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RESEARCH ARTICLE

Integrating collaborative digital multimodal tasks in Spanish as a second language course

Idoia Elola
Texas Tech University, US (idoia.elola@ttu.edu)

M. Camino Bueno-Alastuey
I-Communitas: Institute for Advanced Social Research, Universidad Pública de Navarra, Spain (camino.bueno@unavarra.es)

María Victoria López-Pérez
I-Communitas: Institute for Advanced Social Research, Universidad Pública de Navarra, Spain (victoria.lopez@unavarra.es)

Abstract

The emphasis in L2 learning has mainly focused on individual writers and monomodal academic genres (e.g. narration, argumentation), neglecting the potential of collaborative composing and the use of digital genres that introduce additional semiotic sources, for fear of having to deal with "a messy transition to digital multimodal communication" (Lotherington, 2021: 220). Yet, because Web 2.0 technological upgrades have enabled interactivity, literacy has morphed from discretely reading and writing a static page to dynamically reading and writing a multimodal one, which underpins collaborative authorship and (local and global) audience awareness. Considering the inclusion of working collaboratively with multimodal tasks in the L2 classroom, the question of how to help students effectively incorporate multimodal with academic monomodal texts remains unanswered. In response to this challenge, this study examines the design and implementation of an online task to foster multiliteracies. Thirty-seven international students of diverse disciplines (e.g. economics, engineering, history), enrolled in a Spanish as a second language course, worked collaboratively to create multimodal texts based on previously created monomodal texts. Informed by a student questionnaire and a teacher focus group, we analyzed both students' and teachers' perceptions to ascertain the effectiveness of the intervention and the possibilities these kinds of tasks bring to the foreign language classroom. Both sets of participants reported positive results concerning linguistic advancement, motivation, and multiliteracies development. Pedagogical recommendations related to the inclusion of this pedagogical practice are provided.

Keywords: online collaboration; multimodality; Spanish as a second language; task design; perceptions

1. Introduction

With the advent of ubiquity of new technologies, collaborative digital writing in the language classroom has become more prevalent than ever. Collaborative writing (CW) was already used in classroom settings with pen and paper; however, platforms such as Google Drive and technological tools such as Google Docs have made collaboration easier and more effective because students do not have to be physically together to compose collaboratively. Among its many benefits, working together allows students to co-construct knowledge and to co-author texts. Presumably, by collaborating in

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communicative goals, the accountability of knowledge creation is distributed among participants, thus underscoring "collaborative knowledge competence" (Cope, Kalantzis, McCarthey, Vojak & Kline, 2011: 83). Furthermore, technology has also enabled the emergence of hybrid and new genres not seen before. Hence, it is not rare to see the same students either working on traditional academic papers (e.g. expository texts) or developing blogs (i.e. hybrid genre) or using newer genres (e.g. Instagram). In general, digital genres tend to integrate a diversity of modes (e.g. written text, images, videos, music, and hyperlinks in a blog or webpage) and incorporate one or more languages (including the use of translanguaging), which has ensued an increase in the types of communication people currently employ – that is, the birth and sharing of a repertoire of digital genres has expanded (Jiang & Ren, 2021; Lim & Polio, 2020). In contrast to printed text, the integration of linguistic and nonlinguistic elements used in digital genres and their flexibility of use and selection (i.e. they can be modified, relocated, and even erased with greater ease and frequency) have bridged the gap between what students do in the language class and what they do and will do in their daily and professional lives (Pyo, 2016).

In both a theoretical and a pedagogical sense, the integration of collaborative work with digital monomodal and multimodal texts fits perfectly within a multiliteracies framework (Cope & Kalantzis, 2015), which promotes technology use, collaboration, multimodal texts, and multilingual practices. The term *multiliteracies* was introduced by the New London Group (1996) to encapsulate "the multiplicity of communications channels and media, and the increasing saliency of cultural and linguistic diversity" in rapidly evolving, globalized contexts (p. 63). Within that approach, language curricula must be reevaluated and reconsidered, reworking not only the type of assignments that educators need to include in language courses but also how multimodal genres can be integrated in productive ways (Kim, Kang, Nam & Skalicky, 2022; Li & Pham, 2022; Yu & Zadorozhnyy, 2022). However, few studies illustrate how to create and implement tasks that combine collaborative assignments, integrate digital multimodal texts in the syllabus and allow for the use of diverse languages (e.g. L1, L2 and L3). Research is also scarce regarding how to integrate these decisions appropriately and effectively in language curricula and how to provide a sound instructional approach that considers the development of tasks and their capacity to accommodate the students' needs to improve their L2 writing proficiency and multiliteracies (e.g. technology literacy, information literacy, multimodality) in collaborative ways that mirror real-life situations (e.g. use of PowerPoint or infographics for professional purposes and Instagram for personal purposes).

To respond to already-made calls for the inclusion of multiliteracies, collaborative work, and multimodality (i.e. the integration of several semiotic resources, such as the oral and visual to create meaning) in the language classroom (Cope & Kalantzis, 2015; Kim & Kang, 2020; Zhang, Akoto & Li, 2023), the researchers decided to generate a collaborative task using transposition (from monomodal to multimodal text) to help students develop multiliteracies by creating digital multimodal texts collaboratively in a Spanish as a second language course (SL2). Because principles of multiliteracies (Cope & Kalantzis, 2015) place collaborative online work as a key way to help students develop critical awareness and promote moments of scaffolding and mediation, the tasks were designed to be completed online collaboratively following a task-based approach. In addition, another principle is the potential to use multiple languages (The New London Group, 1996). Thus, the learners were allowed to use their L1, L2 or, in some cases, L3 during their interactions while carrying out the tasks. Hence, the aim of this study was to integrate multimodal-transposition tasks into a Spanish language course curriculum and to reflect on the inclusion and integration of student and teacher perception on the tasks.

2. Literature review

2.1 Collaborative writing

Writing collaboratively entails either two or more people working together to produce a document with group responsibility for the end product or students working cooperatively on different sections of a text (Storch, 2019). In either case, due to the advent of social media and digital tools,

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students can co-create monomodal or multimodal texts. Collaboration also exposes learners to different ideas and different styles of writing, which requires them to negotiate between competing ideas (Storch & Knoch, 2023). Hence, the idea for using CW is to encourage and engage students in a dialogue that pushes them to notice gaps in their L2 production, to check hypotheses concerning language, and to acquire diverse literacies (Zhang, Gibbons & Li, 2021). In fact, CW is used to expand notions of learning from a single-author product to a social act linked to tools and to the learning context. Previous research on CW has reported its benefits in the quality of texts in terms of accuracy, complexity, and fluency (e.g. Oskoz & Elola, 2014) and when compared to individually written texts (Elabdali, 2021; Villarreal & Gil-Sarratea, 2020). The effect of CW on subsequent individual writings (Bueno-Alastuey, Vasseur & Elola, 2022), on writers' composing processes (e.g. Arnold, Ducate & Kost, 2009) and on learners' perceptions (Strobl, 2014) has also been the focus of research. Furthermore, emphasizing the fact that CW often involves oral interaction, other studies have explored interactions during the CW process, for instance, by focusing on language-related episodes and on partners' dynamics during collaborative work (Almalki & Storch, 2023). These investigations have highlighted the beneficial aspect of producing language collaboratively at all levels and have stressed the need to include this practice in L2 classrooms.

There is no doubt that the omnipresence and availability of digital tools has allowed for the growth of opportunities in which students may collaborate in the L2 classroom. Grounded in the idea that writing itself is inherently social and that technology provides tools that facilitate online collaboration, the possibility of expanding experiences and exposing students to social contexts in which they can co-construct knowledge seems to echo the needs of the 21st-century digital era. L2 collaborative digital writing has explored different tools such as infographics, digital stories, and Google Docs (Gibbons & Akoto, 2023). Yet research has been predominantly based on either monomodal paper-based or digital texts, and to our knowledge, little research has been conducted on multimodal digital texts in L2 classrooms with some exceptions, such as Suharti, Sutikno and Santi (2020), who examined the use of infographics for idea generation, and Maqueda (2022), who compared individual and collaborative multimodal composing. The interplay between new technologies, media, and collaborative practices should be further explored as it creates a perfect space for knowledge co-construction and showcases what students will come across outside the academic world.

2.2 Multiliteracies and multimodality

In L2 learning, the emphasis has customarily been on linguistic components, privileging written text. The omission of additional semiotic sources results from the distinct partiality for literacy learning. Central to this perspective, literacy, often seen as "language written down," makes "for a messy transition to digital multimodal communication" (Lotherington, 2021: 220). With the advent of social tools, literacy has changed from distinct reading and writing of the fixed page into a multimedia read/write capacity, which supports collaborative authorship and audience awareness, and has been transformed into multiliteracies, which include the "enormous and significant differences in contexts and patterns of communication [. . .] and the various modes of meaning-making, such as images, sounds, gestures, animations and others" (Cope & Kalantzis, 2015: 3). There has been a change from page to screen, which has extricated the matter of literacy from the letter to the pixel, which unexceptionally encodes still and moving images, sound files, and spoken language (Kalantzis & Cope, 2004). In this new view of literacies, digital texts are seen as multimodal, process-oriented activities that are artifact-mediated (Prior, 2007). The multimodality of digital genres requires the consideration of perspectives such as social-semiotic theory (Kress, 2003, 2009), which illustrates how the affordances of different modes (e.g. visual, textual, or aural) create multimodal assemblages, such as an infographic (Krishnan, Maamuujav & Collins, 2021). In essence, social-semiotic perspectives examine students'

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(re)designing of their texts by arranging "available meaning-making resources into a multimodal whole, making authorial decisions appropriately for specific audiences and purposes" (Shin, Cimasko & Yi, 2020: 2).

Multiliteracies incorporation into classrooms has been explored through digital multimodal composing (DMC), an approach "where communication and representation is more than written or oral language" (Kim *et al.*, 2022: 3), as it incorporates a full range of modal resources, such as images, gestures, gazes, sounds, and the relationships among them (Lim & Kessler, 2024). Increasingly seen "as an important component of student success in both academic and professional contexts" (Kessler & Marino, 2023: 375), DMC tasks and genres have been reported to improve writing skills (Nobles & Paganucci, 2015; Vandommele, Van den Branden, Van Gorp & De Maeyer, 2017); to produce texts of similar linguistic and content quality as traditional monomodal texts (Cho & Kim, 2024); to increase motivation (Kohnke, Jarvis & Ting, 2021), satisfaction (Hava, 2021), and enjoyment (Tanrıkulu, 2022); to promote learner autonomy and creative thinking (Yang, Chen & Hung, 2022); and to encourage L2 writers' identity awareness (Tardy, 2005).

Despite the plethora of studies analyzing DMC tasks, most studies have focused on how students use multiple resources for meaning-making processes (Shin *et al.*, 2020), on linguistic gains, and on students' and teachers' perceptions (Jiang & Ren, 2021; Kim *et al.*, 2022). Only a handful of articles have analyzed the inclusion of a multimodal text as a transformation of a previous monomodal one (Dzekoe, 2017; Hafner & Ho, 2020; Oskoz & Elola, 2016). This type of task should be further explored given the concerns and hesitancy to introduce DMC in classrooms because of students spending longer using digital tools than discussing or focusing on language, which might impair L2 writing skills (Manchón, 2017). Combining both monomodal and multimodal text creation could still keep much emphasis on language, as suggested by Qu (2017). Furthermore, despite the multiple linguistic benefits reported by previous research on CW, two marginally explored areas of research on DMC have been the scarcity of studies on collaborative DMC (Kim & Kang, 2020; Kim *et al.*, 2022; Li & Pham, 2022) and the lack of attention paid to languages other than English (Zhang *et al.*, 2023).

Given the call for multimodal task designs in the language curricula/syllabus and the scarcity of studies on multimodal tasks carried out in real classroom contexts, our study builds on previous research on DMC transposition tasks (monomodal text to multimodal text) by incorporating collaborative digital writing in the SL2. In particular, this study explores both students' and teachers' perceptions regarding the implementation of a task design (transposition of a monomodal-created text into a multimodal text) to evaluate its feasibility and effectiveness. The following research questions were examined:

1. What were students' perceptions of online collaborative transposition (monomodal and multimodal text creation) tasks and their attitudes towards multimodality?
2. What were students' perceptions about the use of technological tools to create monomodal and multimodal texts and their attitudes towards technology?
3. What were the teachers' perceptions and experiences integrating online collaborative transposition (monomodal and multimodal text creation) tasks in their classrooms?

3. Methodology

3.1 Context and participants

The present study was conducted in a B1+ CEFR-level six-credit SL2 course in a medium-size university in Spain. The course met twice a week for a total of three hours (one-and-a-half hours each session) and focused on skill development following a communicative approach.

The participants were 37 students (27 females and 10 males) ranging in age from 19 to 24 years old ($M = 21.5$) and two teachers (native speakers of Spanish with four and 13 years of experience

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teaching SL2 who were not part of the research team). The students were international students from different countries (e.g. Italy, China, France) whose proficiency ranged between B1 and B2 (based on the DELE test scores, an official Spanish proficiency exam administered by the Instituto Cervantes on behalf of the Spanish Ministry of Education).

3.2 Materials

3.2.1 Task design

The integration of multimodal texts was based on our students' needs to become multiliterate. With the intention of making learning accessible to a range of diverse students, the researchers designed a task that included presentational and comprehension activities using videos with subtitles, presenting information using PowerPoint and handouts, and training students on the use of Zoom, Google Drive and WeTransfer for task completion. In this manner, alternative ways for expression and communication were provided, promoting students' interest and motivation by allowing them to find creative ways and hands-on approaches to develop the task. Furthermore, using a process approach, the researchers designed a technology-mediated collaborative transposition task (from monomodal to multimodal text) to be carried out in phases.

Three tasks with the same structure were created. The pre-task was based on an ad and allowed the students to familiarize themselves with the creation of digital collaborative monomodal and multimodal texts using diverse digital tools. After completing the pre-task, some modifications were introduced to solve some of the problems detected. The changes included clearer and shorter instructions with more visual elements. Although the instructors reinforced their verbal explanation with a PowerPoint and handouts, some students either did not read the instructions well, did not follow the prompt, or had issues understanding how to send the assignments via Google Docs or WeTransfer, which resulted in students asking many questions to complete the assignment. This pre-task showed the importance of pairs being together in the same class until a shared Google Doc document was created and the Zoom session started. Once the students knew what they had to do and the online connection was set up, one of the members of the pair went to another classroom to complete the task. Furthermore, considering the time students needed to develop the monomodal text, students were told to watch the short films and to do the comprehension questions at home to save time. The researchers also decided to give feedback to students on their monomodal essays to show that they read their texts carefully and to increase their interest in developing the multimodal text.

The other two tasks, which were later analyzed for this study, were based on two different short films from a five-chapter movie, *Cuentos Salvajes*.

> *Task 1: Expand a character from the story Pasternak; create a narrative text using a shared document on Google Docs first, then transpose this narrative into a multimodal text made on Google Slides and present the multimodal text. All the processes (text creations and presentation) have to be recorded on Zoom.*

> *Task 2: Expand a character from the story El más fuerte; follow the same steps as in Task 1.*

All the interactions and creation processes were carried out online and recorded using Zoom for three main reasons. First, the researchers wanted to recreate authentic professional settings where all international interactions in an L2 are carried out online, increasing the authenticity of L2 use. Second, the recordings allowed for the observation of all the creation and revision processes (linguistic and metalinguistic), so conclusions could be drawn, especially regarding revision (Palomeque & Pujola, 2018). Finally, the researchers used digital tools, Zoom and recordings of the interaction to find ways to potentially improve students' digital competence.

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3.2.2 Task implementation and evaluation

The implementation stage lasted six weeks (see Table 1). In the first session, students signed a consent form to give permission to use their data and completed a DELE test to gauge their proficiency level in Spanish. In the second session, students did a background survey within a regular class. Finally, in the third session, they participated in the pre-task. Students were paired by first language (same L1 in the first task and mixed L1 in the second) and proficiency level in Spanish (based on the results of the proficiency tests and the background questionnaire). Although the researchers were interested in whether sharing the L1 made the assignments easier to develop, this variable falls outside the purview of the current study.

During the pre-task, the students watched an ad and completed the comprehension questions, which they corrected with their teacher. After that, one of the researchers explained the concept of narrative expansion and told the students they had to create a monomodal text working in pairs as they recorded their interaction in Zoom. They were distributed in pairs and one member of each pair went to another classroom with one of the researchers to complete the task, while the other stayed in the regular classroom with their teacher. At the end of the session, they had to send the recordings to the researcher using WeTransfer.

In session 4, students were told to create a shared Google Slides presentation, including images, music, and any other media of their choice (i.e. multimodal text) to transpose the narrative they had created in the previous session. As in the previous session, after students connected via Zoom and created the shared document in their regular classroom, one member of the pair went to another classroom with one of the researchers, while the other remained in the regular classroom. After completing their multimodal creation, they had to orally present it. All the while, this process was recorded and completed on Zoom while students simultaneously worked on the tasks online. While the students were doing the tasks, the instructor and one of the researchers were available to solve any possible problems with technology (i.e. Google Docs and Slides, Zoom and WeTransfer).

The same process was followed with the two tasks, except that the students watched the films and completed the comprehension questions at home. The questions were corrected in class, then they watched the film again before starting the expansion tasks in the first session. The researchers gave student feedback on their monomodal narratives so as to increase their motivation. Then they created the presentation and presented it via Zoom during the second session. It is important to note that some students completed the assignments at home due to illness or traveling needs. At least one researcher was always helping the instructor with technology issues or confusion over the prompts. By the time students completed the second task, the dynamics of the process became smoother and less cumbersome. Two different rubrics were used to evaluate the monomodal and the multimodal texts. The former had already been used in previous research (Bueno-Alastuey *et al.*, 2022), and the latter was created based on rubrics used in other studies (Oskoz & Elola, 2020) and validated through expert judgment.

3.3 Instruments and procedure

3.3.1 Students' questionnaires

The researchers developed a questionnaire (see Appendix 1 of the supplementary material), adapted from Tecedor (2024), to analyze students' perceptions of the collaborative tasks and work and of technology use. The questionnaire was divided into two sections. The first section comprised eight open-ended questions grouped into three categories: (a) Perceptions of the collaborative experience (two questions), (b) Perceptions of the monomodal and multimodal collaborative work (two questions), and (c) Perceptions about the use of technology (four questions). The second section comprised 18 4-point Likert scale questions ranging from 1 (*strongly disagree*) to 4 (*strongly agree*) divided into three categories: (a) Beliefs/Attitudes about

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Table 1. Tasks and data collection procedure for the study

Date	In class	Outside class	Research instruments
Day 1	Consent forms DELE test		DELE
Day 2	Background survey		Questionnaire
Day 3	Introduction to narrative expansion: Watch video Comprehension questions Collaborative monomodal (pre-task)		Monomodal essay on Google Drive Recording of the narration process via Zoom
Day 4	Collaborative multimodal text creation (pre-task) Present presentation Zoom (pre-task) Send Zoom recordings		Multimodal presentation Recording multimodal presentation creation and presentation via Zoom
Day 5	**Collaborative Task 1: Part 1** Watch video 1 Answer video comprehension activities Write a narrative essay collaboratively	Watch video	Monomodal essay on Google Drive Recording of the narration process via Zoom
Day 6		Instructor's feedback	
Day 7	**Collaborative Task 1: Part 2** Based on the narration, create a presentation (inclusion of written text, images, audio, etc.) using Google Drive via Zoom Present presentation via Zoom		Multimodal presentation Recording multimodal presentation creation and presentation via zoom
Day 8	**Collaborative Task 2: Part 1** Watch video 2 Answer video comprehension activities Write a narration collaboratively		Monomodal essay on Google Drive Recording of the narration process via Zoom
Day 9		Instructor's feedback	
Day 10	**Collaborative Task 2: Part 2** Based on the narration, create a presentation using Google Drive via Zoom and Present presentation via Zoom	Via Zoom the group can work together as homework	Multimodal presentation Recording multimodal presentation creation and presentation via Zoom
Day 11		Final questionnaire	Audio recordings of the interviews Questionnaires

Note. Not all the data collected are included in this article. The dates refer to the days in which students worked with data collection, not with the course days. Shading indicates the different phases: the preparation phase, Task 1, and Task 2.

multimodal texts (eight questions), (b) Beliefs/Attitudes about multiliteracies abilities (four questions), and (c) Beliefs/Attitudes about use of technology (six questions). The questionnaire was sent to five expert teachers, who made minor suggestions for modifications that were incorporated by the researchers. Once modified, it was administered via Google Forms one week after the project had ended.

3.3.2 Teachers' focus group

After the course, a 40-minute, semi-structured follow-up focus group was conducted and recorded via Zoom to investigate teachers' perceptions about the experience. A focus group was chosen so that there was a reflection space for both teachers in which they could jointly reflect about the experience (Carey & Asbury, 2016). Nine questions (see Appendix 2 of the supplementary material) were prepared for the focus group regarding (1) integration of the task in the syllabus,

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(2) task perceptions, (3) positive and negative aspects of the tasks, and (4) suggestions for improvement. Two of the authors carried out the focus group interviews.

3.3.3 Data analysis

The quantitative data from the Likert-scale questions were analyzed by combining the two positive and the two negative ratings and reporting percentages. The qualitative data from the open-ended questions and the focus-group interviews were coded and categorized into the three (for students) and four (for teachers) categories predefined in the questionnaires using content analysis (Selvi, 2019). The data were further subcategorized in advantages and disadvantages (or positive and negative beliefs or aspects) for the first three categories considered, except for suggestions for improvements found in the focus group data. Two of the authors independently coded and analyzed the data, with an interrater reliability of 93%. In case of disagreement, the third author was consulted until 100% agreement was reached.

4. Results

4.1 Students' perceptions of digital collaborative transposition (monomodal to multimodal text creation) tasks

Regarding the overall assessment of the experience, the CW tasks constituted a novel experience for 71% of the students. Most of the students (97%) had positive perceptions regarding the integration of both types of texts. Three percent of the students referred to dissatisfaction with the final product and felt that the task was useless.

The collaborative experience was positively valued by most of the students (94%), except for one student who showed his preference for individual work, despite recognizing the enrichment provoked by the exchange of ideas. The advantages students mentioned (Figure 1) were related to linguistic matters (39%), especially greater exposure to the L2, and more instances of negotiation of meaning and peer feedback; increased generation and discussion of ideas (36%); and socio-affective reasons (25%). Disadvantages were associated with the length of task completion, the difficulty of reaching consensus among peers, and of adapting to various ways of working.

Comparing monomodal and multimodal text creation, 29% of students found them equally supportive of collaborative and creative work. While 53% enjoyed creating multimodal texts, 57% rated the monomodal text as more difficult because of greater demands on time, imagination, and idea generation. However, monomodal task creation was considered more useful for L2 learning (3%) because of greater cognitive effort and use of exclusively written language for the expression of ideas. In contrast, the multimodal task creation process was regarded as easier because of the order of the procedure, as the content had already been created in the monomodal text.

According to students, multimodal collaborative composing offered multiple benefits: the promotion of linguistic interaction (26%); the enrichment of text/message through the diverse incorporation of modes (20%); the allowance for integration of modes, aiding in the comprehension of text and a better organization of ideas (18%); and the encouragement of both creativity (15%) and motivation (15%). In contrast, the disadvantages addressed issues with the design of the task such as video content dislike (3%) and limited time (18%), technical problems (10%), lack of partner's expertise with technology (7%), difficulty reaching consensus (7%), unclear instructions (7%), and preference for face-to-face presentations (2%).

The analysis of students' beliefs and attitudes about multimodal text creation showed that the students tended to value the integration of multimodal tasks in the course positively. Students agreed the most (Figure 2) with the positive appreciation of the learning experience in composing multimodal texts (69%); the need for a greater effort in creating multimodal than monomodal

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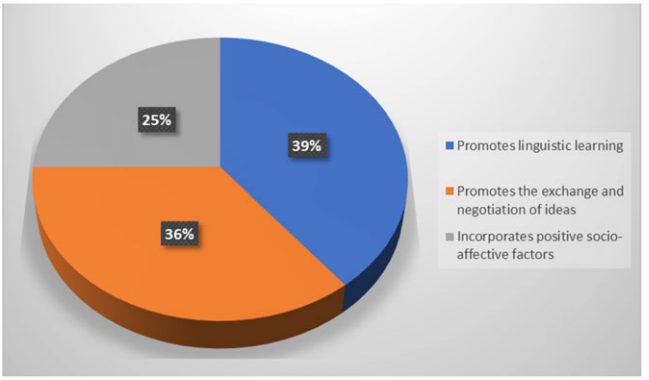

Figure 1. Benefits of collaborative learning.

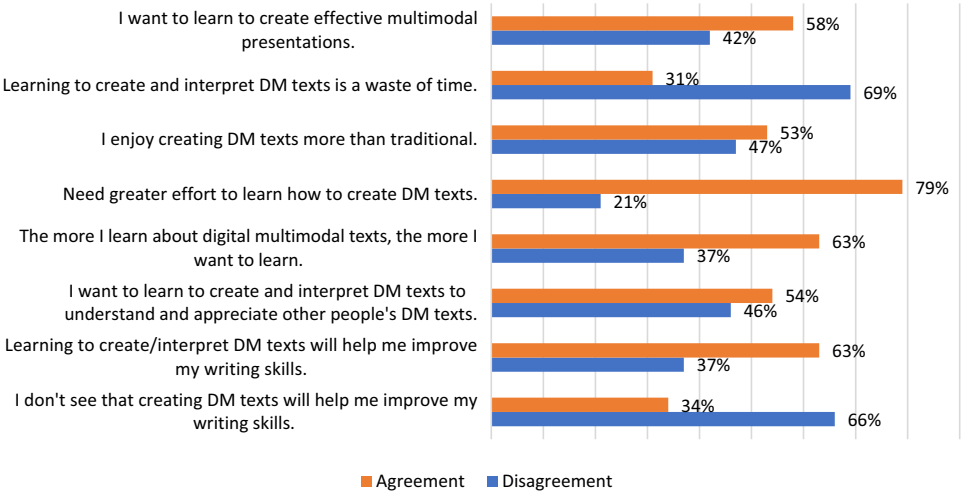

Figure 2. Beliefs/Attitudes towards digital multimodal (DM) text creation.

digital texts (79%); the recognition that the more they learned about multimodal texts, the more they wanted to learn (63%); and the realization that creating multimodal texts helped them improve their writing skills (63% and 66%). They also stated they would like to learn to create multimodal presentations (58%) to be able to understand and appreciate other people's digital multimodal texts (54%).

Nevertheless, students also appreciated the value of traditional monomodal writing. Nearly half of the class (47%) also seemed to enjoy creating traditional monomodal texts. Also, forty-six percent were not eager to continue learning and interpreting digital multimodal texts.

The analysis of students' attitudes and beliefs towards multimodality (Figure 3) showed that it seems to be familiar and easy to do for most of them as they felt confident in creating multimodal texts (96%), integrating modes (75%), and organizing their thoughts using several modes (54%). However, half of the students (46%) disagreed with this last idea and considered themselves unskilled in using several modes.

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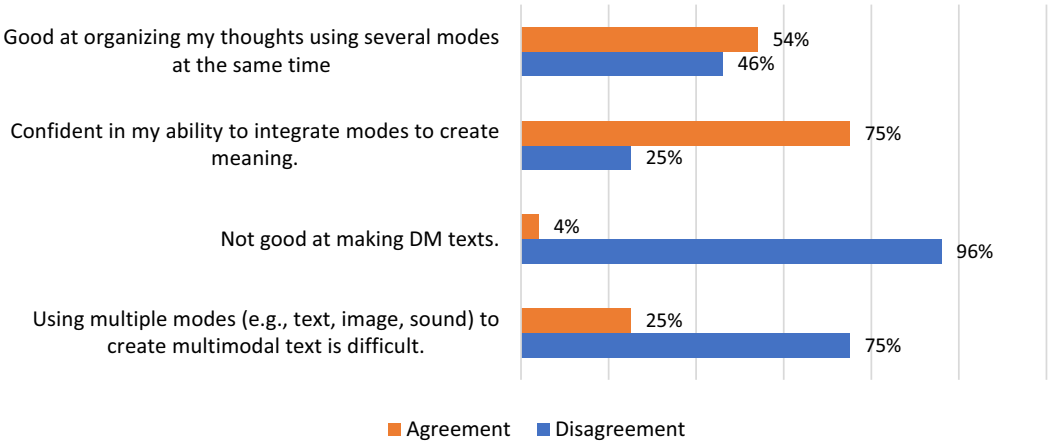

Figure 3. Beliefs/Attitudes towards multimodality.

Summing up, students perceived the tasks positively and believed both monomodal and multimodal text creation had contributed to their linguistic improvement as well as to the negotiation of ideas and the encouragement of creativity. Most of the students emphasized the advantages of working collaboratively and the novelty of the tasks, although they also mentioned difficulties when working in groups. Students showed they were technologically savvy and enjoyed the possibilities of using different modes to express their ideas.

4.2 Students' perceptions about the use of technological tools to create monomodal and multimodal texts and their attitudes towards technology

During the composing process, most students used online resources to solve linguistic issues, which were mainly grammatical (87%), especially those related to verb conjugation (55%). Seventy-eight percent combined online resources with pair discussion, whereas 13% of the students did not discuss the issues and 9% did not use technology for this purpose.

Students also used different online resources to compose their multimodal texts. Images were mainly searched for in Google (89%), although Canva, Bingy, 51yuansu, and Baidu (Chinese) were also mentioned. Students mainly used YouTube for music searches (72%), although Pixabay, BGM (Japanese music) (14%), Spotify (7%), and Mixkit sound effects (7%) were also mentioned. Some students pointed out that one important search criterion was royalty-free images and sounds.

Regarding the affordances of the online tools being used, students praised the ubiquity of synchronous and asynchronous interaction and the ease of sharing materials with their peers and the teacher. The greatest disadvantages students reported were technical problems (70%), such as unstable Wi-Fi connection (21%) and headphone failure (35%). Regarding the differences between Google Docs and Zoom, most students knew the first and its affordances such as the automatic correction of texts. On the contrary, a large percentage of students (78%) had not used Zoom before – some found it complex to use (8%) and many criticized the 40-minute time limitation the free version of Zoom allotted for each session (39%). Other platforms, such as Tencent Meeting or Meet2, were suggested as better choices. Only one student reported her inexperience in handling the online file-transfer service WeTransfer.

The analysis of students' beliefs and attitudes towards the use of technology (Figure 4) showed that students considered themselves good at using technology (88%), felt confident when working

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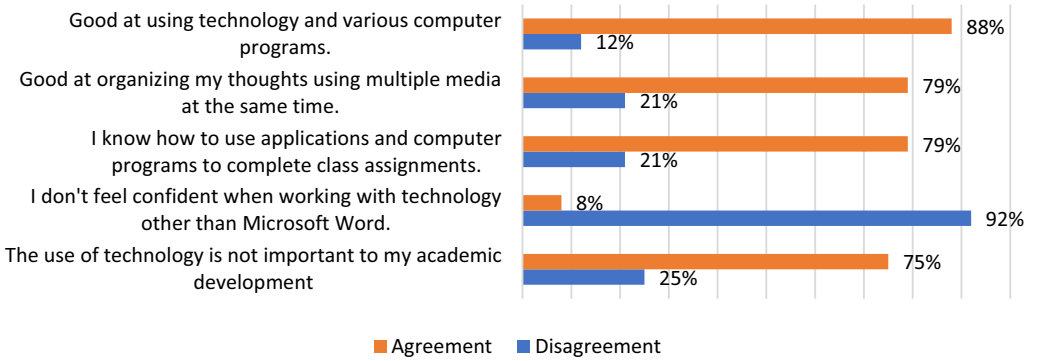

Figure 4. Beliefs/Attitudes towards the use of technology.

with technology (92%), and knew how to use applications (79%). Students were also good at expressing themselves using multiple media (79%). Even though students seemed to be technologically savvy, they still considered technology to be unimportant for their academic development (75%).

Overall, students considered themselves skillful at using technology. They used online resources combined with pair discussion to solve linguistic issues and a variety of tools to compose multimodal texts. Online tools were found useful for interaction and material sharing even though some technical problems were also reported.

4.3 Teachers' perceptions and experiences integrating digital monomodal and multimodal text creation tasks in their classrooms

Regarding the integration of the tasks in the course, the teachers mentioned the tasks had been easy to integrate and were in line with the methodology and proficiency level of the students. They also noted the tasks had facilitated linguistic development, had provided more exposure to authentic language and to multimodal texts, and had been useful for developing writing skills in a motivating way. The tasks promoted cross-cultural socialization, livened up the class and integrated technology, enriching the resources used in class. Teachers also reported that, initially, a lot of time was devoted to explaining the procedure and its tools and to clarifying instructions, but they added that once students were familiar with the task and tools, the process went smoother and quicker.

The teachers described students' attitudes towards the tasks as open, receptive and participatory, as well as curious and interested. However, they also stated some of the students had expressed surprise because the synchronous online tasks had been performed in two separate classrooms instead of at home, since carrying out online tasks on-site seemed artificial. The teachers added that they also considered this task as adequate for online teaching.

Concerning the behavior of students while performing the tasks, the teachers observed that students with a higher language or technology-proficiency level tended to lead the tasks; some of the pairs used English as a lingua franca or the L1, and that there were individual differences regarding responsibility and effort.

On the subject of problems and suggestions for improvement, the teachers pointed out that the main problem had been technological, related to external factors such as unstable Wi-Fi or unsuitable headphones. Another problem identified was the absence of some of the partners for the second sessions, which required new pairs to be formed to create the multimodal texts and oral presentations. The teachers suggested reducing the number of sessions in class and doing these

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tasks as homework and conducting at least one session in class to model the task. They also suggested carrying out a collaborative peer correction of the texts as a possible improvement.

Finally, the teachers mentioned that to be able to carry out these tasks, teachers should be willing to try innovative methodologies and to be comfortable with technology. They also stated these tasks were suitable for other educational levels and contexts.

In summary, teachers expressed their appreciation for these innovative tasks, which they reported to be adequate for developing communicative competence in L2 as well as coherent with the methodology of the subject and motivating for the students. They also pointed out areas of improvement related to technology, time devoted to the tasks, and pair-work issues.

5. Discussion, conclusion and pedagogical recommendations

Regarding students' perceptions and their attitudes towards the tasks and multimodal composing, this study showed that including these kinds of collaborative composition processes in the course was perceived positively by the students, who praised their linguistic, creative and technological benefits, which supports previous experiences with these tasks (Kohnke *et al.*, 2021). Creating texts collaboratively increased both oral and written linguistic practice. Students appreciated the opportunity to share their ideas with their peers and to develop their negotiation abilities, supporting the findings of previous research on CW as shared construction of knowledge (Storch & Knoch, 2023). However, they also appreciated the value of traditional monomodal writing, probably because they might feel they have to use language more. Collaborative multimodal composing was also considered enriching and motivating and was praised for using different modes that reflected current ways of expression in social media (Pyo, 2016) through the incorporation of various semiotic modes, encouraging creativity. Participants were technologically savvy and showed awareness of the affordances of various technological tools, demonstrating a good digital competence level, one of the key competences for lifelong learning (European Commission, 2018). They were able to use technology to look for images, music, etc., to create their multimodal texts, although half of them expressed a lack of confidence when using several modes to organize their thoughts and to solve linguistic problems collaboratively while creating those texts, thus showing signs of multiliteracies development (Cope & Kalantzis, 2015). Nevertheless, the great majority of participants viewed technology as unimportant for their academic development. This perception can either indicate a lack of awareness about the importance of technology for academic purposes and the importance it will have in their professional life, or that technology has reached the normalization stage advocated by Bax (2003) and "is invisible, hardly even recognised as a technology, taken for granted in everyday life" (p. 23).

Technological problems not related to the tasks but to the malfunctioning of Wi-Fi or headphones and, to a lesser extent, preferences for individual work and for doing the tasks as homework were the only shortcomings reported. These kinds of problems have recurrently been reported in studies using technology (Bueno-Alastuey, 2011) as well as problems related to lack of familiarity with some tools, which are solved once students get to know the procedure and how to use different tools (Oskoz & Elola, 2020). Nevertheless, students showed familiarity with collaborative technologies such as Zoom, Google Docs and Google Slides, thus emphasizing an increased knowledge of collaborative working tools, probably indicating they usually work collaboratively online. Preference for individual work might be a consequence of experiencing problems due to individual differences related to culture and/or personality (Oskoz & Elola, 2020).

In line with students' perceptions about the use of technological tools to create digital collaborative monomodal and multimodal texts and their attitudes towards technology, the study highlighted that students could become multiliterate when involved in these types of tasks (Cope & Kalantzis, 2015; Yu & Zadorozhnyy, 2022). The more encouraging aspect revealed in the

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questionnaire was the fact that students felt confident using and selecting diverse technology based on the affordances of the tools that would later help them create multimodal texts in collaborative ways. Nevertheless, even though Generation Z is considered technologically savvy, in this study, students mentioned that they were familiar with certain tools (platforms such as Microsoft Word, Canva, and Google Docs), but not particularly familiar or confident with others (such as Zoom). This familiarity or lack thereof did not seem, however, to limit their collaborative work or completion of tasks. The collaborative nature of the tasks allowed for a type of scaffolding that reverted into a teaching moment between peers, thus facilitating the use of technology not explored before. These "learning moments" were on occasion facilitated via English as a lingua franca or the use of their L1, thus confirming the role of plurilingualism in multiliteracies development (Cope & Kalantzis, 2015). Because the main objective for students was to be able to efficiently use the tools to complete their assignments, the collaborative nature of the tasks supported their interest in learning new tools and using them accordingly (Yu & Zadorozhnyy, 2022). Providing diverse instruction methods about the use of tools for educational purposes showcased and promoted diverse alternatives for students to express their narrative pieces and fostered creativity and the use of Spanish, their L2, both in writing and orally. These outcomes also resonate with the principles of Universal Design for Learning (Courey, Tappe, Siker & LePage, 2013), which make learning accessible to a range of diverse students (representation), provide students with alternative ways to express and communicate what they have learned (action and expression), and promote students' interest and motivation by allowing them to find creative ways and hands-on approaches to the development of the task (engagement). Another important aspect related to the use of technology was its reported usefulness in aiding students when solving linguistic problems, while supporting metalinguistic discussion at the same time. Participants showed a preference for solving linguistic difficulties through online resources and discussion among peers. Negotiation of meaning and discussions about language have been shown to improve students' metalanguage and noticing, paving the ground for linguistic advancement (Storch & Knoch, 2023).

Concerning the teachers' perceptions and experiences integrating the tasks in their classrooms, the study revealed that they found the experience pedagogically innovative and highly positive. They felt that the tasks fitted perfectly into the L2 teaching syllabus and were consistent with the principles of the communicative approach that supports it. The teachers reported students' good reception of the collaborative experience and their increased motivation due to the nature of the tasks and the interaction they provoked, contributing to the development of students' language skills and gains in socio-affective aspects of learning. They also valued the experience because it included practice with multimodal texts – scarcely employed in L2 teaching – and broadened the range of pedagogical strategies used and developed students' digital skills. Teachers did not show any reluctance towards including DMC into their classroom procedures, contradicting previous research that emphasized that some instructors showed reluctance or hesitancy towards these kinds of multimodal text creation practices (Jiang & Ren, 2021). However, teachers suggested a reduction in the number of in-class sessions devoted to these tasks. Finally, they highlighted the potential of the tasks for a variety of proficiency levels and contexts.

Comparing the students' and teachers' perceptions, both found the tasks to be cutting edge and effective pedagogical strategies for creating meaningful texts, thereby developing learners' multiliteracies. Other benefits mentioned were the development of linguistic, social, and cross-cultural skills, fostered by the collaborative work of students of different languages and nationalities. They also observed an increase in motivation, which created a stronger engagement among students and with the course material, an affective variable that has been proven to influence language acquisition. Both cohorts believed these tasks needed to be done in an optimal technical environment and in online contexts. Contrary to previous research exploring DMC, teachers' and students' perceptions were quite similar, showing a very positive view of the experience from a linguistic and socio-affective point of view (Jiang & Ren, 2021).

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Some pedagogical recommendations to pave the way for the inclusion of collaborative digital transformation from monomodal- to multimodal-text tasks include a sound and coherent integration of the tasks. It is also important to link the tasks to already established content so they can be coherently integrated into the syllabus and to give clear guidelines with specific rubrics to address each mode. To minimize technological issues in group work, teachers and students should be trained to use digital tools for collaborative and multimodal purposes. Following sound pedagogical approaches such as a task-based approach, like in this study, learning by design or genre-based approaches can ensure and validate an informed design of the tasks.

Teachers can extend the initial prompt and material used and base the tasks on readings, listening pieces, or on personal investigation of varied topics to help students co-construct knowledge and offer opportunities to share and negotiate ideas, allowing for a scaffolding process among peers or between students and teachers in ways not explored before. Co-constructing knowledge through monomodal and multimodal texts helps students to reflect on their knowledge and practices. Further research should explore how well multimodal texts represent the content of the initial monomodal texts so as to provide clear explicit instruction and scaffolding, which has been indicated as a need for students (Liang & Lim, 2021). Moreover, it is essential to test the order in which texts are created – that is, monomodal followed by multimodal, versus multimodal followed by monomodal – and to compare the results of these orders to ascertain which one might serve as a best practice for students who are not confident in their academic writing skills. A closer look at the linguistic outcomes of students during and after carrying out the tasks would also provide insights into their usefulness for language acquisition. Given the preference some students have for individual work, it would also be fruitful to analyze which sequences and parts of the writing process could be carried out collaboratively and which individually to maximize benefits.

Finally, teachers should offer students alternative ways to complete the tasks and to create content in multimodal ways (e.g. students' selection of tools to express their intended meaning or the use of AI to aid in the composing process), allowing teachers to meet students' needs, to develop their multiliteracies, to reach diverse learning styles, and to encourage a dynamic classroom environment. Presenting instructions and information in varied ways (e.g. handouts, multimodal Google Slides, videos) offers students the opportunity to understand topics in depth and models examples for students to inform their thinking when they include multimodality in their own work. Furthermore, if teachers include this type of intervention, they will increase the opportunities for oral and written practice time, hence providing the space to develop not only language skills in Spanish but also social and cross-cultural skills, which can motivate students to try new approaches to learning.

Supplementary material. To view supplementary material referred to in this article, please visit https://doi.org/10.1017/S0958344025000011

Questionnaire about the use of collaborative digital multimodal tasks can be found at https://iris-database.org/details/Kh6j0-lSsvL and focus group questions can be found at https://iris-database.org/details/mfsw2-eUU9I

Data availability statement. Data available on request from the corresponding author.

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About the authors

Idoia Elola is a professor of Spanish and applied linguistics in the Department of Classical and Modern Languages and Literatures at Texas Tech University, US, and co-editor-in-chief of the journal *System*. Her research focuses primarily on (digital) second language writing. Her work has been published nationally and internationally.

M. Camino Bueno-Alastuey is an associate professor of didactics of languages and literature in the Department of Humanities and Education Sciences at the Public University of Navarre (UPNA), Spain. Her research focuses on the use of ICT to teach second and foreign languages.

María Victoria López-Pérez is a lecturer of didactics of languages and literature in the Department of Humanities and Education Sciences at the Public University of Navarre (UPNA), Spain, as well as the coordinator of the teaching of Spanish to international students at UPNA. Her research focuses on academic Spanish language and ICT in language learning.