Review of: "Analyzing Students' Perceptions of Collaborative Tools for Automated Assessment of Programming Assignments in Distance Education"

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Potential competing interests: No potential competing interests to declare.

- This journal paper presents a timely and relevant investigation into the integration of collaborative tools, specifically Mattermost combined with DSLab, within an e-learning environment for engineering students. The research addresses a novel aspect of distance education by filling a gap in existing literature regarding the effectiveness of Mattermost as a collaborative tool in educational settings. The study's context is particularly pertinent due to the shift towards online learning models accelerated by the COVID-19 pandemic, making its contribution both significant and timely for educators, researchers, and practitioners in the field of educational technology and distance education.

- The methodology employed in the study is robust, utilizing a mixed-methods approach that includes both quantitative analysis from questionnaires and log analysis, along with qualitative insights. This comprehensive approach allows for a detailed examination of the collaborative tools' impact on students' learning processes, emotional states, and academic performance. The clear delineation between control and experimental groups adds to the study's rigor, providing valuable insights into the benefits of the collaborative tools over traditional forums. The statistical analysis is thorough and well-executed, with findings that are directly tied to the research questions and hypotheses, enhancing the paper's credibility and scholarly value.

- The paper is well-structured, offering a clear and logical progression from literature review through to conclusions and future research directions. The extensive review of existing literature establishes a solid foundation for the study, situating it within the broader context of collaborative learning and educational technology. The discussion of the findings highlights practical implications for the design of e-learning environments and suggests avenues for future research, including the integration of chatbots and the potential for gamified systems. Overall, the study's novelty, comprehensive methodology, and significant findings contribute to its potential as a valuable addition to the corpus of research on educational technology and distance learning, making it a strong candidate for publication.