

Lorenz T. Biegler, Ignacio E. Grossmann

Retrospective on optimization.

Bericht des ZUMA Nachrichten

Kurzfassung

We have developed an approach for assessing students' understanding about the distinction between science and technology. The assessment approach focuses on a specific aspect of this distinction, namely the different goal pursued by each of the two domains. Based on this approach, we collected data from two sources; two written tests administered to 183 elementary, 132 middle school and 78 elementary education students and follow-up interviews with a sub-sample of the participants. The findings that have emerged from the data analysis indicate that students of all ages commonly fail to distinguish between the goals pursued by science and technology. They also suggest that students possess a vague notion of the two domains in that they tend to draw on a wide variety of criteria to distinguish between them in a non-systematic and inconsistent manner. Our data also suggest that age and education level do not seem to have a significant impact on the validity and systematicity of students' response patterns concerning the distinction between science and technology. The study concludes by reporting the various epistemological difficulties that seem to influence participants' attempts to differentiate and explore the interconnections between the two fields. Our assessment approach can be used in studies or educational interventions that seek to monitor student understandings about science and technology. The findings can be used to inform possible attempts for designing or modifying activity sequences that address this particular aspect of epistemological awareness.