



PanSIG Journal Review Form: Research Articles **(SAMPLE)**

Reviewer's name: _____ Paper ID # _____

PLEASE EVALUATE THE MANUSCRIPT BASED ON THE FOLLOWING SCALE:

1 = Not achieved / 2 = Somewhat Achieved / 3 = Achieved

[If 1 or 2 please provide the corresponding feedback.]**

Please assign (X) the score for each item below:

	1	2	3	What can be improved (Specify HOW)	To be done by the author Confirm and specify how the requested changes have been made
A. Rationale					
- The rationale for the paper is well grounded and clearly explains the purpose, novelty, and significance for science or society.		X		The author should further explain the higher test scores and why their findings differ from other institutions.	
B. Originality					
- The paper makes a substantial contribution to the body of knowledge related to the field. It is meaningful and provides a foundation for future research or teaching methodology.			X		
C. Topic					
- The topic of this paper is relevant, timely, and of interest to the audience of this journal.			X		
- The topic has been described within a theoretical/conceptual framework that is appropriate and that adequately supports the research.		X		The author should clarify and prioritize one framework. Otherwise, they should organize and justify the use of both frameworks.	

D. Research Question(s) and Objectives					
- The research questions and objectives are clearly stated and aligned with the study's rationale and topic.			X		
E. Literature Review					
- The paper provides a comprehensive and adequate review of relevant literature to support the framework/engage with others in the field.	X			The author should include other sources as one source is not enough to support a whole theoretical framework.	
- The author used reliable sources and critically engaged with relevant literature, identifying gaps or areas for further investigation.		X		The author should consider replacing the sources mentioned below with peer-reviewed journal articles or studies from reputable academic sources.	
- Literature cited include recent work within the last 15 years (not exclusively).			X		
F. Methodological Accuracy					
- The research design is appropriate for the study's objectives and research questions.			X		
- The methods are sufficiently detailed to allow for replication.			X		
- The content of this paper, including statistics and figures, is technically accurate.		X		The author needs to clarify either the text or the figures on graph 2.	
- The analysis appropriately addresses the research questions and provides a meaningful interpretation of the data.		X		Each figure should be explained in more detail, highlighting the relevant points of the results.	
G. Significance of Findings					
- The conclusions flow forth logically from the contents of the paper and are significant and well-supported by the data and analysis.			X		

- The paper appropriately discusses the limitations of the study and offer useful implications for future research or practice.			X		
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REMARKS/OTHER CHANGES TO BE DONE

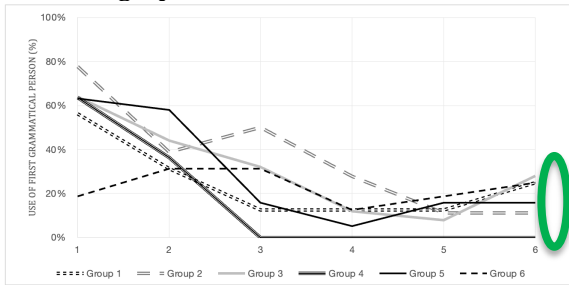
Please provide specific comments for the author in support of your review above.

(It will be especially helpful for the author to make the best possible manuscript if you can provide examples from the paper for any section that requires improvement. Seeing what the authors did well can help as well. Add as many lines as necessary.)

Quotes / Sections	What can be improved (Specify HOW: Actionable Suggestions)	To be done by the author Confirm and specify how the requested changes have been made
A. Page 1, para. 2: <i>“There are multiple factors contributing to the higher test score levels observed in Japanese students, including differences mid-term exams and finals. However, it is important to note that our study’s findings differ from those reported in other institutions, and we intend to analyze why our students got different results in those two terms.”</i>	The author indicates on the paper that there are various reasons for why test scores levels are higher. The author should spend additional time providing further rationale as to why their findings were different from those reported in other institutions.	
B. The paper explores the impact of virtual reality technology in enhancing engagement and learning outcomes in STEM education, which is current and pertinent to the academic community. Very interesting!		
C. Clashing theoretical frameworks: Page 3, para. 4: <i>“The paper draws <u>on both Krashen’s Input Hypothesis and Vygotsky’s Sociocultural Theory</u> to explain language acquisition in STEM-focused ESL classrooms. However, while Krashen emphasizes the importance of comprehensible input in isolation, Vygotsky’s model highlights social interaction as the critical element for learning. This leads to conflicting</i>	The author should choose one primary theoretical framework that best fits the research focus, making it the foundation of your argument. They could use the second framework as a supporting or comparative perspective, clearly indicating how it complements the main framework. This will help to avoid confusion and provide a cohesive structure to the research. If both frameworks	

<p><i>approaches: one prioritizes language exposure through content delivery, while the other emphasizes collaborative learning and scaffolding. The lack of alignment between these two frameworks results in an unclear direction for instructional practices in ESL STEM education."</i></p>	<p>are necessary, the author should briefly explain why, but ensure that one takes precedence to maintain clarity and coherence. Should the decision be made to retain both, the paper should be structured to discuss each framework in distinct sections, demonstrating how they apply to different aspects of the research.</p>	
<p>E. 1) There is only one study cited in the literature review section, from which the whole conceptual framework was prepared. This study is mostly based on anecdotal evidence and lacks a strong foundation in the existing literature that needs to be reviewed.</p>	<p>The author should include other sources such as Mackenzie (2022) or Uehara (2018).</p> <ul style="list-style-type: none"> - Mackenzie, A. (2022). <i>Effective Language Learning Strategies for Multilingual Learners in STEM courses</i>. Academic Press. - Uehara, S. (2018). Translanguaging in the Japanese Classroom: Bridging Languages for Deeper Learning for STEM. <i>PanSIG Journal</i> 1(3), 12-24. 	
<p>E. 2) These 2 references do not seem to be reliable, as they are based on opinions rather than empirical research.</p> <p>Brainsworth, A. (2011, December 18). Using verbs carefully. <i>Studying with Anna's Blog</i>. https://www.annasblog.com</p> <p>Slat, B. (2019, April 10). <i>Should students care that much on memorizing verbs?</i>. The Gaijinmelt. https://www.thegaijinmelt.com/updates/should-students-care-that-much-on-memorizing-verbs-article</p>	<p>To address the concern about the reliability of the references, the author should consider replacing the blog articles with peer-reviewed journal articles or studies from reputable academic sources. They need to look for empirical research on verb usage or language learning from established journals. If the author cannot find direct replacements, they should consider removing these references altogether, as they are not considered rigorous sources.</p>	
<p>F. There are some inconsistencies on 2 graphs based on the description in the results section.</p>	<p>The author should recheck the calculations for the averages and update either the graph or the narrative to ensure consistency between them. Adding a distinct line or marker</p>	

- The **average** seems to not match what is seen in the graph.



Page 8, para. 2: "The data also allows to see the average usage of first-person across all the groups with each assignment. The mean percentage in the usage of first-person started at 57.26% with the first assignment. Over subsequent assignments, this percentage reduced gradually, landing significantly lower at 37.48% by the sixth assignment (see Figure 2)"

representing the overall mean across groups for each assignment can help make the trends clearer. Additionally, labeling significant points or changes in the graph (such as the gradual reduction in percentages) will improve clarity and align the graph with the described trends in the results.

In Figure 3, the results show a general upward trend in student engagement, but no explanation is provided on what caused the spike in week 4, leaving the reader to guess at the underlying reasons

Page 9, para. 4: "Figure 3 shows the overall trend of student participation across the semester. Participation levels fluctuated, with a notable peak in Week 4, followed by a gradual decline towards Week 8."

Similarly, Figure 5 illustrates a sharp decline in vocabulary retention scores, but there is no discussion on how this correlates with the different teaching strategies employed during that period, leaving the interpretation of the data incomplete and failing to directly address the research

The author should expand the explanation of the results: In the description of **Figure 3**, they should provide more detail regarding what could have contributed to the spike in participation during Week 4. For example, was there a specific intervention, change in teaching methods, or external factor that influenced engagement? Offering hypotheses or interpretations that align with the research questions would be ideal.

Also, the author needs to **correlate the data with teaching strategies:** In **Figure 5**, they should connect the observed decline in test scores with the teaching strategies implemented during that time. Was there a shift in instructional techniques, such as more focus on L2 over L1, or different assignments

questions regarding the effectiveness of translanguaging in STEM-focused ESL courses.
Page 10, para. 5: "In Figure 5, the data shows a decline in test scores midway through the semester, which contrasts with the initial steady improvement seen in the earlier weeks."

introduced? The author should provide context to help explain how teaching methods may have contributed to the trends seen in the data.

Comments to the editor:

(e.g. areas that you did not feel confident reviewing)

I did not feel fully confident reviewing the statistical analysis section of the paper, as it involved advanced techniques that are beyond my area of expertise. While I reviewed the overall interpretation of the data, I recommend having a specialist in statistical analysis review that section for accuracy.