

Immersive Learning via Social Annotation: A Preliminary Study on Heritage and Second Language Learner's Cognitive Engagement Patterns with Literary Text

Examining how heritage speakers and second language (L2) learners collaboratively engage with authentic literary texts yields significant insights for language pedagogy and learning design. While prior research has demonstrated that collaborative social annotation facilitates peer interaction and deeper textual comprehension, comparatively few studies have examined how learners with various language proficiency levels employ distinct cognitive strategies in collaborative annotation contexts. This pilot study investigates patterns of cognitive engagement exhibited by heritage and L2 learners as they collaboratively annotate classical Chinese texts, with particular attention to both group-specific strategies and their cognitive development over a semester-long course.

Grounded in recent research on the pedagogical effectiveness of social annotation as a learning tool (Velásquez, 2025), this study additionally recognizes that mixed-proficiency learning environments, while pedagogically challenging, offer valuable opportunities to simulate immersive and interactive language-learning experiences. The study is guided by two research questions: (1) What distinctive patterns of cognitive strategies do heritage speakers and L2 learners adopt when collaboratively annotating literary texts? (2) How do their annotation strategies evolve across semester-long assignments?

The data for the current study were drawn from collaborative annotations produced in an advanced-low graduate seminar on Chinese literature. Over the course of three months, eleven students (six heritage speakers and five L2 learners) completed ten collaborative annotation tasks. The text for annotation was *Dream of the Red Chamber (Hongloumeng)*, selected for its cultural richness, linguistic complexity-combining 19th-century vernacular and literary Chinese-and generic diversity. Each week, a student discussion leader selected a passage for group annotation, which was shared and discussed via a designated online social annotation platform. This authentic dataset provides rich evidence of the learners' cognitive processes as enacted through collaborative annotations.

Incorporating an adapted version of Velásquez's coding scheme, students' annotations were analyzed to identify cognitive strategies such as: making connections, summarizing, questioning, inferring vocabulary, evaluating, predicting, defining words, translating, and extending ideas. Preliminary observations reveal distinctive patterns between the two groups: heritage speakers more frequently draw on cultural and literary knowledge to identify allusions and make intertextual connections, whereas L2 learners tended to focus on character analysis and related characters' emotions and behaviors to personal experience. Across both groups, the developmental trends were observed over time, including increased emulation of the instructor-modeled questioning strategies, greater willingness to share uncertainty, and more substantive peer feedback. These findings suggest that social annotation platforms create inclusive spaces for learners with diverse proficiency levels and linguistic backgrounds to engage authentically with complex literary texts, while developing metacognitive awareness. Eventually, this study contributes to a more nuanced understanding of how digital collaborative

tools can support content-based language instruction across the proficiency spectrum in literature courses.

Reference:

Velásquez, E. (2025). Reading Between the Lines: Digital Annotation Insights from Heritage and L2 Learners. *Languages*, 10(9), 207. <https://doi.org/10.3390/languages10090207>