


# Investigating L2 Grammatical Accuracy in Digital Multimodal Writing

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## ABSTRACT

This study examines and compares L2 grammatical accuracy in digital multimodal writing (DMW) and monomodal text-based writing (TBW). Utilizing a mixed-methods design, the research incorporates a dataset comprising 180 written texts, a questionnaire, and text-based interviews. Sixty EFL learners were assigned to two groups (TBW and DMW) and completed three writing tasks on identical topics. The findings reveal that there are no significant differences in grammatical accuracy between TBW and DMW. Moreover, learners' perceptions indicate that the integration of multi-semiotic recourses has no detrimental effect on grammatical accuracy. Additionally, learners adopted a preferred recursive strategy, involving text writing followed by integrating nonlinguistic components to complete and revise their DMW compositions. Consequently, two factors emerge as crucial in elucidating the comparable level of grammatical accuracy in DMW and TBW: (1) active engagement in each linguistic and nonlinguistic component, and (2) an awareness of the essentiality of the text component, necessitating the prioritization of the linguistic resource or the deliberate separation of text writing from other components within the DMW process. This study concludes with pedagogical implications and suggestions for further research.

## KEYWORDS

Digital Multimodality, EFL Learner Perception, Grammatical Errors, Second Language Learning, Writing Task

## INTRODUCTION

The rapid and unprecedented advancements in communication technologies have necessitated a reevaluation of the traditional notion of literacy (Alrajhi, 2023a). One manifestation of digital literacy, specifically relevant to English instruction, is digital multimodal composition (DMC), which encompasses the integration of different semiotic modes, such as text, static images, audio, and audiovisual elements, into a single digital product (Hafner, 2019). Recently, there has been a surge of interest in exploring DMC within the context of second language (L2) learning (Kim & Belcher, 2020), particularly in relation to L2 writing. This interest in DMC stems from the ever-growing utilization of technology for meaning-making in L2 instructional settings (Hauck & Satar, 2018), as well as the call for attention to multimodality as an essential aspect of communication (Kress, 2003).

DOI: 10.4018/IJCALLT.338399

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However, some researchers (e.g., Manchón, 2017; Qu, 2017) have expressed concerns that DMC, as an alternative to text-based writing (TBW), may hinder learners' development of the target language, as the potential effects of DMC on L2 competence have not been adequately examined. Previous research has relied primarily on qualitative case studies (Zhang et al., 2021) to explore the potential of DMC in L2 learning. Furthermore, limited empirical investigations have specifically examined the impact of digital multimodal writing (DMW) on L2 writers' attention to the text component (i.e., linguistic mode) and its influence on grammatical accuracy. Consequently, research has yet to establish conclusive evidence regarding the potential effect of DMW on language use. To contribute to the expanding body of research on DMC, the present study aims to investigate the effect of integrating multiple semiotic resources on grammatical accuracy in DMW. By addressing this research gap, the study endeavors to provide insight into the relation between DMC and L2 writing, shedding light on the potential implications for language learning and instruction.

## **LITERATURE REVIEW**

### **The Concepts of Multimodal Composition and Multimodality**

In the field of composition, a conundrum is observed in relation to defining multimodality-based writing (Prior, 2017). Several definitions, however, elucidating the concepts of multimodality and multimodal composition (MC) have been proposed in the literature. One such definition, put forth by Bowen and Whithaus (2013), characterizes MC as “the conscious manipulation of the interaction among various sensory experiences—visual, textual, verbal, tactile, and aural—used in the processes of producing...texts” (p. 7). In terms of multimodality and modes, Kress and van Leeuwen (2001) define the former as the “use of several semiotic modes in the design of a semiotic product or event” and the latter as “ways of representing information or the semiotic channels we use to compose a text” (pp. 20–22). Thus, these modes can manifest in different forms, such as linguistic, visual, spatial, aural, and gestural.

### **Theoretical Motivation**

The use of innovative digital tools in L2 education can spark the interest of L2 learners (Alrajhi, 2020). For language teachers striving to enhance the educational experience of their students, incorporating digital multimodal resources is inevitable (Veliz & Hossein, 2020). However, the integration of multiple semiotic resources into a single composition product has sparked controversy regarding the role and impact of DMC on L2 learning and development. One concern is that DMC may shift the attention of L2 writers away from language itself toward other forms of meaning-making (Qu, 2017). This raises questions about the extent to which language is prioritized in DMC and whether it may hinder the development of linguistic proficiency. Additionally, Casanave (2017) highlighted a potential negative impact on learners' academic writing and language use in DMC, as multimodality may encourage more entertaining and informal tasks, potentially overshadowing traditional writing practices. Manchón (2017) argued that multimodality can offer opportunities for L2 learning when it promotes cognitive processing of language within DMC; however, the linguistic mode in the process of DMC may not be regarded as the essential mode but rather as one constituent of the multimodal product. Consequently, Manchón (2017) pointed out that the extent to which this digital form of composition effectively facilitates the achievement of L2 learning objectives and caters to learners' needs remains unclear. Furthermore, concerns have been raised regarding the quality of L2 writing within the context of DMC (Chun et al., 2016).

### **Research on DMC and Writing Performance**

Several studies have explored the relation between DMC and L2 writing development. For instance, Dzekoe (2017) investigated L2 acquisition and writing revision in multimodal projects, revealing that

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