The use and analysis of anti-plagiarism software: Turnitin tool for formative assessment and feedback

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Abstract
This analysis investigates the efficiency of the Turnitin software as a formative writing tool. The inquiry is especially looking into undergraduate and postgraduate students’ experiences while using Turnitin. The perceptions and experiences of students will be prioritized in the study with the purpose of determining ways to improve Turnitin from students’ point of view. Turnitin obtains text matches or similarity index values of 3,173 assignments submitted on subjects uploaded between 2012 and 2014 by university students. We statistically analyzed the similarity index values or levels of plagiarism percentage between the first and the last assignments, using the two-sample Kolmogorov–Smirnov test, and we found that there was a significant improvement ($p = 0.002$). Hence, our results demonstrated that using Turnitin as a formative writing tool, allows students to prepare an assignment in an academically acceptable way, during the second half of the semester, with less plagiarism. The results found in this study suggests an insignificant difference between the draft version and final version of the same assignment ($p = 0.192$). Similarity index values are also different for different courses, such as writing based project subject and mathematics based engineering subject have different values ($p < 0.0001$). We also observed that students seem to be able to fool Turnitin tool by uploading images of the assignments instead of the text. Nevertheless, the nature of the subject, individual talent, learning approach, time contribution, and the exclusion of consecutive word count may affect the plagiarism percentage. Our results also indicate that there is a substantial benefit in using Turnitin as an educational writing tool rather than a punitive tool, as the use of Turnitin, promotes student learning outcomes with significantly improved academic skills. Thus, this paper provides an insight into avoiding high levels of plagiarism by using Turnitin as a preemptive tool.

KEYWORDS
Assessment, formative assessment, formative writing tool, Turnitin, plagiarism

1 | INTRODUCTION

The growth rate of the Internet technology exceeds the progress rate of any other technology. This advancement is foreseeable due to the conveniences of the digital age. Technology also helps people to access the World Wide Web to navigating in exchange of valuable information. Technology has many advances for university students notwithstanding the opportunity to access materials related to their work through university libraries from anywhere in the world. The