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Full name	Zeki Karaman
Title	Effect of Argumantation-Based Concept Cartoons' on Academic Success in "DNA and Genetic Code Unit
Abstract	**EFFECT of ARGUMENTATION-BASED CONCEPT CARTOONS' ON ACADEMIC SUCCESS in "DNA AND GENETIC CODE UNIT"** **Zeki KARAMAN[1], Feyzi Osman PEKEL[2]** [1]Süleyman Demirel University, Institute of Educational Sciences, Isparta, Turkey. **zeki_karamn85@hotmail.com** [2]Süleyman Demirel University, Faculty of Education, Isparta, Turkey. In the world where science and knowledge are constantly evolving and changing, the interest and importance to science is increasing. Countries are also updating their education systems and education programs to keep up with this change. Increasing the importance of students' structuring and transferring the knowledge they learned, rather than memorizing the information, caused the curriculums to be changed. Today, more emphasis is placed on developing students' inquiry, research, reasoning and alternative thinking skills. In order for students to develop these skills, it is necessary to create argumentation environments in the classrooms. Science education research has showed that using argumentation-based teaching methods, students' abilities such as understanding the nature of science and developing scientific thinking skills can be developed. However, argumentation-based teaching method should not be considered as a method that will give the best results in any case. When the literature is examined, it is seen that there are very few studies where argumentation and concept cartoons are used together. Therefore, in this study, it was aimed to investigate

	the effectiveness of argumentation-based concept cartoons activities on teaching of DNA and Genetic Code and to compare the results with the traditional teaching approach. The difference of this research from previous research is to examine the effectiveness of the method used on student achievements instead of determining the quality or level of the arguments produced during the teaching process. Participants of the study are consist of 45 8th grade students studying at a public secondary school in a district located west of Turkey. One of the classes was randomly selected as the experimental group in which argumentation-based concept cartoons were used, and the other as the control group in which traditional teaching approaches were used. In our study, non-equvalent control group design was used as part of the quasi-experimental design. When the students 'post-test achievement scores were compared, the Independent Sample T-test results showed that there was no statistically significant difference between the experimental and control groups in terms of students' post-test achievement scores on DNA and Genetic Code subject. Possible causes of this result are discussed in detail in the study. On the other hand, when the post-test achievement scores of the students were compared using Independent Sample t-test, a statistically significant difference was observed in favor of girls. When the retention test achievement scores of the students were compared using the Independent Sample t-test, it was determined that there was a statistically significant difference in favor of the girls. As a results, it can be said that the use of argumentation-based concept cartoons in the teaching of DNA and Genetic Code increases the academic success of the students and plays an important role in extending the retention time of the learned information. On the other hand, in order to obtain a clearer picture of the effectiveness of the experimental method used in this study, it is suggested that argumentation-based concept cartoons are used as an experimental method in teaching both "DNA and Genetic Code Unit" and other science education units by other researchers.

	Key Words: DNA and Genetic Code, Argumentation, Concept Cartoons **ACKNOWLEDGEMENT:** This study is produced from master's thesis of Zeki Karaman.
Institutional affiliation	Institute of Educational Sciences
Email	zeki_karamn85@hotmail.com