Changes in students' behavior and performance in chemistry calculation tasks on e-learning platforms during and after the COVID-19 pandemic: an updated analysis

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Abstract

This study investigates the influence of the shift back to offline education on students' behavior and performance on e-learning platforms. Focusing on Uzdevumi.lv (Latvia) and Miyklas.com.ua (Ukraine), the analysis compares this period with the COVID-19 pandemic, considering changes in Class 8 to 9 students' engagement and proficiency in chemistry calculation tasks. Data from the e-learning platforms were analysed, specifically during the transition back to offline education in 2022. Behavioral indicators and performance metrics were examined to understand shifts in students' engagement. A comparative analysis was conducted with the data from the pandemic period in 2020 and 2021. Returning to offline education impacted students' behavior and performance on e-learning platforms, showing notable differences compared to the pandemic period. These findings shed light on the influence of transitioning between online and offline learning environments. The shift back to offline education affects students' behavior and performance on e-learning platforms. Adaptive strategies are needed to address challenges during the transition. These insights have implications for optimising blended learning environments and enhancing student engagement and performance in the post-pandemic era.

References

- Berjoza, V., Zaicenko, A., Vingre, M., & Gorskis, M. (2021). Dynamics of changes in the
 process of e-learning chemistry on the Uzdevumi.lv training platform during the period of
 forced distance learning in Latvia. 63th International Scientific Conference of Daugavpils
 University. https://dukonference.lv/files/Tezes 64.konf. labotas.pdf
- Chroustová, K., Šorgo, A., Bílek, M., & Rusek, M. (2022). Differences in Chemistry Teachers'
 Acceptance of Educational Software According to their User Type: An Application of
 Extended UTAT Model. Journal of Baltic Science Education, 21(5), 762-787.
 https://doi.org/10.33225/jbse/22.21.762.

Keywords

E-learning platforms, Student behavior, Performance analysis, Chemistry calculation tasks