

Editorial: 2023; 13(1)

Dear JIBA Readers,

It is a great pleasure to announce that the Journal of Inquiry Based Activities (JIBA) has published its latest issue for April 2023. In this first issue of 2023, we share five articles with one of them focusing on mathematics education, three of them focusing on science education, and one of them focusing on special education. What is common in all the articles is that they promote an inquiry-based learning environment in K-12 classrooms. Before introducing the articles published in the April issue, I would like to thank all our authors, reviewers, and readers, who contributed to the publication of this issue.

In the first article, Dr. Ceylan Güler and Dr. Gürsel Güler shared activities in which fifth-grade students examined the structure and properties of two-dimensional geometric shapes using geometric shape materials. Researchers examined the argumentation structures that emerged as students engaged in the activities. Data analysis revealed the emergence of source-structure, spiral-structure, and reservoir-structure argumentation structures. The authors concluded that the activities developed in the study were effective in promoting different argumentation structures in students' discussions.

In the second article, Dr. Kara shared the activity titled "DNA Model with Clothespins" and examined its effectiveness in terms of supporting student learning and motivation. The activity was taught using the pedagogical analogical model and addressed one of the hard-to-teach topics in science: nucleotide, DNA, and DNA replication. Twenty eighth-grade students participated in the study. An achievement test was administered as a pre-test and post-test to evaluate the activity, and students' views were taken about the activity. Data analysis revealed that the activity enhanced students' achievement and increased their motivation toward the topic.

In the third article, Dr. Nalbantođlu, Dr. akırođlu, and Dr. Tüzün presented the implementation steps of an engineering design process-based activity. The activity was used with 21 sixth-grade students. In the activity, the students were asked to design a thermos by following an eight-step engineering design process. The activity was evaluated by using a diagnostic tree, an analytical rubric, and the Draw an Engineer Test. The researchers concluded that the activity supported the students' scientific knowledge and process skills. They also learned about engineering careers and how engineers work.

In the fourth article, Dr. Ayverdi, Dr. řahin, and Dr. Sarı presented the implementation of a Science, Technology, Engineering, and Mathematics (STEM) activity that involves physical computing principles and computational thinking processes as a differentiation practice for gifted students. In the activity, eight gifted middle school students designed smart packaging that can be used to store food safely long-term. They engaged in this design task to solve the greenhouse gas emission problem caused by intensive plastic production. The students experienced the engineering design process and developed a smart packaging design using physical computing. The authors found that during the STEM activity, the students used computational thinking, engineering design, and inquiry process.

In the last article of this issue, Mr. Küçük, Dr. Bayır, and Dr. Zorluođlu investigated the effect of teaching based on the 5E instructional model on students' conceptual learning. The participants consisted of three sixth-grade inclusion students with mild mental disabilities. The activities focused on the concepts of matter and heat using different teaching methods to address the needs of the students. The researchers found that the 5E instructional model was effective in supporting the students' conceptual learning.

I would like to express our special appreciation to the people who contributed to this issue. I hope that you enjoy reading the articles on this issue.

Sincerely,
Assoc. Prof. Evrim Erbilgin
Editor-in-Chief, JIBA
www.ated.info.tr