

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

Javeed Kittur<sup>1</sup>

1 Arizona State University

Potential competing interests: No potential competing interests to declare.

- The Introduction section started off with a good start, but the transition between paragraph 1 and 2 needs some work.

  Why do the authors explicitly start talking about an "automatic assessment tool" in the second paragraph?
- The authors do not acknowledge the use of course learning management systems that could potentially be used. For example, Canvas, as a learning platform, has the Piazza discussion forum.
- The fifth point listed as the last milestone is not a milestone, and I suggest deleting that point.
- The purpose of explaining the use of collaborative tools in different fields in the first paragraph of the 'Literature Review' section is not clear. Just mentioning the different fields in which collaborative tools are used is not sufficient; this information has to be synthesized and then presented to help advance the case of your study.
- In the literature review section, it looks like there is a bit too much stretch in explaining that collaborative tools have been used by many fields and researchers. I wish to see the synthesis of the information and not just the summary from those articles.
- The literature review section has a lot of information but could be better presented.
- The paper needs to be proofread to ensure that there are no grammatical errors.
- In RQ1 and RQ2, replace the word 'extend' by 'extent.'
- Some of the information is repeated in the paper, and it can be reduced, which will certainly shorten the length of the paper.
- The authors talk about the reliability evidence (Cronbach's alpha); however, the paper does not talk about the validation
  of the survey instrument in the first place.
- The % Errors for Experiment Phases 2, 3, and 4 is similar across the two groups, EG and CG. This observation needs to be further explained.
- The authors say 'SL.Q1 had a major effect on EG students.', but this is not necessarily true as the mean difference between the two groups is not very different (3.23 and 3.25). Also, this difference is not statistically significant. This type of analysis has been presented in the paper, and this needs to be revisited.
- Table 7 is a figure and NOT a table. Also, it is difficult to read the information presented in Table 7 as the X-axis seems to be too packed. Consider bucketing data points into categories or windows.
- The explanation in the article is not clear as to why the authors conducted both bivariate and multivariate analyses.
- For Table 10, it is good practice to include in the notes the description of (\*) and (\*\*) instead of including it in the text.



- Table 11 has some typos. Change 0,625 to 0.625; this appears across Table 11, please change it.
- The explanation provided using the information from Table 12 is redundant and does not add value to the article.

  Instead, explaining why you see those differences could be a good point.
- Overall, this article needs to be trimmed down and should make it easier to read. As is, the article is too long, and the information presented can make the readers confused.