EXPOSE
Journal of English Education and for Specific Purpose
Vol. 1 No. 2, December 2023, pp.76-83
https://journal.uml.ac.id/EXPOSE/index

The Role of Multimodal Feedback (Audio and Video) from Educators in Enhancing Students' Essay Quality: A Qualitative Perspective

Fini Widya Fransiska[1]*, Muhammad Rizky Al Fatih[2]
[1]Universitas Muhammadiyah Pringsewu, Indonesia
[2]Universitas Islam Negeri Syarif Hidayatullah, Indonesia
*Corresponding Author: finiwidyafransiska@umpri.ac.id

ABSTRACT

This qualitative study explores the functions and mechanisms of multimodal feedback (audio and video) provided by instructors on the quality of Business English essays written by third-semester students, as well as the detailed revision strategies used by the students. Using a collective case study approach with 10 students and 2 instructors, data were gathered through triangulation methods, including document analysis (initial drafts and revisions), in-depth interviews, and observation of the revision process. The main findings reveal that multimodal feedback significantly reduces students' cognitive load when interpreting corrections, especially in improving macro-structure, cohesion, and coherence by offering contextual clarity (visualising errors) and pedagogical empathy (the instructor's voice). This enhancement in cognitive understanding and social presence notably encourages transformational (deep-level) revisions, with over 60% of improvements focused on content and argument structure. The study recommends shifting from vague textual feedback to a multimodal digital approach to foster greater student accountability and ownership of their writing quality.

Keywords: Multimodal Feedback, Audio Feedback, Video Feedback, Essay Quality, Deep Revisions

INTRODUCTION

Proficiency in essay writing, especially for English as a Foreign Language (EFL), is indispensable within the academic curriculum as it exemplifies students' critical thinking and communication abilities. Enhancing the quality of essays—ranging from micro elements such as grammar and vocabulary to macro features including structure, cohesion, and argumentation—depends significantly on receiving timely, constructive, and explicit feedback from educators (Nourinezhad et al., 2021). Absent appropriate feedback, students risk repeating errors, thereby impeding their advancement in mastering complex writing skills. Traditionally, feedback has predominantly been textual—either handwritten annotations or digital comments—often characterised by brevity, ambiguity, and impersonality, which may result in misunderstandings (FitzPatrick & McKeown, 2020). Textual feedback is limited in its capacity to convey tone or emphasis, rendering it challenging for students to comprehend the significance of corrections, particularly for fundamental issues such as coherence and thesis development. This disparity engenders a communicative gap between instructors and learners. To mitigate these challenges and in light of the growing integration of educational technology, multimodal pedagogy is increasingly recognised in English language education, including teacher training (Li, 2020). The digital transformation in education encourages the exploration of novel methods of communication and assessment (Sharma & Giannakos, 2020). In the realm of writing instruction, this evolution has fostered the development of multimodal feedback—integrating multiple sensory channels, chiefly audio and video (Froehlich & Guias, 2021; Tyrer, 2021).

Audio and video feedback are regarded as potentially more efficacious alternatives to written feedback because they provide richer contextual information, thereby helping to mitigate inherent ambiguities present in text. For instance, audio feedback enables instructors to express intonation and empathy that are challenging to convey in written form, rendering the feedback more personalised and less likely to be perceived as harsh critique (FitzPatrick & McKeown, 2020; Martin, 2020). In a similar vein, video feedback- often delivered via screencasting- permits

educators to visually emphasise specific sections of an essay draft while verbally elucidating their rationale, thereby establishing a clear connection between suggestions and the student' s work.

This multimodal approach is indispensable for supporting students who encounter difficulties in digital multimodal composition and second language writing (Hafner & Ho, 2020; Karasavvidis, 2019). In Indonesia, challenges faced by EFL students in producing high- quality academic writing, particularly essays, remain a considerable concern, as evidenced by training programmes designed to enhance writing skills (Noviarini et al., 2023). The disparity between academic expectations for coherent essays and students' ability to produce such texts is frequently attributable to a limited comprehension of corrections made on prior drafts.

Consequently, the adoption of multimodal feedback within Indonesian higher education institutions warrants urgent investigation. Incorporating vocal and visual elements into feedback is believed to bolster the social presence of instructors, a factor of particular importance in distance or hybrid learning environments. This approach can also serve to motivate students to pay closer attention to and implement the suggestions provided (Martin, 2020). From a qualitative standpoint, this methodology affords a deeper insight into students' interpretive experiences with non- textual feedback, insights that may not be uncovered through purely quantitative analyses (Froehlich & Guias, 2021).

Prior research has looked into how audio- visual feedback impacts various writing aspects and overall performance (Nourinezhad et al., 2021), indicating that multimodal feedback generally has higher effectiveness. However, the specific ways this type of feedback influences deep- level revisions—such as argument structure and paragraph cohesion—still need more focused research. Qualitative studies can shed light on the cognitive processes students engage in when they listen to and view corrections, which are essential for improving writing quality.

This study aims to fill this gap by thoroughly examining the role of multimodal feedback from English language instructors. It investigates how audio and video feedback assist students' revision strategies, especially in essay writing that demands advanced skills in organising ideas and constructing arguments (Kusuma et al., 2021). The findings are expected to provide valuable teaching insights about applying feedback effectively in the digital age.

The main question driving this research is: How does instructor- provided multimodal feedback improve students' essay revisions? This study seeks, through a qualitative approach, to understand how students interpret feedback, the revision methods they use, and the differences between their original drafts and revised essays after receiving audio and video feedback.

Focusing on student experiences, the research will identify themes related to clarity of instructions, motivation, and understanding of context as conveyed by multimodal feedback (Kim & Kang, 2020). Exploring how students utilise different modalities—sound, text, and visuals—as semiotic tools during revision can provide valuable insights (Tyrer, 2021).

This research is particularly innovative because it combines recent findings on the potential of multimodal feedback, which has become more prominent since 2020, with the specific needs of EFL students in Indonesia developing skills in academic essay writing. The results will offer both theoretical and practical frameworks for educators and institutions to adopt and improve technology- based feedback.

Ultimately, this study aims to assess how effective the shift from traditional, text- only feedback to multimodal methods can be, proposing a more effective and humane way to support students. This approach can help students produce higher- quality essays and strengthen their academic and communication skills.

METHOD

This study employs a qualitative methodology (Creswell & Creswell, 2018) with the primary aim of attaining an in-depth understanding of the meanings and experiences of participants, which is pertinent for investigating the intricate process of interpreting multimodal feedback. The research design implemented is a Collective Case Study (Stake, 1995), selected to examine multiple cases—namely students and lecturers—in order to comprehensively explore the central issue—the role of multimodal feedback. The study was conducted in 2020, reflecting the

context of the widespread transition to online learning. Participants were purposively sampled, consisting of ten third-semester students enrolled in the Business English Essay Writing course and two seasoned English lecturers with at least one semester of experience providing audio/video-based feedback via screencasting tools. These selections were predicated on their direct engagement with the phenomenon of multimodal feedback within the context of business essay composition.

Data collection was executed through triangulation across three primary sources to ensure comprehensive richness and validity of the findings. Document analysis involved a comparative review of three document sets per participant: (a) Initial Essay Draft, (b) Multimodal Feedback Recordings (Audio/Video) from the instructor, and (c) Revised Essay Draft. The focus was to identify the nature of modifications made by students (surface vs. deep changes). Subsequently, semi-structured in-depth interviews were conducted with all participants (10 students and 2 lecturers) to qualitatively explore how feedback elements—audio and visual—are interpreted, factors influencing students' revision strategies, and pedagogical considerations from the lecturers. Additionally, non-participant observation was carried out to document actual behaviors and cognitive processes of students during interactions with feedback and revision activities, capturing data not evident solely through interviews.

The qualitative data collected—including interview transcripts, observation notes, and document analysis results—were analyzed via Inductive Thematic Analysis (Braun & Clarke, 2006). This involved systematic phases: Data Transcription and Familiarization; Inductive Initial Coding; Theme Identification through grouping similar codes; Theme Review and Naming; and Interpretation of Findings to address the research questions. Continuous data triangulation was employed to bolster the credibility and validity of the findings (Denzin, 1978) by corroborating participants' narratives and perspectives (from interviews) with empirical evidence of changes in essay drafts (document analysis), thereby verifying whether audio/video feedback indeed facilitated deep-level revisions as posited.

FINDINGS AND DISCUSSION

Findings

Cognitive Mechanisms in Improving Writing Quality through Multimodality

The primary findings distinctly demonstrate that the employment of dual modalities (audio-visual) in feedback delivery establishes a more cognitively efficient communication channel. This approach uniquely facilitates profound understanding and the effective implementation of revisions in essays—an achievement challenging to attain through conventional textual feedback. The effectiveness of this mechanism is realised through the synergy of contextual clarity (visual), targeted specificity, and comprehensive oral explanation.

a. Managing Cohesion and Coherence through Error Visualization (Macro Structure Correction)

Macro structural challenges, such as essay cohesion and coherence, are widely recognised as the primary obstacles faced by EFL students in attaining high-quality academic writing. Students have clearly reported difficulties in comprehending written feedback that is abstract-such as comments like "Cohesion between paragraphs needs to be improved" or "Ideas transition is not smooth." They perceive these comments as diagnostic but lack specific guidance. The principal advantage of multimodal feedback, particularly through video, lies in its capacity to visually illustrate abstract and relational errors. For instance, the instructor can highlight (using digital markers or highlighting) Paragraphs 2 and 3 while verbally explaining missing logical connections, jumps in ideas, or unresolved arguments between them. The combination of visual highlights with structured verbal explanations aids students in visualising and hearing where logical breakdowns occur. For example, Lecturer (G1) often provides clear, solution-oriented verbal cues, such as, "To connect this idea and improve flow, start Paragraph 3 with 'Notwithstanding...' to emphasise the contrast with Paragraph 2." This technique assists students in visualising opposite relationships within the text. Student Quote (S7): "*When I heard the lecturer's voice and saw the cursor pointing to the incorrect sentence, I understood immediately.*

If it were just red markings, I would only know it was wrong, not why it was wrong. The lecturer's voice makes the problem tangible and specific, enabling me to identify precisely where to add the new transition." These insights demonstrate that multimodal feedback transforms abstract issues like cohesion into tangible visual and verbal cues, thereby aiding students in processing and implementing structural improvements that previously appeared overly complex.

b. Clarification of the Thesis Focus and Ambiguity of Arguments through Oral Content

The fundamental component of any academic essay is the thesis statement. The overall quality of an essay frequently diminishes if the thesis is ambiguous, excessively broad, or lacks clarity. Addressing ambiguity or overextension in the thesis necessitates detailed and nuanced feedback. Audio/video responses have proven to be particularly effective in this regard, as they enable instructors to provide theoretical reasoning and comprehensive explanations of the linguistic subtleties underlying the corrections. Unlike textual comments that may simply state "The thesis is too broad," verbal feedback can elucidate why specificity and restraint are essential, offering metalinguistic insights into the functions and limitations of the thesis within a specific academic genre.

Observational analysis reveals that instructors strategically utilise vocal intonation as a valuable pedagogical instrument. They may accentuate certain keywords requiring modification (e.g., discouraging the use of "impact" if the thesis is overstated, and proposing more moderate terms such as "contribution" or "relevance" to refine the scope). This vocal emphasis provides students with hierarchical guidance on where critical adjustments are necessary, as opposed to other minor corrections. Furthermore, the visual elements within the feedback video allow instructors to highlight the student's thesis while simultaneously typing or displaying revised thesis options in real-time, complemented by verbal explanations. This demonstrates that multimodal feedback (Tyrer, 2021) offers rich interpretive context that directs students' critical thinking toward the foundations of their arguments, transforming the perception of the thesis from a simple sentence into a purposeful argumentative statement. Students have reported that this process not only clarifies errors but also illustrates how a well-crafted thesis should sound and appear.

The Role *of Feedback* in Student Revision Strategies

Document analysis substantiates these findings, demonstrating that multimodal feedback empirically encourages students to employ transformational revision strategies (deep level) focusing on content and structure. Conversely, textual feedback typically elicits editorial revision (surface level).

a. The Power of Transformational Revision

Comparative data derived from initial essay documents and subsequent revision essays, utilised in triangulation analysis, offer compelling empirical evidence of the immediate influence of multimodal feedback on students' revision strategies. Quantitative observations indicate that eight out of ten students (8/10) implemented at least three substantial deep-level structural modifications—such as reordering paragraphs, incorporating additional supporting arguments, or rewriting topic sentences—following the receipt of multimodal feedback. This evidence markedly contrasts with the findings obtained from a historical comparison of drafts produced by students who previously received textual feedback.

Table 1. Comparison of students' revision focus based on feedback Type.

Types of Feedback	Student Focus	Average Deep Level Revision Percentage
Textual (Comparison)	Grammar, Spelling, Word Choice (*Surface Level*)	< 25%
Multimodal (Audio/Video)	Argument Structure, Idea Development, Cohesion & Coherence (*Deep Level*)	> 60%

The data clearly indicates a strong relationship: receiving multimodal feedback doubles the rate at which students make deep-level revisions. This is a significant qualitative insight because such deep changes signal more meaningful learning and enhanced critical thinking, beyond mere editing. Students are not just correcting grammatical errors, although they still do that; they are actively reconfiguring the structure of their essays. This demonstrates that audio and video feedback effectively break down interpretive barriers that typically lead students to focus only on surface corrections. Instead, these methods promote reflective thinking and meaningful restru

Reducing Cognitive Load

The discussions during interviews consistently indicated that the primary factor contributing to successful deep revisions is the reduction of students' cognitive load during the process of feedback interpretation. Traditional textual feedback often imposes additional cognitive burdens—mental strain unrelated to the actual content—on students, stemming from difficulties in comprehending illegible handwriting, abbreviations, or brief, contextless comments. Conversely, students (S4) observed that audio/video feedback assists in avoiding extensive time and mental effort when deciphering vague or implicit instructor messages.

Furthermore, the dual modalities (audio and visual) provided by multimodal feedback effectively redirect students' cognitive focus. They can reassign mental energy—normally consumed by interpretation—to directly implementing the solutions or suggestions offered. The primary advantage of multimodal feedback lies in its capacity to transform revision tasks from ambiguous, energy-consuming interpretation into targeted, efficient actions. This freed cognitive capacity allows students to engage in more profound and complex analytical activities, such as restructuring arguments. Such improvements would not be achievable if their cognitive resources were solely dedicated to superficial feedback interpretation. This highlights how multimodality enables more substantial and complex revisions within the essay.

Affective and Social Impact (Motivation and Perception)

The impact of multimodal feedback extends to the emotional and psychological dimensions of students, a factor of critical importance in online education. This impact is exemplified by enhanced social presence (Martin, 2020), which fundamentally facilitates the acceptance and adoption of revised recommendations.

a. Increased Social Presence and Pedagogical Empathy

Multimodal feedback, which integrates audio and video modalities, exerts a significant emotional influence. Empirical evidence demonstrates that university students consistently perceive lecturers' vocal cues as fostering personal connections and conveying heightened empathy, in contrast to written comments that may seem impersonal. This perception often enhances students' receptiveness to constructive criticism. Notably, audio feedback reintroduces a human element within the assessment process. When students hear supportive tones from their instructors, they are more likely to interpret feedback as a collaborative effort aimed at improvement rather than as a punitive response to errors.

> Lecturer Quote (G2): "*I could have provided a very specific and incisive critique of the essay's logic, but because I employed a warm tone and began by commending their efforts, students perceived it as coaching rather than judgment*."

This phenomenon aligns with Social Presence Theory within digital learning environments. Audio and video feedback augment the lecturer's sense of "presence" and concern, which are pivotal in technology-mediated settings. An increased sense of social presence diminishes students' defensiveness towards critique (FitzPatrick & McKeown, 2020). Enhanced social presence encourages students to interpret feedback on essay weaknesses as expressions of caring guidance rather than threats to their identity or capabilities. This positive emotional impact indirectly fosters intrinsic motivation, motivating students to proactively engage with complex revision suggestions, under the perception that their efforts are genuinely valued.

b. Reducing Writing Apprehension and Enhancing Motivation

These findings underscore an essential psychological dimension: multimodal feedback not only enhances cognitive processes but also offers emotional solace. Students experiencing elevated writing anxiety, as observed by S2 and S6, explicitly indicated that multimodal feedback—especially the compassionate and non-judgmental tone employed by the lecturer's voice—served as an emotional calming influence. Writing anxiety frequently originates from the fear of severe evaluations or failure (FitzPatrick & McKeown, 2020). Audio feedback, which can convey warmth, patience, and the lecturer's expectations, assists in alleviating this perceived threat. Participants described such feedback as more "humane" and "encouraging" in comparison to detached written comments. Consequently, multimodal feedback effectively enhances students' intrinsic motivation toward improvement. When emotional barriers like anxiety diminish, students are more inclined to undertake challenging revision tasks, which are intrinsically vulnerable educational moments. This illustrates that audio and video feedback serve beyond mere correction; they cultivate a psychologically safe classroom environment—transforming potentially intimidating writing tasks into opportunities for supported development. This rise in intrinsic motivation substantially promotes students' pursuit of deep learning, encouraging greater effort and time investment in their ongoing development.

c. Increased Accountability and *Ownership*

The most significant affective and psychological aspect of multimodal feedback is its transformative role in fostering students' personal accountability and sense of ownership of their writing products. Multimodal feedback appears highly personalised and specific, as it involves the instructor dedicating time, voice, and visual attention to record an individual student's essay review, discussing in detail the particular weaknesses and strengths with nuance. Students interpret this additional effort by instructors as tangible evidence that their writing is valued and regarded as important, which enhances their motivation.

This increased appreciation and recognition invoke a psychological phenomenon known as reciprocity; interview analysis indicated a greater commitment to reciprocal effort, resulting in the production of high-quality revisions. This suggests that students feel a moral and academic obligation to meet the expectations demonstrated through the time investment and personalisation by instructors. These responses are inversely proportional to their previous experiences with receiving written comments that are frequently perceived as generic, template-based, or copy-pasted, often leading to minimal engagement.

This enhanced sense of ownership directly influences the quality of revisions, encouraging students to extend their efforts beyond standard editorial corrections and to engage in structural and content-oriented improvements at a deeper level. Students not only address errors but also invest intellectually in meaningful enhancements, feeling a full sense of responsibility for the final product which reflects the collaborative effort between themselves and the faculty. In conclusion, the personalisation of multimodal feedback successfully transforms the student assessment relationship from a one-way transaction into a pedagogical partnership, where high accountability drives substantial and meaningful revision.

Discussion

This study verifies that multimodal feedback (audio and video) facilitates a pedagogical transformation in EFL essay assessment. Its primary purpose is to enable profound transformative revisions, emphasizing structural and cohesive elements. The efficacy of this approach derives from dual modalities that decrease students' cognitive load during interpretation and enhance clarity of instructions through error visualization, while fostering empathy via the lecturer's voice. These findings offer qualitative evidence of how multimodal feedback functions within the Indonesian academic environment.

This integration of visualization and oral explanation addresses complex issues such as essay cohesion and coherence, which are difficult to resolve through textual feedback alone. The findings corroborate Hafner and Ho (2020), who advocate for a process-oriented assessment model that recognizes multimodal composition in second language writing, a stance further

supported by Li's (2020) endorsement of multimodal pedagogy in TESOL. Our research indicates that multimodal feedback enables lecturers to intervene in intricate structural matters through immediate visual and auditory cues, thereby aiding students in developing metacognitive awareness of their writing.

Moreover, the study reveals that multimodal feedback primarily fosters deep revision and enhances overall writing quality, corroborating Nourinezhad et al.'s (2021) results concerning the positive influence of audiovisual feedback on writing and performance. These quantitative findings are supplemented by qualitative insights, illustrating that visual-auditory clarity reduces cognitive load and directs mental effort toward resolving complex structural issues, ultimately leading to a fundamental improvement in feedback accessibility and quality.

Affective impacts, including increased social presence, reduced writing anxiety, and heightened ownership, align with existing literature, notably FitzPatrick and McKeown (2020), who emphasize the role of voice in rendering feedback more personal and empathetic. The lecturer's voice functions as a calming influence for anxious students, while Tyrer (2021) suggests that warm intonation and targeted corrections reinforce social presence, transforming perceptions from judgment to supportive learning.

Practically, these findings are highly pertinent to contemporary language education, particularly in EFL contexts where speaking and writing anxieties are widespread. They endorse the formal adoption and training of lecturers in multimodal feedback as a best practice. The novelty of this study resides in its qualitative, context-specific exploration (Indonesia, 2020) of the cognitive and emotional mechanisms linking multimodal feedback with deep revision. It elucidates how students utilize various modalities to significantly improve essay structure and argumentation.

In conclusion, multimodal feedback surpasses traditional text-based methods by addressing their limitations—lack of context and impersonality—thereby resulting in higher-quality essays. Students internalize complex revision concepts more effectively, motivated by strong affective engagement. Future research should focus on the challenges faced by lecturers, such as balancing feedback quality with time constraints, and consider longitudinal studies to evaluate the long-term impact of multimodal feedback on students' writing development.

CONCLUSION

This qualitative research concludes that multimodal feedback (audio and video) provided by EFL teachers plays a more transformative and superior role compared to traditional textual feedback in student essay writing. The key findings confirm that multimodal feedback effectively facilitates transformational revision (deep level), which includes structural improvements, cohesion, and argument development. This effectiveness is achieved through efficient cognitive and instructional mechanisms: Contextual Clarity, where visual (error highlighting) and audio (verbal explanation) elements transform abstract problems (such as "less cohesive") into concrete, actionable instructions, supported by a reduction in students' cognitive load when interpreting feedback. Additionally, Argument Targeting becomes more precise because verbal feedback enables teachers to communicate the theoretical reasoning and linguistic nuances needed to improve thesis focus and resolve ambiguity—something that is less efficiently achieved through writing alone.

Beyond cognitive gains, multimodal feedback also demonstrates a strong affective and pedagogical impact, which indirectly encourages revision implementation. Increasing Social Presence through the teacher's voice fosters a personal connection and a more empathetic tone, transforming criticism into receptive coaching. This high level of personalisation triggers Accountability and Ownership in students, motivating them to reciprocate with high-quality revisions. Furthermore, verbal feedback acts as a calming influence, contributing to the Reduction of Writing Anxiety and creating a safe psychological environment conducive to improvement. Overall, multimodal feedback combines instructional quality with affective engagement. This integration acts as a catalyst that effectively shifts students' revision strategies from focusing on

surface-level improvements to fostering deep-level revision, which is essential for developing mature academic essay writing skills.

REFERENCES

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Denzin, N. K. (1978). *The research act: A theoretical introduction to sociological methods*. McGraw-Hill.

FitzPatrick, E., & McKeown, D. (2020). How to Use Audio Feedback to Improve Students' Writing Quality. *TEACHING Exceptional Children*, *53*(1), 12–22. https://doi.org/10.1177/0040059920908901

Froehlich, D. E., & Guias, D. (2021). Multimodal Video-Feedback: A Promising way of Giving Feedback on Student Research. *Frontiers in Education*, *6*, Article 763203. https://doi.org/10.3389/feduc.2021.763203

Hafner, C. A., & Ho, W. Y. J. (2020). Assessing digital multimodal composing in second language writing: Towards a a process-based model. *Journal of Second Language Writing*, *48*, 100710. https://doi.org/10.1016/j.jslw.2020.100710

Karasavvvidis, I. (2019). Students' use of digital video effects in multimodal compositions: an exploratory study. *Journal of Visual Literacy*, *38*(3), 221–244. https://doi.org/10.1080/1051144X.2019.1611697

Kim, Y., & Kang, S. (2020). Writing to Make Meaning through Collaborative Multimodal Composing among Korean EFL Learners: Writing Processes, Writing Quality and Student Perception. *Computers and Composition*, *56*, 102609. https://doi.org/10.1016/j.compcom.2020.102609

Kusuma, R. P., Sudana, I. M., & Astika, I. M. S. (2021). The Use of Visual AIDS as Multimodal Teaching MEDIA to Enhance Students' Skill of Writing. *International Journal of Linguistics, Literature and Translation*, *4*(5), 263–269. https://doi.org/10.32996/ijllt.2021.4.5.29

Li, M. (2020). Multimodal pedagogy in TESOL teacher education: Students' perspectives. *System*, *93*, 102337. https://doi.org/10.1016/j.system.2020.102337

Martin, D. (2020). Providing Students with Multimodal Feedback Experiences. *Journal of Curriculum, Teaching, Learning and Leadership in Education*, *5*(1), Article 2. https://doi.org/10.32873/uno.dc.ctlle.05.01.1082

Nourinezhad, S., Hadipourfard, E., & Bavali, M. (2021). The effect of audio-visual feedback on writing components and writing performance of medical university students in two different modes of instruction, flipped and traditional. *Cogent Education*, *8*(1), 1978621. https://doi.org/10.1080/2331186X.2021.1978621

Noviarini, T., Daniar, I. N., & Parantoro, A. (2023). Pelatihan Menulis Karya Ilmiah pada Mahamahasiswa STIE Tribuana. *Jurnal Ilmiah Pengabdian dan Inovasi*, *1*(3), 515–522.

Sharma, K., & Giannakos, M. (2020). Multimodal data capabilities for learning: What can multimodal data tell us about learning? *British Journal of Educational Technology*, *51*(5), 1450–1484. https://doi.org/10.1111/bjet.12993

Stake, R. E. (1995). *The art of case study research*. SAGE Publications.

Tyrer, C. (2021). The voice, text, and the visual as semiotic companions: an analysis of the materiality and meaning potential of multimodal screen feedback. *Education and Information Technologies*, *26*, 4241–4260. https://doi.org/10.1007/s10639-021-10455-w