coding* (Saldana 2016) as a self-check strategy in order to reduce the possibility of including my own interpretation rather than presenting an accurate depiction of participants’ perspectives and language. For instance, the initial codes used to describe learners’ perceived challenges of the collaborative multimodal project were words or phrases taken directly from the transcribed interview data. Examples of learners’ descriptions include “work division”, “communicating”, “being on the same page” and “managing time”. Based on the initial coding results, I found patterns and connections by making comparisons between the participants’ converging or diverging perspectives towards different aspects of the project (e.g., multimodal design, collaborating with partner(s), navigating Google Docs, revising/editing content, etc.). The codes were then systematically categorized to obtain the emerging themes. Four thematic categories emerged from the data analysis in relation to the learners’ perceived benefits of the collaborative multimodal writing project: (1) increased motivation and engagement; (2) improvement in their writing skills, genre awareness and semiotic awareness; (3) mutual learning through peer assessment; and (4) easy synchronous writing and revising via Google Docs. Three categories were also found in terms of perceived challenges: (1) tensions between partners largely due to frustrations over unequal participation; (2) lack of control over the joint text; and (3) technical glitches. According to the constant comparative method, I checked and rechecked the data against each theme and recalculated the frequency of each thematic category to ensure consistency and accuracy. As a supplementary measure, I also revisited all the participants’ finished products as well as the screen and audio recordings of peer interactions during the writing process in order to interpret the appropriate results. However, a limitation worth mentioning is that the findings presented in this study do not include inter-coder reliability scores due to time constraints.

5. Results

5.1. Perceived Benefits

To address the first research question (how do French FL learners view the benefits and challenges of collaborative multimodal writing?), I begin by presenting learners' perceived benefits based on the descriptive analysis of the Likert scale questions from the post-task survey and the content analysis of relevant responses obtained from the individual interviews.

First, the post-task survey results inquired about learners' perceived benefits of the collaborative multimodal writing project particularly in relation to: (1) their writing skills, (2) the peer assessment component, (3) the collaborative experience, (4) the level of motivation and (5) the use of Google Docs. As seen in Figure 2, the peer assessment activity was most favorably perceived as beneficial (4.63) based on the five-point Likert scale (i.e., 5: strongly agree, 1: strongly disagree). Overall, learners viewed the collaborative multimodal writing experience as motivating (4.5) and beneficial for enhancing their writing skills (4.23). In addition, they acknowledged that the use of Google Docs as a collaborative writing tool was particularly helpful (4.25) due to its simultaneous writing and editing properties. It is interesting to note, however, that not all participants found the experience of working with a partner(s) to be enjoyable (3.88), which may suggest that some of them may have had some disagreements with their partner(s) during the writing process; these issues are further discussed in the discussion section of this paper.

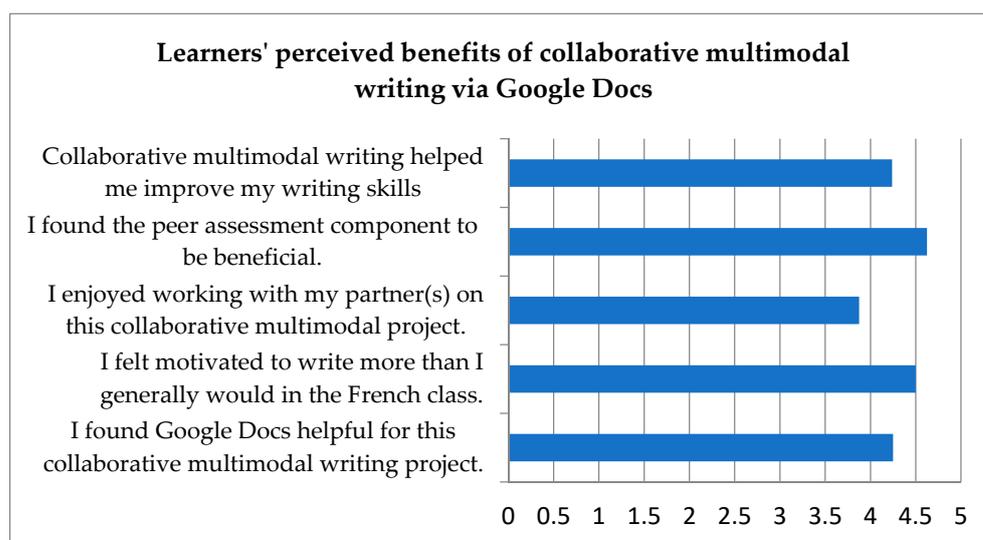


Figure 2. Post-task survey results: perceived benefits of collaborative multimodal writing via Google Docs (1: strongly disagree, 2: disagree, 3: neutral, 4: agree, 5: strongly agree).

In addition to the post-task survey results, the semi-structured individual interviews also yielded some interesting insights about learners' perceptions concerning this type of writing pedagogy. Overall, all the participants had positive opinions about the collaborative multimodal task and peer-assessment. The majority expressed that the task was engaging and motivated them to write more, and also found the peer assessment to be beneficial to their learning. For example, Britney from Group 1 said:

To be honest, I felt a little nervous in the beginning because I usually prefer to do my work alone and don't really like it when other people view my work or critique it. [. . .] But after working with Eva for over a month, I think that I have grown a lot and I'm a lot more open to the idea of working with other people. I also really liked getting feedback from other people and seeing their postcards was fun; I ended up spending more time on ours because of that. (Interview, 8 December 2020)

Britney's feelings were echoed by other participants. Her partner, Eva, who is an Art major, also stated: "For me, I just really enjoyed doing something outside of the norm. I love the fact that we were allowed to use pictures, links to stuff and even memes if we wanted to. That was a fun, learning experience" (Interview, 11 December 2020).

Like Eva, Joshua from Group 2 mentioned that he also especially liked the multimodal creative process as it provided opportunities to pool multiple resources together. He said:

I think ah . . . talking things over with Christine and looking for new ways to convey our message on the postcard was quite interesting. [. . .] because I've never done this type of work before . . . like um . . . normally you don't get to do that in my Spanish class. So being able to add like pictures and thinking about even small things like color and font was sort of new and exciting for me . . . and yeah I think that all that stuff helps to make the postcard even better. (Interview, 9 December 2020)

A number of students also expressed that the collaborative multimodal task was particularly beneficial for improving their writing skills in French. Specifically, they mentioned that they appreciated the opportunity to learn new vocabulary outside of the textbook. Others also talked about noticing grammar, spelling and accent errors in their classmates' products during the peer-assessment process. For example, Mary-Ann from Group 3 noted: "Normally, I have trouble with verb conjugations . . . um that is always difficult for me but somehow I looked over it and saw the mistakes and knew how to fix them" (Interview, 11 December 2020).

Interestingly, one student (Britney) even commented on the benefits of collaborative multimodal writing in terms of genre awareness. As she explained:

Like . . . how we all already know what a postcard kinda looks like in English . . . like there's the the stamp (of course), the address, the date and all that stuff. And so when I saw the examples in French it was way easier to understand because they all follow the same pattern even though the French ones always seem so formal. [laughs]

In addition, during the interviews, some participants expressed how using Google Docs was especially helpful in facilitating the writing and revising process. Others also liked the transparency of synchronous writing as it allowed them access to each other's contributions which in turn promoted accountability. As Joshua put it: "We can see who does what . . . so everyone has to do their part because it literally shows it". Eva likewise remarked: "It saves time and it automatically tracks all the changes you've made so it's real easy to pick up wherever you left off".

An added bonus that was noted was the opportunity to review others' work and provide feedback via Google Docs. Most (four students) felt that it not only fostered mutual learning but also helped them make better revisions to their own projects. As Alejandro expressed:

When I compared our postcard with everybody else's, it gave me a different perspective . . . Like I realized that ours needed to be developed more. So I left some comments for Mary-Ann on what needed to be changed in our introduction. That part was very helpful because if we didn't do that I don't think we would have made any progress. (Interview, 8 December 2020)

5.2. Perceived Challenges

In spite of the positive reports from learners about collaborative multimodal writing, some concerns were also noted. One main challenge that some learners reported was tensions with their peers largely due to frustrations over unequal participation. In response to the question about her opinion on the collaborative experience, Christine frankly pointed out:

I don't think ah . . . we all contributed equally and that was just because . . . um most of the time I didn't know what was up with Brian and there was a time I

even emailed him and he didn't get back to me for three days and I was kinda like dude I can't wait any longer for you to do things so that part was really frustrating because we were all supposed to work on this together as a team. (Interview, 11 December 2020)

Similarly, Mary-Ann did not quite enjoy the collaborative experience. In her response to her least favorite part of the project, she stated: "I didn't like the partner component quite as much. Simply because I'm a very detail oriented student and I like things to be really good. My partner wasn't as much this way" (Post-task survey).

Moreover, some learners felt reluctant to contribute due to insecurities about their writing production skills and language proficiency. According to Brian, he chose to take the "backseat" in the project and let Christine take the lead, because, as he admitted: "I believe her French is way better than mine. I've heard her in class and she's really good so I figured she had it under control". Brian also felt that his contributions were not valued, which is another reason why his level of participation lessened. He explained: "[...] whatever I wrote during the first meeting was deleted without asking me about it" (Interview, 14 December 2020).

This comment illustrates a common frustration about the lack of control over the collaborative multimodal text that was also mentioned by other students. Alejandro, for instance, admitted:

Yeah I think it was hard sometimes because ... um ... maybe I added something and then when I checked later it was not there anymore. But me [...] before you erase something you have to ask first. I always comment before I delete or add something but I don't think that everybody is like me. (Interview, 8 December 2020)

There were also some complaints expressed about some technical glitches in Google Docs. As Alejandro said: "I sometimes had trouble editing and formatting our postcard. It took me hours to get the margins and spacing to look right" (Interview, 8 December 2020). In comparison to Microsoft Word, he also noted that Google Docs has fewer font options. Christine also mentioned having problems with the commenting function. She stated: "My main issue with Google Docs is with comments. It seems that because you need a strong internet connection in order to view comments, edit or even save stuff ... if you don't, forget it" (Interview, 11 December 2020).

5.3. Mediating Factors

To address the second research question (what factors do French FL learners perceive as mediating their writing processes in the collaborative multimodal writing task?), I identify below three salient themes addressing the mediating factors (i.e., technologically supportive environment, good instructional materials and group member familiarity) These themes were particularly reflected in participants' responses to the individual interview question 5, i.e., "What do you think impacted the way in which you interacted with your partner(s)?" Group member familiarity in this study was operationalized based on students' responses to the interview questions, "How did you feel about working with your partner? Were you familiar with him/her prior to this project?" The screen-recorded data also provided supplementary information that was used to triangulate students' responses.

The multimedia classroom that was used in this study as well as the technological tool, Google Docs, emerged as important mediating factors. The participants indicated that working in a technologically supportive environment mediated their writing processes. For example, in response to the open-ended question in the post-task survey (i.e., what is your overall impression of the paired multimodal writing project using Google Docs?), Eva wrote:

Using Google Docs was very helpful because it allowed us to work together while not looking at the same screen and also instead of working on it at fully

at home, I think the fact that we did it face to face in the multimedia lab made it successful.

This study also brought to light the central role of instructional materials, e.g., assignment guidelines, sample postcards introduced during orientation and multimodal grading rubrics, in mediating learners' scaffolding strategies and multimodal writing processes. Drawing on the screen-recorded data, the groups spent a substantial amount of time moving back and forth from their multimodal text to the task prompt and grading rubric throughout the writing process. Moreover, several participants commented on how the detailed directions and examples received during the orientation workshop positively mediated their learning experience. For example, Britney, in response to the interview question about what factors impacted the way in which she interacted with her partner, replied:

For me . . . um I would say that I was a bit unsure about how the project was going to go but after the first workshop I felt a lot better because everything we needed to know about the project was right there . . . uh like right from the get-go what me and Eva did, was to compare the example postcards that you showed us and decide what makes a postcard look good and what does not . . . that really helped us figure out how we wanted ours to look.

Similar sentiments were expressed by Christine, who mentioned the benefit of having access to the grading rubric prior to completing the task:

Normally you just do the work and then later you can go and check to see what grade you got . . . like after the fact. [. . .] in this one we already knew what things we would be graded on before we even started so it was kinda different.

Lastly, group member familiarity was found to be a negative mediating factor, whereas different majors or areas of study within groups had a positive impact on participation and interaction. For instance, Group 1 was made up of one student specializing in Art and the other in Theatre and this fostered open-mindedness and mutual respect for each other's strengths and weaknesses. In response to the interview questions, "How did you feel about working with your partner? Were you familiar with him/her prior to this project?", Eva shared some past experiences working with familiar group members:

I feel like it is kind of difficult to be in a group with your friends. Like last semester, I was in a group with my roommate and she didn't take the work serious [. . .] she kept distracting us and making stupid jokes. So like working with Britney was cool because she was nice and she always did her part of the work. (Interview, 11 December 2020)

On the contrary, in Group 3, where both members were Music majors and shared several classes in common, the learners seemed to take each other for granted and struggled to stay focused on the task. The screen recorded data indicated that members in this group would often become distracted and search the internet for irrelevant topics during the text co-construction process. Moreover, Mary-Ann stated that she felt that her partner's feedback was not always constructive. She said: "[. . .] so I'm not trying to say that he wasn't a good partner but sometimes his suggestions were sort of superficial plus he would just brush off my ideas without any reason".

6. Discussion

The aim of this study was to explore French FL learners' perceptions of collaborative multimodal writing. To this end, I analyzed learners' perceived benefits and challenges of this type of pedagogy through a descriptive analysis of the Likert scale questions from the post-task questionnaire survey and a content analysis of relevant responses obtained from the post-task interview. Furthermore, I explored the mediating factors by conducting a content analysis of learners' responses to the pertinent open-ended questions from the post-task interview. The findings indicated that collaborative multimodal writing not only motivated learners to write more but also increased their awareness of multiple semiotic

resources. Similar affordances of digital multimodal writing have been reported by Yeh (2018) and Shin et al. (2020), although the tasks used in those studies were intended to be completed individually and not collaboratively as was accomplished in the present study.

Moreover, this study reinforced the findings of previous studies (e.g., Kessler et al. 2012; Strobl 2014; Yim et al. 2017) on the advantages of using Google Docs as a digital platform for collaborative writing. My study provides support for the use of Google Docs which positively mediated learners' writing processes as it not only afforded more opportunities for group members to write and edit the same document synchronously but also promoted timely feedback and exchange of ideas.

Furthermore, according to Zhang et al. (2021), a common concern that some L2 scholars (e.g., Belcher 2017; Manchón 2017; Qu 2017) have toward the integration of digital multimodal writing is that it could reduce learners' attention to linguistic development. In the present study, however, learners found the collaborative multimodal task to be particularly beneficial for improving their writing skills in French and genre awareness. On the other hand, learners noted challenges such as tensions between partners largely due to frustrations over unequal participation, lack of control over the joint text and technical glitches, which were compatible with the findings of previous studies (e.g., Arnold et al. 2012; Ducate et al. 2011; Kessler and Bikowski 2010; Li 2020).

Regarding group member familiarity, this study conflicts with previous studies (e.g., Adams et al. 2005; Janssen et al. 2009) that suggested that the more familiar students are with their group members, the better their online collaboration will be, since students would spend less time resolving task management issues. On the contrary, the findings from the individual interviews revealed that familiarity can have a negative impact on learners' perceptions of collaborative multimodal writing as group members complained that familiar peers tended to contribute less toward the joint product and were reluctant to provide constructive criticism.

In addition, the findings in this study suggest that merging collaborative writing and multimodal composition facilitates learner awareness of the multidimensional and social nature of writing. Drawing on sociocultural theory (Vygotsky 1978) and its associated constructs (i.e., ZPD and collective scaffolding), this study highlights the important role of interaction and peer scaffolding in L2 learning by helping learners work together to attain higher performance levels than they would by themselves (Donato 2004; Ohta 2000; Swain and Lapkin 1998). Echoing Yi and Angay-Crowder's (2016) study, multimodal writing does promote communal learning through knowledge co-construction and collective scaffolding. Rather than completing traditional writing tasks alone, creating a digital multimodal text collaboratively engaged and motivated French FL learners, even at the elementary level, to write more than they generally would.

This study responded to the call for an integrated approach to writing, incorporating collaboration and multimodality (Allen 2018) in the under-explored French FL context. The findings indicated that the participants generally had a positive attitude towards the collaborative multimodal writing task and reported feeling motivated to write more than they usually would. The main benefits included (1) motivating and engaging learners to write more; (2) improving their writing skills, genre awareness and semiotic awareness; (3) boosting mutual learning through peer assessment; and (4) facilitating synchronous writing and revising via Google Docs. At the same time, a few challenges were noted: (1) tensions between partners largely due to frustrations over unequal participation; (2) lack of control over the joint text; and (3) technical glitches. Other important findings were the factors that learners perceived as mediating their joint multimodal writing processes. In particular, a technologically supportive environment and good instructional materials and training emerged as positive mediating factors, whereas group member familiarity proved to have a negative influence on students' interactions.

7. Implications and Conclusions

To conclude, this study is expected to spark the interest of L2/FL educators both in secondary and tertiary settings, to design innovative collaborative multimodal writing tasks in their own classes. As the study illustrates, the successful integration of collaborative and multimodal writing is not only possible but is well-received by FL learners.

However, it is clear that more data-driven evidence is necessary to better understand learners' attitudes toward this new writing pedagogy. Therefore, further extensions of this research will explore the ways in which French FL learners use multimodal resources while collaboratively working on multimodal tasks and the quality of their final products.

This study also hopes to somewhat alleviate the commonly expressed concern that multimodal projects come at the expense of linguistic development as the participants in the present study felt that the collaborative multimodal writing task helped to improve their writing skills in French. Granted, this study employed a qualitative research method to explore students' perceptions, whereas an experimental research design will be helpful to ascertain the true impact of collaborative multimodal writing on learners' linguistic development using pre-tests, post-tests and control groups to compare learners engaging in collaborative multimodal tasks against those completing individual multimodal tasks.

Regarding mediating factors, this study suggests that students might actually prefer to work with unfamiliar peers as this enriches their collaborative experience. Hence, a fruitful future research direction would be to examine the extent to which group member familiarity affects peer interactions and overall group performance.

Echoing Elola and Oskoz's (2017) prediction about the inevitable proliferation of new composing practices, genres and digital tools, I hope to see future empirical work exploring more learner perspectives to provide further insight about this new writing pedagogy.

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