

Multimodal composing in a French L2 class during short-term study abroad: Willingness to communicate and creative expression

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Abstract

Digital multimodal composing (DMC) and study abroad have each been valued for their potential to facilitate second language (L2) development, yet their intersection remains underexplored, particularly regarding willingness to communicate (WTC). Drawing on Norton's (2000, 2013) investment theory and MacIntyre et al.'s (1998) WTC framework, this study investigated how Instagram-based digital storytelling about host families shaped WTC and creative expression among five intermediate American French learners during a four-week study abroad program in France. The study addressed two research questions: (1) how host family interactions shaped through multimodal storytelling influenced WTC, and (2) how multimodal affordances (visual, audio, and textual) scaffolded learners' creative expression and WTC development. Data included semi-structured interviews, weekly reflection journals, stimulated recall sessions, and Instagram artifacts. Two distinct patterns emerged according to learners' investment levels. For high-anxiety, lower-investment learners, multimodal affordances served primarily compensatory functions, distributing

communicative load across modes when linguistic resources proved insufficient. For high-investment learners, these same affordances functioned as sophisticated tools for cultural interpretation, enabling increasingly complex creative expression and sustained WTC development. These findings suggest implications for task design in short-term study abroad programs, particularly regarding how structured digital storytelling tasks may support authentic host family engagement and communicative risk-taking.

Keywords: willingness to communicate; investment; multimodal composition; study abroad; French as a second language

1. Introduction

Digital multimodal composing (DMC) involves using digital tools to produce texts by combining multiple modes, including word, image, and soundtrack (Jiang, 2017; Kress, 2003). Grounded in social semiotic multimodality theory (Kress, 2003, 2010) and multiliteracies theory (New London Group, 1996), DMC has been noted to have several benefits for second and foreign language (L2) learners, including enhancing multiliteracy skills, promoting autonomy, improving identity expression, boosting motivation, and developing writing competence (Hafner, 2014; Jiang, 2018). Yet, much of the existing DMC research has concentrated primarily on English as second/foreign language contexts, leaving other foreign language contexts underexplored (Yiğitoğlu & Reichelt, 2019). Study abroad (SA) has similarly been valued for its potential to facilitate language development through immersive exposure to authentic target language communities (Kinging, 2009; Llanes & Muñoz, 2012). However, research has revealed considerable variability in SA outcomes as simply being present in the target language environment does not guarantee language gains. Instead, what determines learning outcomes is whether students actively initiate communication with host community members, especially during high-stakes social interactions like host family conversations (Isabelli-García, 2006; MacIntyre et al., 1998; Segalowitz & Freed, 2004). Despite their complementary potential, little scholarship has examined how SA and DMC contexts interact to influence L2 learning, particularly in relation to WTC. This represents a significant gap, as DMC tasks situated within SA contexts could meaningfully enhance students' willingness to speak, giving them genuine reasons to initiate conversations, while multimodal resources help manage the anxiety that typically holds them back. Moreover, the intersection of SA and DMC has remained almost entirely unexplored in French L2 contexts.

This study addressed these gaps by investigating how five American undergraduate students learning French experienced changes in WTC and creative expression

when they created weekly Instagram posts about their host families during a four-week SA program in France. By situating DMC within authentic host family relationships during short-term SA, we examined how digital storytelling influenced both investment patterns and WTC development over the four-week program.

2. Literature review

2.1. Theoretical framework

This study draws on two interrelated theoretical perspectives: (1) Norton's investment theory (Darvin & Norton, 2015; Norton, 2000, 2013), which views L2 engagement as socially and historically constructed, tied to learners' identities and their expectations of acquiring symbolic and material resources that increase cultural capital and social power; and (2) MacIntyre and colleagues' willingness to communicate (WTC) framework (MacIntyre, 2007; MacIntyre et al., 1998; MacIntyre & Wang, 2021), which captures the readiness to initiate L2 discourse as it emerges from competing driving forces (motivation, desire to connect) and restraining forces (anxiety, fear of embarrassment, perceived incompetence). These two frameworks operate at different timescales. Investment is dynamic rather than static in that it shifts as learners move through different contexts and renegotiate their relationship with the target language. WTC, by contrast, operates at the moment of action. MacIntyre et al. (1998) positioned it as the final psychological step before actual L2 use, where stable individual traits meet the pressures of a given situation (Kang, 2005; MacIntyre & Legatto, 2011). Together, they capture different layers of how engagement with an L2 unfolds: Investment shapes the conditions for WTC by generating driving forces toward communication, while WTC reflects how those investment patterns surface in actual communicative choices.

2.2. Study abroad as a context for L2 development

SA has long been considered an ideal context for L2 learning, yet empirical research has shown that outcomes vary considerably across learners and programs (Kinginger, 2009). The evidence for grammatical development remains mixed (Isabelli-Garcia, 2010; Muñoz & Llanes, 2014), while stronger and more consistent gains have been documented in sociolinguistic variation and pragmatic competence (Bataller, 2010; Kennedy Terry, 2017). Part of what explains this variability is that immersion contexts are social environments where learning opportunities do not come automatically but depend on program structure, housing arrangements, learner initiative,

and social networks (Dewey et al., 2013; Douglas Fir Group, 2016; Kinginger, 2009). Recent work has shown that the size, diversity, and intensity of learners' target-language networks predict both language gains and integration into host communities (Kennedy Terry, 2023; Paradowski et al., 2024; Strawbridge, 2023a, 2023b). Homestays in particular offer sustained contact with the L2, but how much students gain depends less on the arrangement itself and more on the relationship they develop with the family. Closer bonds with host families have been found to correlate with greater L2 use and gains in oral proficiency (Isabelli-García, 2006; Rivers, 1998), while identity positioning can open or close learning opportunities depending on how students are received (Kinging, 2008). From an investment perspective, homestays facilitate learning when host families treat students as legitimate contributors rather than as guests to be accommodated (Norton, 2000).

The four-week intensive program under investigation in this study reflects short-term SA trends that constitute the majority of US participation (Institute of International Education, 2019). Accumulating evidence shows that short-term programs can yield meaningful improvements in oral fluency, pragmatic awareness, and overall proficiency (Davidson, 2010; Llanes & Muñoz, 2012; Zalbidea et al., 2021). Notably, Zalbidea et al. (2021) documented sustained improvements in grammatical development and overall proficiency following short-term SA, challenging earlier assumptions about the necessity of more extended immersion periods. Most WTC studies have focused on classroom environments (Kang, 2005; Peng, 2012). Far less is known about how WTC develops over time in immersion contexts, despite its importance for SA success.

2.3. Digital multimodal composing

DMC involves creating texts that combine linguistic, visual, audio, gestural, and spatial modes using digital tools (Jiang, 2017; Kress, 2003). Grounded in social semiotic multimodality theory (Kress, 2003, 2010) and multiliteracies theory (Cope & Kalantzis, 2015; New London Group, 1996), DMC positions L2 competence as requiring both linguistic knowledge and the ability to design multimodal texts that communicate effectively across modes (Jewitt, 2009). From this perspective, meaning-making extends beyond linguistic resources to encompass how learners strategically coordinate multiple semiotic modes to achieve communicative purposes. Recent comprehensive reviews have synthesized the expanding DMC research base, highlighting theoretical developments, methodological innovations, and pedagogical applications across diverse L2 contexts (see Jiang & Hafner, 2024; Kessler, 2024; Lim & Kessler, 2024). Previous studies have documented several benefits of engaging in DMC, including increased motivation and

investment (Hafner, 2014; Jiang, 2018), opportunities to perform identities beyond purely linguistic means (Lam, 2000), and the ability to communicate when proficiency is limited (Hafner, 2015; Nelson, 2006). Moreover, DMC projects involving real audiences create authentic purposes that enhance investment (Reinhardt & Thorne, 2016), although linguistic gains remain mixed (Kessler, 2024). Of note, Jiang's (2018) study revealed that students' DMC responses were shaped by identity commitments and ideological beliefs, with some viewing DMC as a valuable extension of literacy, while others saw it as tangential to "real" language learning. While much DMC research has focused on English as an L2 context, emerging work has examined DMC in French, Dutch, Japanese, and Spanish (Akoto, 2021; Nishioka, 2016; Vandommele et al., 2017; Zalazar, 2025), suggesting that multimodal affordances may operate similarly across linguistic contexts.

Instagram, with its emphasis on visual storytelling combined with textual and audio features, offers particular affordances for reducing communicative anxiety and fostering authentic interaction (Huang, 2022; Reinhardt & Zander, 2011). However, the existing Instagram-based L2 research has largely examined instructor-mandated classroom use (Lee, 2023; Misnawati et al., 2024), where the audience is often hypothetical or limited to fellow students, or autonomous digital contexts removed from structured learning environments (Neuhoff & Sauro, 2026). SA contexts present a unique opportunity to examine how Instagram-based DMC might function when the audience is not imagined but present, and when both the driving forces (desire for connection, practical information needs) and restraining forces (fear of offending, concern about misrepresentation) operate at a higher intensity than anything a classroom DMC task is likely to produce.

Understanding why SA contexts create these conditions, however, requires examining a relationship the literature has largely left implicit. The connection between DMC and WTC has received limited attention, yet multimodal affordances have clear implications for the driving and restraining forces that shape learners' communicative decisions. Visually, images can carry meaning that exceeds a learner's current lexical range, easing the pressure to find the right words (Hafner, 2015). Audio affords something face-to-face conversation does not: the ability to rehearse privately and revise before anything is heard (Sauro, 2009). Written captions, composed asynchronously, allow learners to attend to form in ways real-time speech simply cannot sustain (MacIntyre & Wang, 2021). Simultaneously, DMC may amplify driving forces by creating authentic purposes for gathering information and enabling identity performance through multimodal self-representation (Wilson et al., 2012). However, these affordances function only when students invest meaningfully in DMC as legitimate communicative work (Jiang, 2018). Therefore, as Kessler (2024) notes, the theoretical promise of DMC requires pedagogical designs that situate DMC within authentic communicative contexts

where learners have genuine purposes and audiences for their work, as would be the case of communication in a SA context, as detailed next.

2.4. The present study

DMC tasks situated in SA contexts could transform students' readiness to communicate by creating authentic purposes for host family interaction while reducing linguistic anxiety through multimodal scaffolding. When students create DMC texts about their host families, they must initiate conversations to gather information, seek permission to photograph family members or spaces, and discuss cultural practices, thereby organically cultivating investment and WTC through task-driven negotiations, unprompted exchanges, and self-generated communicative purpose. Importantly, understanding how WTC develops in such contexts requires attention to the temporal scale. WTC can be measured across multiple timescales (MacIntyre & Ayers-Glassey, 2020), from trait-like WTC, which captures stable individual differences (McCroskey & Richmond, 1991), to dynamic WTC, which examines moment-to-moment fluctuations using idiodynamic methods or experience sampling (MacIntyre & Legatto, 2011; Mystkowska-Wiertelak & Pawlak, 2017). Between these approaches lies an intermediate timescale that tracks WTC changes across days or weeks, capturing how communicative readiness evolves as learners navigate changing circumstances.

The present study adopts this intermediate timescale approach, tracking weekly WTC trajectories over a four-week SA program to examine how Instagram-based host family interactions influence students' evolving readiness to communicate in French. This timescale aligns with the study focus on investment patterns, which Norton (2013) conceptualizes as developing over time through accumulated interactions and identity negotiations. While moment-to-moment WTC captures immediate affective responses, weekly WTC tracking allows us to see how sustained engagement with DMC tasks and host family relationships shapes students' general orientation toward French L2 learning. The study addressed the following research questions:

- RQ1: How does creating Instagram content about host families influence French learners' WTC?
- RQ2: In what ways do multimodal affordances (visual, audio, and textual) scaffold French language learners' creative expression and WTC development during study abroad?

3. Methods

3.1. Context and students

The study was conducted during a four-week summer SA program in France organized by a southern US public university. The program enrolled nine undergraduate students, who attended morning French language classes (15 hours per week) and participated in afternoon cultural excursions while living with host families. Five students volunteered to participate in the study after recruitment presentations during pre-departure orientations. All students were pursuing French minors, were assessed at the intermediate-low proficiency level according to ACTFL guidelines, and were native English speakers aged 20-22 years, with limited or no prior study-abroad experience. Table 1 presents participant profiles with pseudonyms to protect confidentiality.

Table 1 Participant profiles

Name	Age	Gender	Major/Minor	Prior French study	Host family composition
Juliana	22	F	Marketing & French	5 semesters; no prior immersion	Empty-nest couple (Isabelle & Jean, 60s)
Chase	21	M	Homeland Security & French	4 semesters; no prior immersion	Family with teens (Marie, Pierre, & children aged 14, 16)
Jasmin	21	F	English & French	4 semesters; 2-week France trip in high school	Single host mother (Marguerite, 72, retired teacher)
Jake	22	M	Mass Communication & Film Studies (French minor)	6 semesters; no prior immersion	Young couple (Camille & Thomas, early 30s, no children)
Cindy	21	F	Mass Communication (French minor)	5 semesters; no prior immersion	Three-generation household (grandmother, parents, two children)

Note. F = female; M = male

The host families varied considerably in composition, including two-parent households with children, couples without children at home, single individuals, often retirees, and multi-generational households. All host families had participated in the program for at least two years and had undergone orientation regarding their role in mediating students' French learning. However, families had flexibility in how they integrated students into household routines, which led to variation in the quantity and quality of French interaction opportunities across placements.

3.2. Task description

The Instagram-based DMC project, titled *Ma famille aixoise et moi* (My Aix family and me), required students to create one Instagram post per week documenting

their host family experiences. Students worked on their Instagram posts independently in their own time and sent the instructor links to their posts each week. Although the Instagram project was a course requirement that counted for 20 percent of their final grade, participation in the study was entirely voluntary and did not affect grades beyond the course requirement. Amazon gift cards were provided at the end of the program as an incentive for research participation.

The task design was informed by multiliteracies pedagogy (Cope & Kalantzis, 2015; New London Group, 1996). Each post had to include a picture or video, a French caption of at least 100 words, relevant hashtags, and content related to host family experiences or cultural practices. Posts needed to be publicly viewable or shared with the instructor. Students were encouraged, though not required, to incorporate additional multimodal features such as stories, reels, audio recordings, and carousel posts. Students could seek host family input on their captions if they wished, and additional posts beyond the weekly requirement were welcome. By embedding the DMC task within authentic host family relationships, the project was designed to generate genuine communicative purposes that neither traditional classroom DMC nor unstructured SA experiences typically provide.

3.3. Data collection

The data collection spanned the entire program and included multiple sources to capture both the processes students engaged in and the products they created. During the first week, students completed informed consent forms and participated in an orientation to the DMC project. The Instagram artifacts involved all posts created by students throughout the program, including pictures and videos, French-language captions, hashtags, comments from host families and other followers, and Instagram stories captured via screenshots. Each post was saved and cataloged by week and participant, creating an archive of 20 posts across five students.

Additionally, three rounds of semi-structured interviews were conducted with each participant. Pre-program interviews (30 minutes, via Zoom before departure) captured French-learning histories, motivations for SA, expectations of host families, and anticipated challenges with speaking French. The students provided initial self-rated WTC on a scale from 1 (not at all willing) to 10 (extremely willing). Mid-program interviews (15-30 minutes, in person at Week 2) explored host family relationship development, WTC in various contexts, and experiences creating Instagram posts. Post-program interviews (30 minutes, in person at Week 4) invited retrospective reflection on WTC changes, investment in French communication, host family relationships, and the role of the Instagram project. Then, the students again rated their WTC on the same scale. All the interviews were audio-

recorded and transcribed verbatim. Interviews were conducted in English to ensure that students could express their reflections freely without L2 constraints.

In addition to the interviews, weekly reflection journals provided ongoing documentation. The students completed brief structured entries via Google Forms each week, responding to prompts about their French use with host families, reflections on their Instagram posts, a weekly WTC self-rating on the same 1-10 scale with short explanatory comments for any change from the previous week, and any memorable interactions. Specifically, they were prompted: "On a scale of 1-10, how willing are you to initiate and sustain conversations in French with your host family this week?" This weekly measure allowed tracking the WTC trajectories throughout the four-week program. The entries typically ranged from 200-400 words.

Lastly, stimulated recall sessions were conducted to capture the creative decision-making processes. For two selected Instagram posts per participant (one from Week 2 and one from Week 4), the first author and the participant viewed each post together. The students narrated the creation process, explained specific creative choices, described interactions with host families related to the post, and reflected on their WTC during those interactions. These sessions lasted 10-20 minutes per post and were audio-recorded and transcribed. The interview, journal, and stimulated recall protocols are available from the authors upon request.

3.4. Data analysis

Because the two research questions called for different analytic lenses, the data was analyzed in two corresponding strands. The first section addresses how Instagram content creation related to WTC, drawing on the interviews, journals, and visual timelines through an iterative, theory-informed coding process. The second section addresses how the multimodal affordances of the DMC products shaped WTC development, analyzing the 20 finished Instagram posts alongside stimulated recall and reflective data. Each strand is described in turn below.

3.4.1. Analysis of Instagram content creation and WTC

We analyzed data for the first research question in three phases. First, we organized all data sources chronologically for each participant. The initial open coding identified concrete behaviors (e.g., speaking French at dinner, revising captions) and underlying patterns (e.g., anxiety about grammar, desire for validation), using students' own words and phrases where possible. Visual timelines displayed weekly WTC ratings, key events, and relationship developments, while

analytic memos documented emerging patterns and turning points. In the second phase, we systematically recategorized the initial codes using theoretically informed categories drawn from MacIntyre's (2007) WTC and Norton's (2013) investment frameworks. The resulting coding scheme (see Table 2) included five main categories: WTC dynamics, investment patterns, Instagram-mediated communication, ideological beliefs, and critical incidents. Each category contained specific subcodes. Throughout this process, we checked codes against the data to ensure they captured students' actual experiences rather than imposing predetermined categories. In the third phase, cross-case analysis identified shared patterns and variations. We examined how beliefs shaped investment and how investment related to WTC, as well as the mechanisms through which Instagram-mediated interactions influenced WTC. We actively sought disconfirming evidence and examined negative cases to refine emerging patterns. The analysis tracked thematic shifts from predominantly restraining forces in Week 1 to increasing driving forces by Week 4 for four of the five students.

3.4.2. Analysis of multimodal affordances and WTC development

All finished DMC products (20 Instagram posts in total) were analyzed using an adaptation of Hafner's (2015) multimodal framework. We tracked the evolution of each post by comparing Week 1 and Week 4 posts to identify changes in multimodal sophistication, linguistic complexity, thematic depth, and creative expression. The analysis followed a constant comparative approach (Strauss & Corbin, 1990), in which we read and reread the stimulated recall transcripts, journal reflections, and interview discussions during iterative coding (Saldaña, 2016). Initial codes used words and phrases taken directly from students (e.g., "the pictures did the work," "recording multiple times," "revising without pressure"). We then systematically compared and categorized these *in vivo* codes to identify broader patterns. This inductive process yielded theory-informed categories grounded in students' own language. The final coding scheme (see Table 3) included four main categories: (1) visual affordances, capturing how images helped students communicate beyond linguistic capacity, document culture, reduce anxiety, and tell stories strategically; (2) audio affordances, including iterative recording as practice, building pronunciation confidence, and transfer to spontaneous speech; (3) textual affordances, encompassing revision time, dictionary use, host family consultation, and asynchronous composition; and (4) compensatory scaffolding, referring to instances where one mode compensated for limitations in another. We then examined students' reflections on how different modes facilitated their French L2 learning and tracked linguistic features in captions across weeks to identify developmental patterns. Transfer effects (instances in which skills developed

through Instagram composition appeared in spontaneous oral production) were identified through triangulation across self-reports, linguistic analysis of captions, and stimulated recall sessions. Member checking with students confirmed interpretations and surfaced minor contextual refinements incorporated into the final analysis.

Table 2 Coding scheme for RQ1 (WTC and investment)

Category	Subcodes	Representative example
WTC: Restraining forces	Anxiety about speaking; grammar concerns	"Speaking is terrifying" [Juliana, pre-program]
WTC: Driving forces	Authentic communicative purposes; meaningful topics; social validation	"An actual French person said my writing was beautiful" [Juliana, Week 3]
WTC: Communication behaviors	Initiating conversations; extended conversations	"Now I'm always asking questions" [Juliana, Week 3]
WTC: Critical incidents	Validation moments; breakthrough experiences	"Isabelle created an Instagram account just to follow my posts" [Juliana, Week 2]
Investment: Identity positions	Cultural interpreter; collaborative creator	"We were . . . speaking French because we were focused on creating something together" [Jake, Week 3]
Investment: Time and effort	Hours per post	"I spent almost 3 hours" [Juliana, Week 2] vs. "about 15 minutes" [Chase, Week 2]
Investment: Returns	Perceived validation; relationship development	"The posts became this bridge between us" [Juliana, post-program]
Instagram-mediated communication	Content needs generating conversation; host family engagement	"She commented in French with heart emojis" [Juliana, Week 2]
Ideological beliefs	Instagram as enhancing; grammar-first ideology	"The Instagram project makes me more present and observant" [Juliana, Week 3]

Table 3 Coding scheme for RQ2 (multimodal affordances)

Category	Subcodes	Representative example
Visual affordances	Communicating beyond linguistic capacity; reducing linguistic anxiety	"At least I can show what I can't say" [Cindy, Week 2]
Audio affordances	Iterative recording as practice; transfer to spontaneous speech	"I recorded the voiceover 11 times" [Jake, Week 3]
Textual affordances	Extended revision time; host family consultation	"I revised it at least 5 or 6 times before posting" [Juliana, Week 2]
Compensatory scaffolding	Visual compensation for vocabulary gaps; audio revision practicing pronunciation	"I didn't have the French vocab . . . so I let the photos do the talking" [Cindy, stimulated recall]
Mode coordination	Strategic mode integration	"There was a reason behind every element" [Jasmin, stimulated recall]
Creative expression	Cultural interpretation through composition	"I'm thinking about what these types of objects actually mean" [Jasmin, Week 2]

4. Results

Interpreted through the integrated theoretical framework of WTC (MacIntyre, 2007) and investment (Darvin & Norton, 2015; Norton, 2013), the analysis revealed varied patterns of change in students' self-reported WTC in French over the four-week period. Figure 1 presents students' self-reported weekly WTC progression,

while Table 4 summarizes the contrasting investment patterns that emerged between high-investment students (Juliana, Jasmin, Jake, and Cindy) and the low-investment participant (Chase).

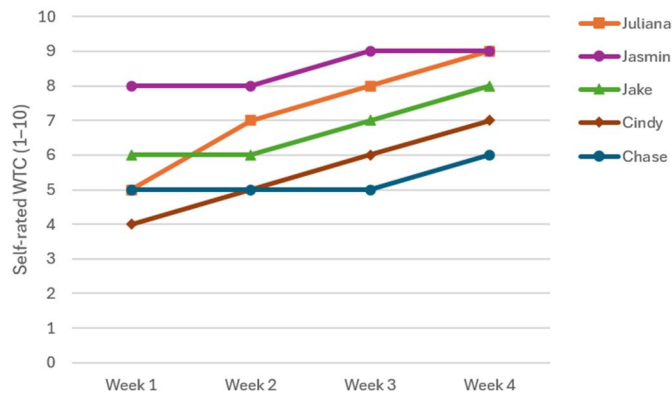


Figure 1 Weekly WTC progression by participant

Table 4 Contrasting investment and WTC patterns

Dimension	High investment (Juliana, Jasmin, Jake, Cindy)	Low investment (Chase)
WTC trajectory	Moderate to dramatic increases (3-7 points); final 7-9/10	Minimal change (1 point); final 6/10
Time per post	1-3 hours; 3-6 drafts; host family consultation	10-15 minutes; minimal revision; no consultation
Instagram-mediated communication	Content needs generated 15-45 min conversations; active information gathering	Minimal host family conversation; no new interactions
Multimodal deployment	Strategic visual, audio, and textual modes; simple-to-sophisticated evolution	Single photos with brief captions; no integration or evolution
Restraining forces (Week 1)	Anxiety about speaking; fear of embarrassment; grammar and vocabulary concerns	Generic mistake avoidance; preference for peer interaction
Driving forces (Week 4)	Authentic purposes; social validation; meaningful topics; belonging	Limited; peer socialization prioritized
Ideological orientation	Instagram enhances engagement; communication over accuracy; mistakes as data	Instagram threatens authenticity; persistent grammar concern; passive immersion expectation
Critical incidents	Multiple validation moments catalyzing WTC shifts	None reported
Communication behavior change	From minimal responses to initiating and sustaining interactions (20-45 min)	Minimal change; brief exchanges

4.1. Instagram-mediated host family interactions and WTC

Our RQ1 asked how creating Instagram content about host families influenced French learners' WTC. To address this question, we analyzed weekly journals, semi-structured interviews, and self-reported WTC ratings. These data sources together revealed a clear pattern in students' WTC trajectories. As shown in Figure 1, four students experienced moderate to dramatic WTC increases ranging

from 1 to 4 points, while one participant showed minimal change. The findings revealed that Instagram-based DMC influenced students' WTC in two ways: it reduced restraining forces while simultaneously amplifying driving forces toward French. This only worked, however, when students actively invested in Instagram composition as meaningful work rather than simply completing assignments. For the four high-investment students, Instagram content needs created what they described as "authentic purposes" for starting conversations they might not otherwise have pursued. For example, Juliana's WTC increased most dramatically over the four weeks (see Figure 1). Her Week 1 journal illustrated the pattern clearly:

I knew I wanted to post about breakfast because the croissants are amazing. But I realized I didn't know enough to write a good caption. So at breakfast on Wednesday, I asked Isabelle (in French!) where she buys those amazing croissants, what time, and why breakfast is important in France. She was so happy I asked! We ended up having a real conversation for like 15 minutes.

This shows how content needs shifted Juliana's focus from linguistic form, the main source of her initial anxiety, to meaningful content, which reduced restraining forces. By Week 3, conversations stretched to 30-45 minutes. She went from brief, anxiety-driven responses ("I mostly just smiled and nodded at dinner") to initiating extended discussions about gardening, family history, and daily life. Jasmin also started from a higher baseline but still showed meaningful growth through deepened engagement (see Figure 1). Her approach to documenting Marguerite's intellectual life required sustained interaction. By Week 3, she reported:

I talk to Marguerite about everything now . . . books, politics, family, teaching, life in France. I'm not worried about making mistakes anymore because she understands what I'm trying to say and our conversations are too interesting to let grammar anxiety stop me. Yesterday we discussed Sartre and existentialism for like 45 minutes!

This shift shows how meaningful topics generated by Instagram documentation functioned as driving forces that overrode restraining forces.

Jake's collaborative video production illustrated a different mechanism. It repositioned him from a passive guest to an active creative partner as his WTC steadily increased across the program (Figure 1). When his host parents, Camille and Thomas, began calling the videos "our videos" rather than "your videos," Jake experienced this as transformative, which is exemplified by the following excerpt: "Making the video together turned us into a team . . . We were speaking French the whole time because we were focused on creating something together, not on whether my grammar was perfect." This identity shift reduced the power imbalance in the host-guest relationship and created conditions for more equal communication.

There were other critical incidents that emerged as particularly significant in triggering WTC shifts, as Figure 1 shows. These moments (perceived validation, breakthrough communication, or identity affirmation) provided students with concrete evidence that they could, in fact, communicate effectively in French, which shifted how they saw themselves and made them feel empowered. For example, Juliana's most transformative moment happened in Week 2 when her host mom, Isabelle, created her first Instagram account specifically to follow Juliana's posts:

Something amazing happened today that completely changed how I feel about everything. Isabelle showed me that she created an Instagram account . . . her first-ever social media account! just so she could follow my posts . . . I literally started crying at the dinner table. I realized that my posts actually matter to her, that she's not just tolerating me as a student she has to host, but she genuinely cares about how I see her and our life together . . . The anxiety that was holding me back just dissolved.

Figure 1 shows that her self-rated WTC jumped right after this experience. The perceived validation reduced restraining forces by shifting her focus from linguistic correctness to meaningful communication. Jasmin had a comparable experience when Marguerite shared her Instagram post about their Camus discussion with three former students who were now literature teachers: "I felt so honored that Marguerite thought my post was good enough to share with actual French literature experts. And like they actually took me seriously!" This validated Jasmin's investment in the cultural interpreter identity and confirmed that her cultural observations held value beyond the classroom. Instagram's social features (comments, likes, shares) provided additional validation that students said strengthened their continued investment and motivated continued effort in both Instagram composition and French communication more broadly.

Chase's experience stood in stark contrast. Despite having access to the same affordances and homestay context, he showed minimal investment and correspondingly minimal WTC change (see Figure 1). He spoke explicitly about this approach in the mid-program interview when he stated the following:

I'm doing the posts because they're required, but honestly, I'm not putting that much effort into them. I usually just take a quick photo and write a caption in like 10 minutes. I don't really ask my host family about things for the posts, I just write about what I already know.

Without investment in his host family relationships or viewing Instagram as a meaningful communication tool, the project gave him neither authentic purposes for communication nor perceived returns that might have strengthened engagement. Notably, Chase's journals contained no references to critical incidents, suggesting that such transformative moments require active investment and risk-taking. The

weekly journal analysis also confirmed this pattern: Week 1 entries across the four high-investment students centered on restraining forces (grammar anxiety, fear of embarrassment, vocabulary limitations), while Week 4 entries increasingly described driving forces such as authentic communicative purposes, social validation, and a growing sense of belonging. Chase's journals showed no comparable shift.

The relationship between Instagram composition and WTC was likely influenced by ideological beliefs that shaped whether students saw the Instagram work as legitimate cultural learning worth substantial investment (see Table 4). Students who held "enhancement ideologies" invested heavily in composition. Juliana put it this way: "Because I know I'll create an Instagram post, I pay closer attention to details I might otherwise miss . . . The Instagram project makes me more present and observant, not less." Juliana's Week 3 journal likewise documented a fundamental shift:

I've realized Isabelle doesn't care about my grammar mistakes. She cares about what I'm trying to say. The mistakes don't stop communication, they're part of learning. I used to think I had to speak perfectly or not at all. Now I realize that's backwards. Communication is more important than correctness.

4.2. Multimodal affordances mediating creative expression and WTC development

Our RQ2 asked how multimodal affordances scaffolded French language learners' creative expression and WTC development during study abroad. To address this question, we analyzed the Instagram artifacts, stimulated recall sessions, weekly journals, and semi-structured interviews.

The findings revealed that multimodal affordances served distinct yet complementary functions in mediating French language learning and WTC development. Two primary patterns emerged from the data. For students with higher linguistic anxiety and lower initial WTC, multimodal affordances mainly served compensatory functions, distributing the communicative load across semiotic modes when linguistic resources proved insufficient. For students with higher initial investment, these same affordances became tools for cultural interpretation, that is, the ways of representing how they were coming to understand France and their place in it. That distinction tracks closely with the investment and WTC differences documented in Table 4.

Visual affordances proved particularly powerful for students experiencing significant vocabulary gaps. Cindy, who entered with the lowest initial WTC (see Figure 1), reported feeling overwhelmed by her complex three-generation host family. She relied heavily on pictures to reduce restraining forces. Her Week 2 post consisted of eight photos showing different family members, spaces, and daily

activities, accompanied by a relatively brief 92-word caption. Her stimulated recall revealed conscious deployment of visual modes as compensatory scaffolding:

I wanted to show the complexity of this big family, how Mamie (the grandmother) interacts with the kids, and how everyone has different roles and spaces in the house. But I didn't have the French vocabulary to describe all that in words . . . So I let the photos do most of the talking.

This reliance on visual modes reduced a major restraining force by distributing communicative load across semiotic systems rather than depending entirely on linguistic production. By Week 4, Figure 1 shows Cindy demonstrated substantial WTC growth. She reported that successful visual communication had built confidence that transferred to verbal interaction. The pictures became conversational anchors, providing material support when vocabulary failed. In contrast, students with stronger initial investment deployed visual affordances as sophisticated storytelling tools rather than compensatory devices. Jasmin's photography exemplified this advanced approach. Her Week 1 post featured five carefully composed pictures of Marguerite's apartment, each selected and framed to reveal specific aspects of Marguerite's intellectual life. Her stimulated recall showed conscious attention to visual rhetoric:

I thought carefully about what each photo should show and how to frame it. The close-up of the worn Camus book with Marguerite's handwritten notes in the margins, that shows her deep, decades-long engagement with literature, not just some casual reading . . . I wanted people to see Marguerite as I was learning to see her . . . as someone whose life is shaped by literature and ideas.

This type of visual storytelling reflected investment in the cultural interpreter identity. Moreover, the process of creating these pictures generated numerous WTC moments through extended interaction about compositional intentions, which books to feature, and the stories behind individual volumes.

Audio affordances, used by three students (Juliana, Jasmin, and Jake), proved particularly valuable for developing oral confidence through what students described as "low-stakes practice." The key affordance was revisability. Unlike face-to-face conversation, where errors are immediate and permanent, recorded audio allowed iterative improvement without much social risk. Jake's Week 3 market video included a 90-second French voiceover that he recorded 11 times before he was satisfied. His journal captured the learning process in the following way:

The first few takes, I kept stumbling over words and my pronunciation was terrible. I'd hear myself saying "marché provençal" and cringe at how American I sounded. But because

I could re-record as many times as I wanted, I didn't feel that same panic I feel when speaking in real-time conversation where I only get one chance.

Jake's post-program interview further provided explicit evidence for this transfer:

Recording French voiceovers actually made me more confident speaking in person with Camille and Thomas. I think it's because I'd practiced pronouncing so many words while recording . . . Also, I was less scared of making mistakes in conversation because I'd made tons of mistakes in recordings and then fixed them, so I knew mistakes weren't permanent disasters.

This self-reported transfer was corroborated by behavioral evidence in his Week 4 stimulated recall, where he described consciously applying pronunciation strategies from his recordings to dinner conversations, and by linguistic evidence as vocabulary items from his voiceovers (e.g., *provençal* [Provençal], *artisanal* [artisanal], *traditionnel* [traditional]) appeared spontaneously in his post-program interview responses. Juliana's audio use also evolved progressively over four weeks, paralleling the dramatic increase in WTC shown in Figure 1. Week 1 included only pictures with written captions. Week 2 featured a simple video with ambient sound but no narration. Week 3 included a video with both Isabelle's voice and Juliana's voiceover. Week 4 culminated in a 90-second reel with extensive French narration. Her Week 3 stimulated recall explained how audio modes addressed specific anxieties:

I was really nervous about adding my own voiceover at first because I'd have to speak French for like 45 seconds straight and people would hear all my mistakes. In real-time conversation, mistakes disappear quickly, but in a recording they're permanent . . . Then I realized I could record it in sections, like 10 seconds at a time, and edit them together so it sounds fluent.

The ability to rehearse and revise her recordings privately built her oral confidence, which began to transfer to spontaneous speech. Jasmin's audio deployment reflected her identity as a cultural interpreter. She incorporated carefully selected music (Satie's *Gymnopédie* No. 1) that Marguerite had introduced her to during a conversation about French impressionism. Her stimulated recall revealed intentionality behind this choice:

The music isn't just background; it's part of the cultural story. Marguerite played this piece for me on her old record player and talked about how Satie represented a particularly French aesthetic sensibility. Including it in my reel connects the visual and textual content to the auditory dimension of French culture that Marguerite shared with me.

Textual affordances, particularly the asynchronous and revisable nature of caption writing, gave students opportunities for sustained attention to linguistic form that are nearly impossible in ephemeral oral conversation. Students' time investment in caption composing, documented in Table 4, varied dramatically and served as behavioral evidence of different levels of commitment. Juliana and Jasmin reported spending 2.5 to 3 hours per caption, compared to Chase's 10 to 15 minutes. This reflected fundamental differences in how they conceptualized the activity. Juliana's Week 2 journal described intensive revision processes that created learning opportunities:

I spent almost 3 hours working on yesterday's caption about Isabelle's garden . . . I revised it probably 5 or 6 times before posting. I've never spent that much time on any French homework but this matters more because Isabelle will see it and my followers will see it, and so I kinda want it to be really good.

The revision process shows how authentic communicative purposes drove sustained linguistic work. The caption mattered to Juliana not for a grade but because it represented her relationship with Isabelle to a real audience. The caption composing process frequently generated host family consultations that functioned as authentic form-focused episodes. When Jasmin wanted to express that Marguerite's apartment "feels like" stepping into a library, she consulted Marguerite during breakfast about the appropriate expression. She explained:

I asked Marguerite, "Comment dit-on 'it feels like' en français quand on parle d'une impression et pas d'une sensation physique?" and she taught me the expression "avoir l'impression de" and explained when to use it versus "comme si" with the subjunctive. We spent 10 minutes discussing the grammatical difference, and she gave me some examples that are used in normal day-to-day life.

This caption mattered enough to Jasmin that she risked revealing her linguistic gap by asking for help, and the need arose from an authentic desire to express specific meaning rather than from an artificial exercise.

Similarly, Jasmin's post-program interview described how expressions she practiced extensively in caption writing began appearing in her spontaneous conversations with Marguerite. This self-reported transfer was corroborated by linguistic evidence: complex structures from her Week 3 caption (e.g., subjunctive constructions such as *Il faut que je comprenne* [I need to understand]) appeared spontaneously in her Week 4 stimulated recall responses. Behavioral evidence also supported this, as she described during her final interview, consciously drawing on caption vocabulary during dinner conversations when seeking precise expressions. Comparing Week 1 and Week 4 artifacts revealed that

the four high-investment students' posts had grown more linguistically ambitious, more culturally layered, and more intentional in design, while Chase's showed no comparable development. Juliana's progression exemplified the evolution pattern. Her Week 1 post consisted of three simple photographs with a 105-word caption using 12 unique verbs, all in the present tense, with basic sentence structures and limited cohesive devices (*et* [and], *mais* [but]). Her Week 4 post was a 90-second reel integrating chronologically sequenced photos and video clips, sophisticated French narration, strategic on-screen text, and carefully selected background music. The caption was 180 words using 28 unique verbs across four tenses (present, *passé composé* [compound past], *imparfait* [imperfect], subjunctive), with complex sentence structures and sophisticated cohesive devices (*d'ailleurs* [moreover], *en effet* [indeed], *pourtant* [however], *bien que* [although]). Thematically, Week 1 presented surface-level cultural observations (beautiful croissants, charming market), while Week 4 constructed a narrative about French conceptions of leisure and family time. She used voiceover to explain cultural values around *la détente* (relaxation) and *le temps en famille* (family time), showing a shift from description to cultural interpretation. Jasmin's evolution followed a similar trajectory. Week 1 featured five carefully composed photographs with 150-word captions, written in the present tense and simple past, focusing on observable cultural artifacts (books, apartment layout, material objects). Week 4 was a reel demonstrating strategic coordination across visual (chronologically sequenced images showing relationship development), audio (French voiceover with reflective narration, Satie's piano music), and textual (on-screen display of meaningful French phrases from conversations) elements. The caption was 195 words using complex grammatical structures, including subjunctive mood and literary register vocabulary, engaging with abstract cultural concepts (French intellectual traditions, aesthetic sensibilities, intergenerational knowledge transmission). Her stimulated recall revealed extensive creative investment, as evident in the following excerpt:

I spent probably 8 hours creating this final reel, selecting photos and video clips, writing and recording the narration, editing everything together, choosing the music, and designing the on-screen text. I wanted to create something that would honor everything Marguerite shared with me.

This detailed DMC is a prime example of Jasmin's cultural competence development, specifically how she had moved from description toward interpretation. She was not documenting Marguerite's world so much as analyzing it, deliberately deploying each mode in service of that analysis. Similarly, Jake's Week 1 video showed basic locations, with a 95-word caption using simple present-tense

constructions. His Week 4 collaborative video analyzed cultural practices and values, incorporating Thomas's explanations about why specific vegetables mattered for ratatouille and Camille's grandmother's recipe, with a 145-word caption using past tenses and causal connectors (*parce que* [because], *puisque* [since], *donc* [therefore]) to explain cultural significance. Cindy showed a more modest but still meaningful evolution from 8 photos with 92 words in Week 1 to 10 photos with 125 words in Week 4, incorporating more descriptive vocabulary and beginning to use *imparfait* (imperfect) for description. In stark contrast, Chase's artifacts showed no evolution. His Week 1 and Week 4 posts both consisted of single photos with brief captions (23 and 45 words, respectively) using only the present tense and simple vocabulary with no audio component.

5. Discussion

This study examined how Instagram-based DMC shaped weekly WTC during short-term study abroad (RQ1) and how the multimodal affordances of DMC supported WTC development (RQ2). The patterns identified here shed light on how DMC, investment, and ideological beliefs interact to shape weekly WTC patterns in study-abroad contexts, showing that Instagram-based DMC created affordances that reduced restraining forces and amplified driving forces, but only when students invested meaningfully in the process. Our findings suggest that DMC supported language learning and the development of WTC through several interconnected mechanisms that operated differently depending on investment levels. Strategic visual rhetoric enabled detailed cultural documentation. Extensive textual revision showed investment in accurate and meaningful representation. However, these affordances were effective only when students actively engaged with the Instagram posts as meaningful cultural work rather than merely completing assignments.

With respect to WTC development during immersion (RQ1), our findings revealed specific mechanisms through which DMC tasks facilitate WTC during immersion. Instagram content needs created authentic purposes for initiating conversations students might not otherwise have pursued, functioning as driving forces that reduced communication thresholds. This extends MacIntyre's (2007) conceptualization of WTC as emerging from competing driving and restraining forces by showing how digitally mediated tasks situated within authentic relationships can shift this balance. Notably, moments of perceived validation, such as when Isabelle created her first social media account to follow Juliana's posts or when Marguerite shared Jasmin's literary analysis with her former students, reveal how specific experiences can catalyze transformative shifts in learners' self-perceptions and, more powerfully than incremental skill development,

reduce restraining forces. This resonates with MacIntyre and Wang's (2021) account of how affective shifts, rather than competence gains alone, underpin WTC, while extending it to show that such shifts can be precipitated by host-family recognition of students' digital work. These identity-validating moments moved students from feeling like temporary guests to seeing themselves as legitimate cultural interpreters, and that shift carried into how ready they felt to speak.

Our findings equally serve to expand Norton's (2000, 2013) investment theory by showing how Instagram's social features, comments, likes, and shares provided tangible, visible returns that students described as motivating continued effort. However, the contrasting cases reveal that affordances alone are insufficient; learners must perceive activities as offering meaningful returns aligned with their identity investments. The ideological beliefs revealed in our analysis functioned as interpretive filters determining investment: Students held divergent beliefs about Instagram's relationship to authentic experience (enhancement versus distraction), grammatical accuracy (communication-first versus grammar-first), mistakes (learning data versus shame), and immersive learning (active engagement versus passive absorption). In foregrounding ideology as a determinant of investment, these findings are consistent with the ideology component of Darvin and Norton's (2015) model, which has more often been theorized than documented in DMC research. They also align with two recent syntheses of the field. On the one hand, Manchón (2026) concludes that what engages learners with language in multimodal writing is, above all, how writers conceptualize the task rather than modality per se. On the other, Kessler (2026) argues that the pedagogical value of a task depends on how well it is grounded in its context, with authenticity and real-world relevance among the rationales authors most often invoke. Our study, in turn, offers a qualitative, WTC-focused case of both. The same Instagram affordances engaged learners very differently, depending on what they brought to the task, and it was task roots in genuine host-family relationships, not the affordances themselves, that gave students real reasons to practice the language. Taken together, we would argue that investment appeared to serve here as a WTC analogue of task conceptualization, that is, as a mediating condition determining whether the affordances became opportunities for meaningful linguistic and cultural work or were treated merely as assignments to be completed.

Turning our attention to the multimodal affordances (RQ2), our study extends previous research by documenting that DMC affordances varied depending on learners' constraints and investment patterns. For more anxious learners, visual modes functioned as compensatory scaffolding, distributing communicative load, consistent with multimodal accounts of how meaning-making is shared across semiotic resources (Hafner, 2014; Kress, 2010), while for confident learners, these same affordances became sophisticated tools for cultural interpretation. Audio affordances proved particularly valuable through what Jake termed "low-

stakes practice;" recorded audio allowed students to rehearse pronunciation privately and iteratively, without the social exposure that makes real-time errors costly, and that practice transferred to spontaneous speech (MacIntyre & Wang, 2021). Seen from this angle, DMC therefore appears to lower the threshold for the effortful engagement with language that Manchón (2026) identifies as conducive to L2 development; in other words, composing text at one's own pace and rehearsing audio iteratively both allowed students to attend to form without the pressure of speaking in real time. In this sense, our findings speak to both research questions and suggest that the pertinent question is not whether DMC can support WTC, but under what conditions it does so, namely, when learners invest meaningfully in composing, when their work meets with identity-validating recognition, and when their ideological beliefs dispose them to take up the affordances on offer.

6. Conclusion

Taken together, our findings suggest several provisional implications for instructors and program administrators incorporating DMC into SA programs. First, structured DMC tasks creating systematic purposes for host family interactions may be worth exploring, particularly in short-term programs where compressed timeframes limit organic relationship development. However, task design alone appears insufficient; pre-departure orientations might benefit from explicitly addressing ideological beliefs about grammatical accuracy versus communicative risk-taking, mistake tolerance, and how digital documentation can enhance cultural engagement. Second, DMC tasks may benefit from allowing flexibility in multimodal deployment rather than prescribing specific combinations, potentially enabling students to leverage affordances strategically, such as visual compensation for anxious learners, sophisticated interpretation tools for confident learners, and iterative audio practice for oral confidence development. Whether learners naturally gravitate toward these uses without instructional guidance remains an open question that future research could productively examine. Third, the critical validation moments documented in this study, such as a host family member creating a social media account to follow a student's posts, or sharing student work with others, suggest that host family engagement with student DMC products may play a meaningful role in WTC development. Programs might therefore consider providing host families with guidance that encourages meaningful, content-focused responses to student work rather than grammatical correction, though the degree to which such guidance can reliably produce these moments remains unclear from five students' experiences alone. Finally, assessment approaches that consider both product quality and investment processes, including revision practices, host family

consultation, and the development of multimodal sophistication, may better support meaningful engagement than approaches focused on product quality alone, though this too warrants testing across larger and more varied program contexts before stronger claims can be made.

While this study makes important contributions, several limitations warrant consideration. First, the focus on a single SA program with Instagram-based composition limits generalizability. Future studies could examine DMC across multiple SA programs, different target languages, and varying durations for a more comprehensive understanding. Second, although distinct investment patterns were identified, the study does not fully explore all the factors influencing them. For instance, students varied in their digital literacy skills, host family composition, and personality factors, which may have contributed to differential outcomes. Additionally, the study relied on self-reported WTC ratings, which capture perceived readiness to communicate but do not directly measure linguistic outcomes. Relatedly, as Manchón's (2026) synthesis notes in the wider field, research to date has illuminated effects on communicative engagement and performance more than gains in L2 knowledge itself; whether the processing prompted by DMC translates into measurable linguistic development thus remains largely uncharted. Therefore, future research could complement WTC ratings with systematic proficiency measures and linguistic analysis of both captions and spontaneous conversation to examine how WTC changes relate to actual language development. Third, host family variation and the four-week timeframe introduced uncontrolled variables, such as differing levels of host family engagement and the limited window for relationship development; our analysis attempted to account for these, but they complicated interpretation and limited claims about longer-term development. Finally, future research should involve more students across different L2 contexts and employ alternative methods, such as audio recordings of host-family interactions and experience-sampling protocols, to further enrich our understanding of WTC development over time and to validate self-reported data. As technology becomes increasingly central to language learning, and short-term SA continues to dominate US participation patterns, further exploration of how DMC practices intersect with immersive L2 learning will enrich our understanding of how digital tools can support investment, reduce communicative anxiety, and create authentic purposes driving L2 development in SA contexts.

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