

Studies in Second Language Learning and Teaching

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Coda: Toward a new ecology of multimodal second language writing and learning for sustainable curricular innovation

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Abstract

The multimodal turn in second language (L2) writing has fundamentally reshaped how writing and writing instruction are conceptualized in increasingly digitalized environments. This coda synthesizes the conceptual and empirical contributions of the special issue, arguing that they collectively signal the emergence of a new ecology of multimodal L2 writing and L2 learning. It discusses the papers in two complementary sections. The first examines how the special issue reframes the ecology of L2 writing by positioning digital multimodal composing as an integral component of contemporary L2 writing and language learning. The second highlights how the ecology is expanded through the integration of multimodal feedback, assessment, and generative artificial intelligence (GenAI), emphasizing their interconnected roles in supporting multimodal meaning-making and language development. Building on these contributions, the coda identifies several priorities for the next generation of research, with particular attention to sustainable curricular innovation that embeds multimodal composing and multimodal feedback into language education rather than treating them as isolated instructional practices. It argues that the long-term impact of multimodal research will depend not only on technological innovation but also on the development of coherent pedagogical frameworks, valid assessment practices, and teacher expertise capable of supporting multimodal learning in diverse instructional contexts.

Keywords: multimodal second language writing; digital multimodal composing; multimodal feedback

1. Introduction

The rapid globalization of digital technologies has fundamentally transformed how people communicate, learn, and create meaning. Although meaning-making has always been multimodal, traditional conceptions of literacy, which centered primarily on alphabetic monomodal text, were adopted in the field of second language (L2) writing for a long time. However, over the last three decades, the view of writing has evolved to include broader forms of digital literacy in which individuals simultaneously draw on multiple (digital) semiotic resources to consume, create, and share information (Belcher, 2017; Kessler, 2024). More recently, artificial intelligence (AI)-mediated modes have become part of the semiotic resource list. This transformation has reshaped not only everyday communication but also the ways in which L2 writing is conceptualized, taught, assessed, and researched. Accordingly, the concept of digital multimodal composing (DMC) has grown as an emerging literacy practice across educational and professional settings. Researchers have also expanded the scope of text-based L2 writing to examine how learners orchestrate multiple semiotic resources to communicate effectively and how instructional practices must evolve to support these emerging forms of meaning-making (Kessler, 2024).

Alongside the growing interest in DMC, the multimodal turn has also reshaped research on feedback in L2 writing (Elola & Oskoz, 2016; Jiang et al., 2024). Traditionally, written corrective feedback has focused primarily on L2 learners' linguistic accuracy, while also addressing broader aspects of writing such as content, organization, and rhetorical structure. However, as L2 writing has increasingly been reconceptualized as a process-focused, multimodal mediated action, feedback has likewise evolved beyond its traditional language-centered orientation. Contemporary perspectives on feedback view it not only as a means of improving linguistic accuracy but also as a process of supporting learners' orchestration of multiple semiotic resources to achieve communicative effectiveness. The source of feedback has also expanded including AI-assisted feedback, using various GenAI platforms (Elola & Oskoz, this special issue; Jiang et al., this special issue). Consequently, feedback is no longer concerned solely with what monomodal texts L2 learners produce but also with how students integrate different modes to construct meaning in digitally mediated environments, and feedback source itself is multimodal in nature.

The overarching goal of the special issue is to capture this pivotal multimodal turn in the field of L2 writing and L2 studies in general. The first four contributions are systematic research synthesis papers about DMC and two position papers on multimodal feedback. The remaining papers are four empirical studies that address some of critical research gaps identified in previous research. Together, the contributors commonly support the nature of communication being multimodal, and thus share their visions of DMC and multimodal feedback, claiming that both are no longer peripheral innovations but integral components of contemporary L2 writing, learning, and teaching. More importantly, they suggest that the field is moving beyond documenting the affordances of DMC toward a more integrated understanding of the complex relationships among composing, feedback, and assessment.

As the Introduction and several position papers included in the special issue offer an excellent overview of the recent developments in multimodal perspectives on L2 writing and learning, in this Coda I discuss the overall contributions of the issue and synthesize the conceptual and practical insights that emerge across the special issue. By doing so, I argue that these processes signal the development of a new ecology of multimodal L2 writing and learning. Implementing such a new ecology in education could be considered educational innovation, which refers to “an attempt to bring about educational improvement by doing something which is perceived by implementers as new or different” (Carless, 2013, p. 1). With the ultimate goal of advancing theory-driven, evidence-based L2 pedagogy in a sustainable manner, I focus my discussion on how to work towards achieving such a goal. Below I discuss the papers in the special issue in the next two sections and end the coda with suggesting directions for future developments, with the particular interest in promoting sustainable curricular innovation.

2. Reframing the ecology of L2 writing: Multimodal L2 writing and learning

The papers in this special issue suggest that multimodality should no longer be regarded as an emerging trend or an optional extension of L2 writing instruction. Rather, multimodal communication has become a defining feature of contemporary language use, requiring researchers and practitioners to rethink how writing is conceptualized, taught, assessed, and supported through feedback. They collectively illustrate that writing is not viewed solely as linguistic production but involves dynamic meaning-making processes using multiple semiotic tools, often with diverse digital technologies. As digital technologies continue to reshape communicative practices, the challenge for the field of L2 learning and teaching is not simply to incorporate new tools but to develop theoretically grounded and methodologically

rigorous accounts of how learners coordinate linguistic and other semiotic resources to construct meaning, communicate effectively, and develop as multilingual L2 users.

Previous L2 DMC research has been supported by several theories, which include multiliteracies (New London Group, 1996), systemic functional linguistics (Halliday, 1978), social semiotics (e.g., Jewitt & Kress, 2003; Kress, 2010), cognitive-interactionist approaches (Long, 1996; Schmidt, 1990; Swain, 1993), and sociocultural theory (Vygotsky, 1978). Kessler's research synthesis paper (this special issue) provides an excellent overview of previous studies in terms of theory-research connections. He discusses two main limitations of the current DMC literature. First, he highlights that many studies have been atheoretical or, if the theories were present, they have been introduced without directly informing the research methods. The second limitation is that studies have not provided clear rationales for task selection. While acknowledging such limitations, Kessler systematically explored whether such limitations indeed exist in recently published DMC studies and to what extent researchers have addressed these limitations in the recent literature since his earlier research synthesis published in 2024 (Kessler, 2024). His synthesis provides empirical evidence that about 70% of the papers ($K = 30$) included in the synthesis discussed theory, whereas 28.6% of studies did not mention any theories that the study was grounded in. Furthermore, he reports that the connection between theory and research methods was observed in only 12 studies (28.6%). It was additionally found that the task justification reporting practice was still unclear in recent studies. For instance, out of 42 studies published between 2023 and 2025, only 13 studies (31%) provided justifications for their task design. His synthesis paper offers empirical evidence highlighting two main gaps in the DMC literature and provides a roadmap for research that encompasses clear theory-research connections as well as one that justifies task selections.

Manchón's research synthesis of 20 primary empirical studies on the connection between DMC and L2 learning is a timely addition to the literature (this special issue). As she explains clearly, one of the main debates about the affordances of DMC in the L2 classroom is due to "potential distractions for language development and negative impacts on academic writing development" (Lim & Kessler, 2022, p. 325). Overall, findings from her synthesis indicate that multimodal tasks do not distract or hinder linguistic processing, refuting earlier concerns that the cognitive demands of multimodality might draw learners' attention away from language (e.g., Qu, 2017). Yet, what is still missing in the field is the empirical inquiry into DMC's effects on language learning, operationalized as either "consolidation or expansion of L2 knowledge" (Manchón, this special issue).

Manchón suggests that future research must be explicitly guided by specific theories of second language acquisition (SLA) or human development, and

adopt more robust, hypothesis-testing designs to effectively isolate and measure learning. She offers a roadmap for future research, particularly considering the current gaps in DMC research methods: (1) solving internal validity problems by controlling intervening variables (e.g., ensuring experimental tasks and pre-/post-test tasks are comparable); (2) exercising stricter control and providing convincing motivation for task selection; (3) validating the comparability of tasks and the attention to language they foster across different conditions; (4) adopting a rigorous selection of outcome measures that account for the time required to make substantial progress in complexity, accuracy, and fluency (CAF); and (5) systematically investigating writing processes alongside their associated language learning gains.

The current special issue presents three DMC studies that address some of the existing research gaps discussed in both Kessler and Manchón's research syntheses. In particular, these studies are theory-driven and expand the scope of the current empirical DMC research by examining the effects of multimodal composing on several aspects of language development and writing development by using a pretest-posttest research design. These studies cover various instructional contexts including Spanish adolescent EFL learners (Martínez-González et al., this special issue), university EFL learners in China (Choi et al., this special issue) and American French learners in France (Akoto & Li, this special issue) both in regular classroom settings and study abroad contexts. They also used distinct, age-appropriate DMC tasks that are pedagogically justified (Instagram-based digital storytelling, argumentative PowerPoint DMC, and argumentative reading-to-write DMC task).

Martínez-González et al. demonstrate several novel approaches to examining DMC in Spanish high school contexts. Based on multiliteracies theory (New London Group, 1996) and multimodality (Kress & van Leeuwen, 2001), the authors conducted a multiple case study of three 13-14-year-old Spanish high school students (high, average, and low proficiency) to examine the effects of film-based multiliteracies pedagogy on high school learners' development of multimodal argumentation skills. The participants' PowerPoint multimodal compositions on arranged marriage were analyzed to identify structural, modal and content-level improvements after the four-week-long multiliteracies instruction. Findings revealed that all three students demonstrated improved argumentative structure and a more nuanced, multi-perspective understanding of the topic. This aligns with Shin (2018), who demonstrated how L2 writers intentionally layer images and text in concurrent and complementary relationships to establish strong evaluative stances on social issues. It also echoes Jiang (2022), who found that DMC empowers English as a foreign language (EFL) learners to engage in civic participation and critically express authentic perspectives on sensitive topics like discrimination. The case study approach was effectively applied in the study as

the detailed data descriptions offer examples of how different students orchestrated textual and visual modes to fulfill specific genre demands and convey persuasive meanings. Importantly, such meaning-making activities resulted in language learning affordances, hence supporting the connection between DMC and L2 learning.

Using a quasi-experimental pretest-posttest research design, Choi et al. compared the effects of two task modes (DMC vs. monomodal writing) on writing quality, vocabulary learning, and reading comprehension using an integrated reading-to-write task with Chinese university students. The significant findings were related to the deeper processing of the textual input in DMC contexts, which, in turn, showed a greater degree of enhancing structural organization and deeper textual synthesis in summary writing and productive vocabulary use than the monomodal condition. Such findings demonstrate that multimodal orchestration of semiotic resources supports higher-order cognitive skills without distracting from attention to language and resulting L2 learning. This study expands the current body of empirical research by offering additional evidence related to writing development, vocabulary learning and reading comprehension. The degree of learning and the effects of both writing conditions on the three target areas differed, suggesting that the effectiveness of DMC may not be consistent across linguistic areas. This finding highlights an important area for future research.

Drawing on Norton's (2000) investment theory and MacIntyre et al.'s (1998) willingness to communicate (WTC) framework, Akoto and Li examined how Instagram-based digital storytelling facilitated WTC and the development of creative expression among five intermediate American French learners during a four-week study abroad program in France. The task adopted in the study has great potential as it is one of the most widely used digital multimodal authentic tasks. The findings showed distinctive patterns according to learners' investment levels. While for more anxious, lower-investment learners, multimodal affordances served primarily compensatory functions, distributing communicative load across modes, for high-investment learners, these same affordances became sophisticated tools for cultural interpretation, enabling complex creative expression and sustained WTC development. By triangulating multiple data sources for WTC (e.g., weekly journals, semi-structured interviews and self-reported WTC ratings), the study offers insights into how DMC could be used to enhance WTC as students are developing L2 writing skills while immersed in a target-speaking culture.

Overall, the three empirical papers overviewed above make unique contributions by demonstrating DMC in action in various instructional contexts. The multiple sources of data with different foci increase the validity of the findings. These articles serve as good examples of what Kessler and Manchón called for in their respective chapters. However, as Choi et al. and Martínez-González et al. noted, their findings need to be interpreted with some caution since they were based on a one-time use of DMC.

3. Expanding the ecology of L2 writing: Feedback, assessment and AI

The special issue further expands the ecology of multimodal L2 writing by extending the discussion beyond composing to include assessment using digital multimodal input (Kormos et al., this special issue) and multimodal feedback in the current digital era with increasing AI use (Elola & Oskoz, this special issue; Jiang et al., this special issue). First, Kormos et al. make a unique contribution to the special issue by showing multimodal communication in real-life situations other than students' DMC output. Taking an assessment perspective, this quantitative study explored how textual and linguistic features vary across two integrated multimodal tasks (i.e., viewing-to-describe vs. viewing-to-compare-and-contrast) and determined how linguistic characteristics predict human raters' performance scores of 134 Hungarian high school EFL learners. Their findings support different task types eliciting different markers of high-quality language performance, which provide crucial insights for DMC assessment. More importantly, the study offers empirical evidence for using highly task-specific rubrics that explicitly evaluate how well L2 learners integrate and transform both aural and visual inputs into their written output, moving beyond traditional language-only assessment criteria. Research on assessing DMC output or multimodal-integrated task performance is still in its infancy (Zhang & Yu, 2024) and Kormos et al.'s research provides evidence for the way in which diverse DMC tasks can be used in assessment. Their tasks resemble real-world tasks, and their research fills important gaps in digital multimodal-mediated assessment.

Another main contribution of the current special issue is an up-to-date view of multimodal feedback in L2 writing. Together, the contributions by Elola and Oskoz and Jiang et al. represent significant conceptual advances in L2 feedback research by reconceptualizing feedback as an integral component of the process of multimodal meaning-making rather than a post-writing response focused primarily on linguistic accuracy. Their discussions broaden the scope of feedback to encompass learners' orchestration of multiple semiotic resources, iterative revision processes, and potential human-AI collaboration throughout the writing process. Drawing on cognitive and sociocultural theories, learning by design framework (Cope & Kalantzis, 2015), multimedia learning theory (Mayer, 2002) and D'Angelo's (2016) visual metadiscourse model, Elola and Oskoz claim that feedback in L2 writing should extend beyond corrective feedback to address communicative effectiveness, intermodal coherence, and design. They provide a comprehensive review of the current landscape of feedback mediated by GenAI, arguing that feedback is no longer limited to static written comments but has evolved into a dynamic, interactive process where tools like large language models (LLMs) can distribute cognitive load and support real-time iterative revisions. Furthermore,

Elola and Oskoz show that while AI tools such as ChatGPT excel at reducing cognitive load by detecting text-based errors and offering dialogic revision scaffolding, they struggle with global meaning-making and multimodal synergy. Thus, instructor mediation is vital to helping learners critically evaluate and apply AI feedback effectively, which suggests the importance of human feedback more than ever. Crosthwaite and Sun's (2025) recent scoping review of 51 studies on GenAI-assisted L2 written feedback shares a similar line of implications, suggesting the need for instructor mediation to balance AI and human input.

Jiang et al.'s positioning paper complements Elola and Oskoz's article and highlights the importance of building multimodal literacy and teacher-AI collaboration for promoting the efficacy of feedback in L2 writing. They propose three ways in which L2 writing teachers can collaborate with GenAI to enhance students' multimodal feedback literacy: (1) expanding feedback from sole linguistic feedback to multiple semiotic modes, (2) focusing feedback on the effective use of multimodal resources rather than language alone, and (3) providing process-oriented, data-informed feedback based on learners' composing behaviors. Overall, this study provides a convincing argument for integrating visual and transpositional grammar into L2 teacher education and calls for the development of hybrid, multi-agent AI feedback systems to stimulate true pedagogical innovations. To successfully implement these pathways, the authors emphasize that teachers must undergo an "identity shift" from traditional feedback providers to multimodal feedback designers. Importantly, they note that while teaming with GenAI, L2 writing teachers' linguistic knowledge in L2 writing and composing remains very important as the foundation for evaluating AI outputs. They also strongly advocate for integrating learning analytics by using multiple AI tools to design process-based multimodal feedback.

Multimodal feedback is not new as the use of different modes of feedback has been discussed for several decades. However, what sets these two position papers apart from previous work on multimodal feedback is the incorporation of GenAI into feedback provision. The emergence of AI has raised a lot of concerns and doubts about L2 writing pedagogy and even fears among writing instructors. Jiang et al.'s claims about humans working with AI to enhance the efficacy of feedback is something that is inevitable, and teachers need to be proactive about obtaining the skills to do so. Both articles offer a theoretical foundation for such claims and practical guidelines of how teachers can use GenAI effectively in the context of offering multimodal feedback.

Overall, the topics focusing on multimodal-mediated assessment and multimodal feedback practices expand the current ecology of L2 writing research by reflecting on the current trends in digital communication in general and the opportunities that GenAI may bring as a feedback provider in instructed L2 learning

settings. Future research should investigate how the frameworks proposed by Elola and Oskoz and Jiang et al. can be translated into classroom practice.

4. Looking ahead: The next generation of multimodal research in L2 writing

Throughout this special issue, the contributors collectively articulate a compelling vision for the future directions of multimodal L2 writing research. Their conceptual and empirical contributions identify important theoretical, methodological, and pedagogical challenges while highlighting promising avenues for advancing the field. In this final section, I revisit several of the key research directions proposed across the special issue and extend these discussions by suggesting additional priorities for the next generation of multimodal L2 researchers. Building on the collective insights of the contributors, I argue that future scholarship should move beyond demonstrating the affordances of multimodal composing toward developing a more integrated understanding of the complex relationships among composing, feedback, assessment, L2 learner development, teacher expertise, and generative AI within a dynamic ecology of multimodal L2 writing in instructed L2 learning settings.

To date, several review papers on DMC, including those presented in the current special issue, share insightful directions for future research and practice (Jiang & Hafner, 2025; Kessler, this special issue; Lim & Kessler, 2022; Manchón, this special issue; Zhang et al., 2021). The introduction to this special issue (Manchón, Cerezo, & Nicolás-Conesa, this special issue) presents a clear synthesis of future multimodality research agendas shared in these papers (see Table 2 in the introduction to the special issue). Some of the commonly addressed areas for future research are the following:

1. DMC task design and implementation factors.
2. Effects of DMC on L2 writing development and/or other areas of L2 development.
3. DMC feedback practices.
4. L2 teacher education.
5. DMC assessment.
6. Collaborative DMC as a translanguaging space.
7. Learner individual differences and DMC performance.

Despite the rapid growth of research on DMC, relatively little attention has been paid to how DMC can be sustainably integrated into regular language curricula. The introduction to this special issue, along with the synthesis papers by Manchón and Kessler, provide a comprehensive discussion of the theoretical and methodological directions for future research. Building on their insights, I turn my attention

to curriculum design and propose several suggestions for integrating multimodal perspectives into language teaching and learning in ways that support the long-term sustainability of DMC and multimodal feedback in educational practice.

4.1. Adopt clear theoretical and methodological curricular design approaches such as task-based language teaching (TBLT)

When designing multimodal tasks, it is important to consider theory-driven and evidence-based approaches to task design and curricula development. TBLT, which uses tasks as a basic instructional analysis unit, is acknowledged as “a potentially very powerful language pedagogy” (Van den Branden et al., 2009, p. 1). It has also been associated with terms like *researched pedagogy* and *evidence-driven language teaching* due to the fact that the underlying principles of TBLT are generally in line with over four decades of theory and research in SLA (Long & Ahmadian, 2022). Considering ample research showing the benefits of TBLT, TBLT approaches to designing multimodal tasks have strong potential. Although one can point to the challenges of distinguishing tasks from other instructional materials such as activities and exercises, common characteristics of tasks have been established in the field: primary focus on meaning, goal orientation, learner-centeredness and resemblance to real-world tasks (González-Lloret & Ortega, 2014). Such characteristics are common in DMC tasks.

There has been a wide range of research empirically examining various aspects of task-based pedagogy, including needs analysis, task design and implementation, learner individual differences, teacher training, and task-based assessment. The synergy effects of L2 writing and TBLT research have been well documented, particularly since Byrnes and Manchón’s (2014) edited volume was published. Similarly, the L2 digital composing literature could benefit from the four decades of TBLT research in terms of task design and implementation as well as syllabus design. Kessler (this special issue) echoes Kim’s (2025) claims that tasks should be needs-based, and they should reflect real-life situations and communicative needs that students encounter in various social and educational settings. However, as Kessler (2024, this special issue) demonstrates, DMC empirical studies often lack a clear rationale for their choice of task design and implementation. Additionally, for the sustainability of DMC tasks in writing curricula, researchers and practitioners should go beyond the use of a single task in their studies as well and considering not only task design features but also task sequencing, with the goal of establishing instructional curricula for multiliteracy and L2 development.

Another concern associated with the use of a single task in research is that it is often not clear to what extent learners are familiar with the process of DMC

composing, and the extent to which novelty effects have played a role in learners' task perception and task performance reported in previous research. As the task repetition literature has demonstrated, repeating different aspects of tasks impacts task-based language performance as well as learner perception (e.g., Bygate, 2018). Therefore, it is important to validate one-time task performance data using a longitudinal research design and add more than one task. Future research additionally needs to capture the dynamic trajectory of how learners develop multiliteracies. For instance, Kang and Kim (2023) designed a year-long task-based syllabus based on the needs analysis for high school students who were enrolled in an after-school program. Their course syllabus incorporated a series of DMC projects using a range of genres, such as argumentative blog post, book review, newspaper column, and a promotional video. Their research demonstrated the importance of needs analysis in identifying target tasks, target genre and discourse, and target language. Their longitudinal investigation of DMC tasks sheds light on how adolescent learners' perceptions of DMC are not steady but change over time. Furthermore, when implementing tasks, it is critical to clearly define task outcomes and purposes considering potential audience needs. As the field moves forward, future research should consider connecting research and practice, particularly based on the well-established theoretical and practical foundations of curricula design for the sustainability of educational innovation.

4.2. Considering both author performance and reader-viewer (audience) perspectives

To date, and probably not surprisingly, when DMC is referenced in the context of L2 learning, it usually appears in discussions of L2 writing. In the early discussions of multimodality in the language and literacy learning context, such as in the work on multiliteracies (multiple modes and linguistic codes) by the New London Group (1996) and the pioneering work in social semiotics by Kress and colleagues (Jewitt, 2005; Kress, 2004; Kress & van Leeuwen, 2006), both reading and writing were often taken into account. The frequently mentioned affordances of DMC include strengthened authorial voice and agentic identity expression, with support from multiple semiotic resources (Cimasko & Shin, 2017; Jiang et al., 2020), greater audience awareness, with easier access to authentic online audiences (Hafner, 2014) and heightened attention to language use due to desire to satisfy online audiences (Hafner & Miller, 2011). Notably, despite the importance of considering audience, less familiar to those interested in L2 academic literacy is examining DMC from reader-viewer perspectives.

One way to take audience into consideration in the research domain of DMC is to explore how DMC outcomes satisfy audience (viewers/readers). Yet, despite previous research showing that DMC helps L2 users become aware of audience

to a greater degree, the extent to which DMC fulfills audiences' purpose (e.g., pleasure, gaining new knowledge) compared to reading monomodal essays is rarely examined. An exception is Kim et al.'s (2026) recent study, which compared DMC and monomodal writing in terms of readers' new knowledge building. A total of 50 university students completed either monomodal writing or DMC for the purpose of delivering new information about their chosen topics to reader-viewers. Students were asked to write a short review paragraph discussing whether they learned any new knowledge or whether they became aware of any new issues after reviewing either DMC or monomodal writing depending on their group. Their findings showed that DMC viewers produced a significantly greater number of new informational knowledge units compared to monomodal essay readers in their response. However, there was no significant difference in the perception of new knowledge gained and reports of new issue awareness for the two conditions. The findings suggest that students, as text producers and consumers, may equally value both traditional essay and DMC tasks for knowledge-sharing and learning. However, the results also revealed that students actually gained more new knowledge as digital multimodal consumers than as traditional essay readers.

One of the main goals of writing is meaning-making for different communication purposes depending on various genres of writing. Therefore, to what extent meaning-making is successful in meeting the communication needs from audience perspectives is an important empirical question. Accordingly, it is pertinent to consider reader-viewers' perspectives on DMC in future research. In a similar vein, despite a large amount of research on peer feedback, peer feedback research focusing on DMC is rather scarce and has primarily focused on its effectiveness in improving the quality of DMC outcomes. An important area for future research would be to explore the value of peer feedback for the development of learners' critical thinking skills needed when viewing multimodal input for specific purposes (e.g., gaining new knowledge, viewing for pleasure).

Furthermore, in L2 writing research, multimodal input (as in integrated viewing-to-write tasks) has considerable potential as it resembles authentic real-world tasks. As shown in Kormos et al.'s contribution to this special issue, such tasks can be used as assessment tasks, but also as L2 instructional tasks that involve multimodality both in the input and output requirements. Multimodality in reading is not new (Kim et al., 2026), and exploring viewer perspectives on multimodal input through integrated writing tasks would increase the authenticity of tasks. Thus, future research is warranted that goes beyond asking L2 users to create independent DMC task outcomes and pushes them to perform diverse real-world tasks representing a range of multimodality sources.

4.3. Using writing-to-learn approaches to DMC tasks

Both Kessler (this special issue) and Manchón (this special issue) emphasize the need for more research examining the contribution of DMC to L2 learning. Since Manchón (2011) made a distinction between learning-to-write and writing-to-learn approaches, these two complementary perspectives have shaped research into L2 writing. Whereas the learning-to-write perspective focuses on helping L2 learners develop writing abilities and express meaning effectively, the writing-to-learn perspective examines how the act of writing itself contributes to learning, particularly language development. As Manchón has argued, these perspectives provide an important point of convergence between L2 writing and SLA, and research informed by cognitive-interactionist and sociocultural perspectives has increasingly demonstrated the potential of writing as a site for language learning (see contributions to Byrnes & Manchón, 2014; and Manchón, 2020).

DMC should be viewed through this same lens. Rather than treating DMC solely as a pedagogical innovation or an alternative mode of composing, future research should continue to examine not only how multimodal writing fosters learning new content, or developing new skills, but, importantly, how DMC advances language competences. As Manchón's synthesis demonstrates, multimodal composing does not distract learners from linguistic processing; instead, learners engage with language to a degree comparable to that observed in monomodal writing. Her review therefore challenges earlier concerns that the cognitive demands of multimodality might reduce attention to language and instead supports the view that multimodal composing can provide meaningful opportunities for linguistic processing. At the same time, both Manchón and Kessler argue that the field has only begun to investigate the language learning potential of DMC. Although the findings have been mixed, previous research often focused on linguistic performance, including complexity and accuracy, and future research should move beyond documenting linguistic performance to examine a broader range of learning outcomes.

Several studies in this special issue contribute to this emerging writing-to-learn agenda by demonstrating that multimodal composing can promote language learning beyond writing performance (e.g., Akoto & Li; Choi et al.; Martínez-González et al.). Nevertheless, research remains limited in terms of the linguistic features examined, learner populations, instructional contexts, and longitudinal evidence of learning. Building on the methodological recommendations outlined by Manchón in the current special issue, future studies should employ theoretically grounded and methodologically rigorous designs that can more convincingly demonstrate how, for whom, and under what conditions DMC contributes to learning different skills and knowledge as well as promoting L2 development.

Finally, greater attention should be paid to how language learning through DMC is assessed. As DMC becomes more fully integrated into language curricula, researchers need to carefully operationalize learning outcomes and ensure alignment among instructional goals, multimodal writing tasks, and assessment measures. In particular, achievement measures should reflect the linguistic knowledge and communicative abilities that instructional DMC tasks are intended to develop. Such alignment will be essential for establishing stronger evidence of the contribution of multimodal composing to L2 learning.

4.4. Assessing DMC tasks and broadening multimodal test task design and implementation

In recent years, several scholars have identified assessment as one of the most pressing areas for future research in DMC (e.g., Jiang & Hafner, 2025; Kessler, 2024; Zhang et al., 2021). Two priorities have received particular attention: the development of assessment rubrics appropriate for different genres of DMC tasks and the incorporation of both product- and process-oriented approaches to assessment. Although a growing number of studies have developed rubrics for evaluating DMC, the approaches adopted have varied considerably. Moreover, while researchers frequently report inter-rater reliability (e.g., Kim et al., 2023), relatively little attention has been paid to the validity of these assessment tools. As a result, we still know little about the extent to which raters pay attention to different traits when evaluating multimodal compositions or whether existing rubrics adequately capture the construct of multimodal communicative competence.

Another important direction concerns the scalability of DMC assessment. As DMC becomes more widely integrated into language curricula, researchers need to examine whether task-specific rubrics, more generalizable rubrics, or combinations of the two are most appropriate for classroom assessment. Developing practical and valid assessment frameworks will be essential for the sustainable implementation of DMC in regular instructional settings. If multimodal composing is to become a routine component of instruction, corresponding assessment practices must be equally systematic and feasible.

Future research should also broaden the conceptualization of multimodal assessment by moving beyond evaluating multimodal products alone. To date, most DMC studies have focused on learners' final multimodal compositions. However, as integrated-skills assessment becomes increasingly common, as mentioned above, multimodal resources can also serve as input for language assessment tasks. The framework proposed in Kormos et al. in this special issue illustrates this broader perspective by demonstrating how multimodal input can be

incorporated into integrated-skills assessment. Continued research on the design, implementation, and validation of such multimodal assessment tasks will help expand the role of multimodality in language assessment beyond the evaluation of DMC products.

4.5. Promoting teacher education and facilitating researcher-practitioner dialogues

Stronger collaboration among researchers, teachers, and policy-makers is essential for the sustainable integration of DMC and multimodal feedback into language curricula. Although teacher education in the research domain of DMC is not a primary focus of the current special issue, several scholars have identified it as a critical area for future development (e.g., Jiang & Hafner, 2025; Zhang et al., 2021). Ultimately, the successful implementation of DMC depends on L2 teachers who feel prepared and confident to design, facilitate, assess, and provide feedback on multimodal L2 learning tasks. Developing this expertise begins with a solid understanding of the multimodal turn in language learning and the pedagogical affordances of DMC. Similarly, teachers need explicit training for multimodal feedback in the current AI-mediated era, and thus the role of pre-service teacher training program has become even more critical than before.

The importance of strengthening connections between research and classroom practice has been widely recognized in instructed second language acquisition (e.g., Sato & Loewen, 2022; Sato et al., 2021). Without sustained dialogue, researchers and teachers risk working in parallel rather than collaboratively, limiting the translation of research findings into classroom innovation and preventing classroom experiences from informing future research. Teacher education, therefore, has an important role to play in bridging this gap. Pre-service and in-service teacher education should introduce current research on multimodality and provide opportunities for teachers to develop practical expertise in designing DMC tasks, implementing multimodal feedback, and assessing multimodal compositions. Equally important is the creation of ongoing researcher-practitioner partnerships that enable teachers and researchers to co-construct pedagogical knowledge and support the sustainable implementation of multimodal approaches in diverse instructional contexts.

5. Conclusion

The multimodal turn in L2 writing research calls for a broader understanding of what it means to compose, learn, provide feedback, and assess writing in increasingly digital and AI-mediated environments. The contributions to this special issue

demonstrate that multimodal composing is no longer a peripheral innovation in L2 learning and teaching but an increasingly integral part of contemporary L2 writing research and practice. Collectively, the conceptual and empirical papers move the field forward by going beyond the view of multimodality simply as the use of multiple modes, and, instead, by encouraging researchers to consider the complex relationships among multimodal composing, language development, feedback, assessment, teacher expertise, and emerging technologies (e.g., AI).

As digital technologies continue to evolve, multimodal L2 writing research must evolve alongside them. Future research should investigate how L2 learners use these technology tools to construct meaning, develop language, and communicate effectively in an L2 in authentic contexts. Likewise, feedback can no longer be viewed as a predominantly text-based, one-way response to student writing. Rather, it should be understood as an iterative, multimodal, and increasingly collaborative process that supports learners throughout composing, revision, and language learning.

Finally, the long-term impact of multimodal research on L2 learning and teaching will depend on its successful integration into educational practice. As L2 teachers navigate rapidly changing technologies and evolving forms of communication, they need opportunities to develop the knowledge and confidence required to design, assess, and provide feedback on multimodal tasks. Continued investment in teacher education, professional development, and sustained researcher-practitioner dialogue will therefore be essential for ensuring that advances in multimodal L2 writing research translate into meaningful and sustainable innovations in language classrooms. By bringing together diverse perspectives on composing, feedback, and assessment, this special issue lays a strong foundation for the next generation of research on the ecology of multimodal L2 writing and learning.

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