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Exploring the Use of Infographics in Fostering Critical Thinking Skills (in a Listening Course) among Fifth Semester English Department Students at UIN Madura

Nur Kamilah*[1], Achmad Baidawi[2]
[1,2] Universitas Islam Negeri Madura, Jawa Timur, Indonesia.
Correspondence: *nnkamilaa@gmail.com

Abstract

This study aims to explore how infographic-based tasks foster critical thinking skills among fifth-semester English Department students at UIN Madura in a Listening course. Responding to the growing demand for 21st-century skills in higher education, this study emphasizes the importance of engaging students in analyzing, evaluating, and interpreting multimodal information beyond traditional text-based materials. A descriptive qualitative approach was employed, involving 15–20 students and one lecturer selected through purposive sampling. Data were collected through classroom observations, semi-structured interviews, and analysis of students' infographic products, and were analyzed using thematic analysis with triangulation to ensure data validity. The findings reveal that infographic tasks support students' critical thinking by encouraging analysis, evaluation, organization of ideas, and synthesis of listening content into meaningful visual representations. Students also reported increased motivation and engagement, although challenges related to design skills and the authenticity of student work were identified. This study contributes to EFL pedagogy by demonstrating the pedagogical value of infographics as an effective multimodal learning tool that supports higher-order thinking in Listening instruction and offers practical implications for integrating visual media into language classrooms.

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INTRODUCTION

Critical thinking has become a central component of academic development in English Language Teaching (ELT), particularly in response to the increasing demand for 21st-century skills in higher education (Sukmojati et al., 2025). In contemporary language education, students are no longer expected to rely solely on linear text-based materials; instead, they are required to analyze, evaluate, and interpret information presented through multiple modes, including visual and auditory inputs (Defianty & Wilson, 2022) . Despite this shift, traditional instructional practices in many universities still emphasize text-centered learning, which often

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limits students' opportunities to engage in deeper cognitive processes such as analysis and reflection (Mahril, 2023).

One instructional medium that has gained attention for addressing these limitations is the use of infographics. Infographics are widely recognized as effective learning aids that simplify complex information, organize ideas systematically, and support learners in identifying relationships among concepts. Previous studies have demonstrated that infographics enable students to structure information more effectively, enhance comprehension, and increase learning motivation by presenting key ideas in visually accessible formats (Urmila et al., 2023). Similarly, Jaleniauskiene and Kaperiuniene (2024) found that the visual and concise nature of infographics supports summarization and improves conceptual clarity. These findings suggest that infographics align well with instructional approaches that aim to promote active learning and cognitive engagement.

In the context of English as a Foreign Language (EFL) education, critical thinking is increasingly emphasized as an essential learning outcome. Effective instructional materials are expected to encourage learners to go beyond surface-level understanding by engaging in interpretation, evaluation, and meaning-making processes. As noted by Liu, Sihes, and Lu (2025), university-level EFL learning should require students to actively construct meaning rather than passively receive information. This pedagogical orientation resonates strongly with the cognitive demands of infographic-based learning, which requires learners to analyze content, select essential information, and represent ideas meaningfully.

The relevance of infographics becomes even more pronounced in Listening courses, where students are required to process, retain, and evaluate auditory information. Listening is a cognitively demanding skill that involves decoding spoken input, organizing information, and making interpretations in real time. Sayed Tantawy (2021) emphasized that learners often face challenges in linking and retaining auditory information, which may hinder comprehension and critical analysis. In this regard, infographics can function as visual scaffolding tools that assist students in organizing and synthesizing listening content, thereby supporting analytical listening processes.

Although previous research has highlighted the benefits of infographics in enhancing comprehension, engagement, and information processing, most studies have focused on general EFL skills or reading and writing contexts. There remains a noticeable lack of research examining the use of infographics specifically within Listening courses in higher education, particularly in relation to the development of critical thinking skills. Moreover, empirical studies addressing this issue in the context of Indonesian Islamic higher education institutions, such as UIN Madura, are still limited. This gap is especially relevant for fifth-semester English Department students, who are transitioning toward advanced analytical competencies and are expected to demonstrate reflective and critical engagement with spoken texts.

To address this gap, the present study explores the use of infographic-based tasks in fostering critical thinking skills among fifth-semester English Department students at UIN Madura within a Listening course. Specifically, the study aims (1) to investigate how infographics support the development of students' critical thinking skills and (2) to explore students' experiences and perceptions during their engagement with infographic-based tasks. Using a descriptive qualitative approach, the study examines the relationship between the use of infographics as an instructional medium and students' critical thinking abilities through classroom observations, analysis of student artifacts, and semi-structured interviews. By situating infographic use within the theoretical framework of multimodal learning (Nielsen & Yeo, 2022) and critical thinking theory (P. A. Facione, 2011), this study contributes novel insights into the pedagogical potential of visual learning media in EFL Listening instruction and offers a contextualized understanding of how visual scaffolding can enhance higher-order thinking in university-level language education.

RESEARCH METHODOLOGY

This study employed a descriptive qualitative design to explore how infographic-based tasks support the development of critical thinking skills among fifth-semester English Department students at UIN Madura in the context of a Listening course. The research population comprised all fifth-semester students enrolled in the Listening class during the 2025/2026 academic year. Using purposive sampling, approximately 15–20 students who met specific criteria namely, having completed foundational listening courses and being actively engaged in analytical listening activities were selected as participants, along with their course lecturer. This sampling strategy was considered appropriate for qualitative inquiry, as it allowed for in-depth exploration of participants' experiences relevant to the research objectives (Vyhmeister, Wa-Mbaleka, & Rosario, 2022).

Data were collected using three primary instruments. First, an observation checklist was employed to document students' engagement and interaction with infographic-based tasks during classroom activities. Second, student learning artifacts in the form of infographic products and related responses were collected to examine how students organized, analyzed, and synthesized listening content. Third, semi-structured interview guidelines were used to elicit students' experiences, perceptions, and reflections on the use of infographics in the Listening course. All instruments were developed in accordance with established qualitative research principles in language education and aligned with critical thinking indicators adapted from Facione's framework (P. Facione, 1998).

The research procedures were conducted over a four-week period. Prior to data collection, permission was obtained from both the lecturer and students, and ethical considerations related to informed consent, confidentiality, and voluntary participation were strictly observed (Dixon & Quirke, 2018). Classroom observations were

carried out during three consecutive Listening sessions, each lasting approximately 90 minutes, in which infographics were used as instructional media or scaffolding tools for listening comprehension and critical thinking activities. In parallel, students' infographic artifacts such as summaries, interpretations, and analytical responses were collected to capture evidence of cognitive engagement in multimodal tasks. Semi-structured interviews were subsequently conducted with the selected students who demonstrated active participation in infographic-related activities. These interviews were held in a quiet campus setting to facilitate open and reflective responses.

Data analysis followed an inductive thematic approach. Observation notes, interview transcripts, and student artifacts were coded iteratively through open, axial, and selective coding to identify emerging patterns related to critical thinking development and multimodal engagement Miles, Huberman, & Saldaña, 2014 in (Schoch, 2020). Findings from different data sources were continuously compared to enhance interpretive credibility and ensure consistency across observations, interviews, and document analysis (Isik, 2025). Although the study adopted a qualitative orientation, simple frequency counts were occasionally used to support the interpretation of recurring themes without employing advanced statistical testing.

To ensure trustworthiness, several strategies were implemented. Credibility was strengthened through triangulation of multiple data sources, while member checking was conducted by sharing summarized interpretations with selected participants to confirm accuracy and minimize researcher bias (Birt, Scott, Cavers, Campbell, & Walter, 2016). Dependability was maintained through an audit trail documenting methodological and analytical decisions, and confirmability was supported by reflective notes recorded throughout the analysis process. Transferability was enhanced by providing rich descriptions of the research context, instructional practices, and participant characteristics, enabling other researchers to adapt or replicate the methodology in similar EFL settings (Villamin, Lopez, Thapa, & Cleary, 2025).

The scope of this methodology is limited to a single Listening class within one academic program, which may constrain broader generalization. Additionally, the use of purposive sampling means that the findings primarily reflect the experiences of students actively involved in infographic-based activities. Nevertheless, the methodological transparency and detailed procedural description offer a solid foundation for replication and further investigation into the use of infographics in fostering critical thinking within EFL learning contexts.

RESULT AND DISCUSSION

This chapter presents and discusses the findings related to the use of infographic tasks in fostering students' critical thinking skills in a Listening course. Data were obtained from student interviews, lecturer interviews, classroom observations, and analysis of students' infographic products. These data sources were triangulated to enhance credibility and ensure that the interpretations accurately reflect participants' experiences. The discussion focuses on major findings

aligned with the research objectives, namely students' emotional engagement, critical thinking processes, organization of ideas, challenges in task implementation, and preferences toward infographic-based learning, while connecting these findings to relevant literature.

Students' Emotional Engagement and Motivation

The first major finding indicates that infographic tasks positively influenced students' emotional engagement and motivation. Most students described the task as enjoyable, creative, and engaging, particularly due to its digital and visual nature. One student stated, *"I feel fun… it feels like I don't do my task but create something amazing,"* while another explained, *"I feel excited because I like editing, so when I get an infographic task, I will do it better."* These responses suggest that infographic tasks stimulate intrinsic motivation by allowing students to actively create and design learning outputs. This finding supports previous research indicating that visual-based learning activities enhance learner engagement and motivation (Ramadhan & Darmawan, 2025).

Nevertheless, a small number of students reported neutral or negative feelings, particularly those who were less comfortable with design-related activities. As one participant noted, *"I didn't really enjoy… it was hard for me to design and choose what to write."* This finding suggests that while infographic tasks are motivating for many learners, their effectiveness may vary depending on students' digital literacy and learning preferences, as also noted by Kress and Van Leeuwen (2020).

Critical Thinking Engagement Through Infographic Tasks

The second and most central finding relates to students' engagement in critical thinking processes. Nearly all participants reported that creating infographics required them to analyze, evaluate, and select essential information from listening materials. Students emphasized the need to decide which information was important and how to present it clearly. For example, one student explained, *"It made me analyze which information was important and evaluate how to present it clearly."* Another stated, *"When choosing what material to put, it must be simple and understandable."*

These findings directly address the first research objective by demonstrating that infographic tasks activate key components of critical thinking, particularly analysis and evaluation, as outlined in Facione's framework. By transforming listening content into visual summaries, students were required to reinterpret information rather than merely recall it. This supports previous studies indicating that infographics promote higher-order thinking by encouraging learners to filter, reorganize, and reinterpret information (Alyahya, 2019).

Organization and Comprehension of Ideas

Another significant finding concerns the role of infographics in supporting students' organization and understanding of ideas. Most students reported that the task helped them structure information more clearly, as it required summarization

and coherent arrangement of ideas. As one participant noted, *"When making an infographic, we must organize first, so we can understand ideas more simply."* Another stated, *"I had to arrange the information step by step, and it made me see the point clearly."*

These responses indicate that infographics function as cognitive scaffolds, helping students manage complex listening input by organizing it visually. However, a minority of students felt that the design aspect overshadowed content understanding. One student commented, *"It was more about design than understanding the ideas."* This suggests that the effectiveness of infographics in supporting comprehension may depend on balanced task design and sufficient instructional guidance.

Challenges in Implementing Infographic Tasks

Despite their benefits, infographic tasks also presented challenges. Students reported difficulties related to design selection, balancing text and visuals, managing limited space, and technical issues. One student stated, *"It was hard to choose the right design and fit all the information without making it crowded."* Another mentioned struggling with creativity and time management.

These challenges indicate that infographic tasks demand not only cognitive effort but also digital and design-related skills. This finding aligns with Li (Li, 2020), who noted that multimodal tasks may create additional demands for learners with limited visual design experience. Thus, while infographics promote critical thinking, they also require appropriate scaffolding and clear assessment criteria.

Students' Preferences Toward Infographic Tasks

Most students expressed a preference for infographic tasks over traditional assignments such as essays or presentations. They described infographics as more engaging, visually appealing, and easier to understand. One student stated, *"I prefer infographic tasks because they are more visual and easier to understand than long texts."* However, several students suggested that infographics would be more effective if combined with oral presentations, allowing for deeper explanation. This indicates that infographic tasks may be most effective when integrated into blended assessment formats.

Lecturer Perspectives and Product Analysis

The lecturer's interview corroborated student findings by confirming that infographic tasks promoted engagement, selective decision-making, and critical reasoning. The lecturer observed that students were able to align infographic content with instructional requirements and justify their choices, stating that students could *"criticize the task well by giving reasons"* and relate content to personal experiences. These observations reinforce evidence of critical thinking development identified in student interviews.

Analysis of a sample student infographic further supports these findings. The product demonstrated clear organization, thematic interpretation, evaluative

judgment, and multimodal analysis, including attention to emotional tone, visual elements, and meaning-making. However, the polished nature of the product also highlights challenges related to assessing originality, echoing the lecturer's concern about authenticity in digitally produced assignments.

Overall, the findings indicate that infographic tasks effectively foster critical thinking skills in Listening instruction by promoting analysis, evaluation, organization of ideas, and synthesis of information. At the same time, the study identifies challenges related to design skills, authenticity, and assessment practices. By focusing on these major findings, the study addresses its research objectives and contributes to a clearer understanding of how infographic-based learning can support higher-order thinking in EFL Listening contexts when implemented with appropriate pedagogical guidance.

CONCLUSION

The findings of this study highlight the importance of infographic-based tasks as a meaningful instructional medium for fostering critical thinking in EFL Listening courses. By engaging students in analyzing, organizing, and synthesizing auditory information into visual representations, infographics encourage deeper cognitive processing beyond surface-level comprehension. The results matter because they demonstrate how visual scaffolding can support students in transforming listening input into structured understanding, a skill essential for academic success in higher education. At the same time, the study underscores practical considerations related to design literacy and assessment authenticity, emphasizing the need for clear instructional guidance when implementing multimodal tasks. Overall, this research reinforces the pedagogical value of infographics as an effective tool for supporting higher-order thinking in Listening instruction and contributes to a more informed integration of visual media in EFL teaching practices, thereby increasing their cognitive skills. Notably, in the contemporary context of multimodal studies related to cognitive engagement, the application of the use of infographics in assistance with EFL learners is equally justifiable.

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