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.

Evaluation of the Scientific Paper: "Analyzing Students' Perceptions of Collaborative Tools for Automated Assessment of Programming Assignments in Distance Education"

This paper investigates the effectiveness of Mattermost, a collaborative tool, integrated with an existing automatic assessment tool (DSLab), for programming assignments in a distance learning environment. Here's a breakdown of the paper's strengths and weaknesses:

Strengths:

Clear Research Question: The paper outlines a clear research question: Does Mattermost improve student learning and performance compared to traditional forums?

Control Group Design: The experiment employs a control group using the traditional forum, allowing for a fair comparison.

Quantitative and Qualitative Data: The study combines questionnaires and log analysis for a more comprehensive understanding.

Detailed Methodology: The methodology section clearly explains the experiment setup, participant selection, data collection methods (questionnaires and log analysis), and the specific functionalities of Mattermost compared to the traditional forum.

Weaknesses:

Limited Literature Review: The literature review could be more extensive, exploring existing research on Mattermost and similar collaborative tools in educational settings.

Questionnaire Design: While the questionnaire includes relevant indicators, additional details about the specific questions and scales used would be beneficial.

Data Analysis Not Presented: The paper describes the data collection methods but doesn't discuss the actual data analysis techniques used to evaluate the research questions.

Overall, this paper presents a well-structured study with a clear research question and a sound methodology. However,

including a more comprehensive literature review and details about the data analysis would strengthen the research.

Here are some additional points to consider:

Impact on Motivation: The paper mentions self-perception of learning as a factor. Did the questionnaires explore how Mattermost impacted student motivation?

Group Work Analysis: The log analysis could be used to investigate group work patterns and collaboration levels in the experimental group compared to the control group.

Limitations: The paper could discuss potential limitations of the study, such as self-reporting bias in questionnaires or the specific context of the programming course.

Further Research:

The paper opens doors for further research, such as:

Investigating the long-term effects of Mattermost on student learning and engagement.

Comparing Mattermost to other collaborative tools like Slack or Microsoft Teams.

Exploring the effectiveness of Mattermost in different subject areas besides programming.