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An Investigation of Middle School Science Textbooks' Inclusion of History of Science

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Summary

INTRODUCTION

Today, the value given to science in our country has decreased compared to the past. The most important way to change this situation and increase the value of science is to give importance to education, which is presented for the solution of many problems. historical perspective approach to science, can stimulate the students' interest and positive attitudes towards science. The extent to which the history of science is included in textbooks and the harmony of science historians in textbooks is very important. There is a limited number of studies to examine textbooks in terms of science history and philosophy in our country (Laçin Şimşek, 2009, Kılıç, 2010, Niaz and Coştu, 2012; Yıldız, 2013).

AIM OF STUDY

The purpose of this research is to examine the extent to which science is taught and how the history of science has been used in secondary school science books. Within the framework of this basic objective, answers will be sought for the following sub-questions:

1. To which extent is the science history taught in the textbooks?
2. How is the history of science used in textbooks?
3. What are the qualifications of the sections related to the history of science in textbooks?
4. Are the sections regarding the history of science covered in a balanced way in the entire book?

METHOD

Secondary school science books (5th, 6th, 7th and 8th grade textbooks) approved by the Ministry of National Education and used as a textbook free of charge in the province of Kastamonu were examined through document analysis of qualitative research design methods. As a result of the literature survey, Wang and Marsh (2002), which is thought to be the most suitable for the study, has been translated into Turkish and Likert type scoring key has been created which has represented 1 to 5 points for each criteria. (5 very good, 4 good, 3 medium, 2 pass and 1 weak) Separate key words were given in terms of ease of reviewing each criteria. In addition, in the absence of any knowledge of the criteria examined in the history of science stories in the book that examined, zero (0) point is given. The key words for the dimensions and criteria examined are as follows:

FINDINGS AND RESULT

In general, when the textbooks of secondary school sciences are examined, it has been found out that the use of history of science in terms of conceptual understanding is low (with 2,187 general arithmetic average). The vast majority of the stories that have been examined contain no information. of one or more of the four criteria examined. This shows that while textbooks are used, they are benefited from the history of science, however, sufficient attention are not given and sufficient quantities of history of science is not used. For procedural

understanding, when secondary textbooks are examined, it is seen that the use of science history is below the middle level (with a general arithmetic average of about 1.56). While the textbooks are prepared, it seems that the criterias examined for procedural understanding are not given attention. When the textbooks of secondary school sciences are examined in general, it is seen that the usage of history of science in terms of contextual understanding is inadequate although it is low in terms of conceptual understanding and it is high according to procedural understanding (with 2,02 general arithmetic average) In the vast majority of the stories examined, there is no information regarding one or more of the criterias examined and the other information is given in small amount. This suggests that while the textbooks are prepared, the history of science is used for procedural understanding, but the required attention is not given and the amount of it is not sufficient in the textbooks.