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(sorted by the last names)

Reviewers of this issue

Editorial

We have launched the first issue of our 9th year. In this issue, two research papers and a review paper were published.

In the first paper, Buluş and Elmas (2024) have examined the use of artificial ıntelligence applications as alternative tools in chemistry education. They aimed to ascertain the potential applications of artificial intelligence (AI) within chemistry education and outline how existing applications can be effectively utilized in this domain, accompanied by illustrative examples. This study adopts a review approach. Within its framework, AI applications applicable to chemistry education have been delineated. Articles on artificial intelligence were sourced from databases, while AI applications employed in educational settings were scrutinized via document analysis. Furthermore, products explicitly tailored for chemistry education were incorporated into the study through content analysis. The paper also aims to facilitate educators and learners in the accurate and efficient utilization of educational technologies, which hold significance within the context of 21st century skills, thereby enhancing digital literacy capabilities.

Instances showcasing the utilization of identified AI applications in chemistry education have been compiled. This research is anticipated to be a guiding resource for educators and students alike, elucidating how AI applications can be effectively integrated into chemistry education.

In the second paper, Güneş Yazar and Nakiboğlu (2024) have examined the views of 10th grade students regarding the individual and group studies used in practice, after completing the teaching of the "Nature and Chemistry" unit with its argumentation-based approach. Although this unit is a 9th grade unit, this study, which was carried out as a pilot study, was conducted with 10th grade students at the beginning of the academic year. Before the pilot study, the authors carried out as a pre-test-post-test controlled experimental study, one of the two classes determined to be equivalent was selected as the experimental group and argumentation-based teaching was carried out in this class. After treatment, the views of the students in the experimental group were taken about the studies and activities carried out during the argumentation-oriented lessons. In this study, the authors present only the views of the students regarding individual and group work and the students' views about the argumentation-oriented course in general. The findings of the analysis of three two-ended questions and one open-ended question in the form are included. This study, which included 16 male and four female students, was conducted at a vocational high school. It was concluded that students found group work practices during argumentation-oriented lessons more productive than individual work and recommended that such work be continued.

In the third paper, Gacanoğlu (2024) has analyzed the biology test questions in the YKS exams between 2019 and 2023 within the framework of the 2018 Secondary Education Biology Course Curriculum (MEB, 2018) achievements and compared with the results of Gacanoğlu and Nakiboğlu (2022 and 2024)'s studies on chemistry test questions. As a result of the analysis, it was concluded that out of a total of 91 achievements in the 2018 curriculum for the biology course in the higher education transition exams, most questions were prepared from the 11th grade "Human Physiology" unit, and in this respect, homogeneity could not be achieved in terms of achievements in the TYT and AYT exam biology tests. The findings obtained for the 2022 TYT and AYT chemistry test questions indicate that, as in the results of Gacanoğlu and Nakiboğlu's research articles, questions were not prepared from the achievements of the "Energy Resources and Scientific Developments" unit and that the chemistry test questions in the YKS exams between 2019-2023 were not used in terms of the achievements of the curriculum. It was concluded that content validity could not be achieved.

Finally, I hope that the interest in JOTCS-C will continue increasingly in the following years. It was important to publish a qualified chemistry education journal in our country, and especially to carry out this process within the Turkish Chemical Society for us. I would like to thank on behalf of our editorial board all the authors who submitted articles, and all reviewers for their professional comments.

See you in the new issue in September 2024

Kind regards

Prof. Dr Canan NAKİBOĞLU
Editor-in-chief, JOTCS-C

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