

Research Paper Review Criteria and Rubric

Criterion	Insufficient	Amendment Needed	Good
A. Literature Review, Research Question (RQ) & Contribution	<p>Literature review is descriptive, outdated, or not relevant.</p> <p>Lacks positioning within relevant engineering education literature or theoretical framework/concepts (if relevant).</p> <p>A purpose or RQ(s) is missing.</p> <p>A valuable contribution to engineering education research is unclear or limited</p> <p>It lacks originality.</p>	<p>Literature review is synthesised but outdated.</p> <p>Positioning within relevant engineering education literature or theoretical frameworks/concepts (if relevant) is limited and/or superficial.</p> <p>A purpose or RQ(s) is not clearly formulated.</p> <p>A valuable contribution to engineering education research is insufficiently articulated or underdeveloped.</p> <p>The originality of the work is limited.</p>	<p>Literature review is synthesised, up-to-date, and relevant.</p> <p>Positions the study within ongoing scholarly conversations or theoretical frameworks/ concepts (if relevant)</p> <p>A purpose or RQ(s) is clear.</p> <p>A valuable contribution to engineering education research is original and clearly articulated</p>
B. Research Design (applicable for qualitative, quantitative, or mixed methods studies)	<p>Research design is poorly described, unjustified, or inadequate.</p> <p>Study context is missing.</p> <p>Sample, sampling strategy, triangulation, and/or validation strategies are inadequate.</p> <p>Data collection methods are insufficiently described and/or justified.</p>	<p>Research design is generally adequate but lacks sufficient justification and/or clarity. Study context is unclear.</p> <p>Sample, sampling strategy, triangulation, and/or validation strategies are adequate.</p> <p>Data collection methods are superficially described and/or justified.</p>	<p>Research design is adequate and well-developed.</p> <p>Study context is described in detail.</p> <p>Sample, sampling strategy, triangulation, and/or validation strategies are adequate.</p> <p>Data collection methods are described and justified.</p>
C. Data Analysis & Findings/Results interpretation	<p>Data analysis is unclear, not relevant, superficial, or absent.</p> <p>Lack of rigor (e.g., validation strategies, analytic transparency, reflexivity, assumption testing, audit-trail).</p> <p>Interpretation is speculative, overstated, or disconnected from evidence.</p> <p>Findings are not connected to the RQ(s) or the theoretical framework/concepts (if relevant). Claims extend beyond the data.</p>	<p>Data analysis is outlined but lacks clarity or detail.</p> <p>Limited evidence of rigor (e.g., validation strategies, analytic transparency, reflexivity, assumption testing, audit-trail).</p> <p>Interpretation is somehow analytically sound.</p> <p>Findings are somehow connected to the RQ(s) or the theoretical framework/concepts (if relevant).</p> <p>Some claims may extend beyond the data.</p>	<p>Data analysis is clearly and systematically outlined.</p> <p>Provides clear, detailed, and coherent evidence of rigor (e.g., validation strategies, analytic transparency, reflexivity, assumption testing, audit-trail).</p> <p>Interpretation is evidence-based and analytically sound.</p> <p>Findings are clearly connected to the RQ(s) and/or theoretical framework/concepts (if relevant).</p> <p>Demonstrates critical engagement with alternative explanations.</p>
D. Discussion & Conclusion	<p>Discussion is superficial, disconnected from relevant literature, or merely summarises findings.</p> <p>Conclusion is absent. No discussion of study limitations, implications, and future work.</p>	<p>Discussion references relevant literature, but this is limited. Conclusion is superficial. Limitations, implications, and future work are minimally discussed.</p>	<p>Discussion situates findings within existing and relevant literature.</p> <p>Conclusion is concise. Clear limitations, implications, and further work are discussed.</p>

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E. Ethics Statement	The manuscript does not include an ethics statement in the designated 'Ethics Statement' section.	An ethics statement is included in the designated 'Ethics Statement' section of the manuscript but lacks sufficient detail (e.g., it is missing approval reference or institution name), or appears to be inaccurate (e.g., where human data are involved but this is not reflected in the statement).	Where the work involves systematic collection and analysis of data from human participants, formal ethics approval (or equivalent institutional clearance) is clearly stated in the 'Ethics statement' section of the manuscript. Where the work does not involve systematic collection and analysis of data from human participants, the 'Ethics Statement' section of the manuscript clearly states that ethics approval is not required.
F. Presentation & Scholarly Writing	Writing lacks clarity and/or coherence. Significant structural and/or grammatical issues. Argument lacks logical and clear flow. Terminology is not precise and clearly explained. Formatting and/or referencing issues. Tables/figures do not enhance clarity.	Writing is generally clear but may contain structural or stylistic issues. Argument might lack logical and clear flow. Terminology is not always precise and clearly explained. Minor formatting and/or referencing inconsistencies. Tables/figures might not enhance clarity.	Writing is clear, coherent, and logically structured. Argument flows effectively. Terminology is precise and clearly explained. Formatting adheres strictly to page limits and provided guidelines. Citations and referencing are accurate and consistent. Tables/figures enhance clarity.