

The COVID-19 pandemic: Is it time to reorient 70 years of research into teaching and learning about nature of science?

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Abstract

Helping precollege students achieve functional scientific literacy, which is needed to engage in informed decision-making on science-related personal and societal issues, has been a major goal for science education for, at least, half a century. Throughout this time, developing an understanding of nature of science – understanding how claims to scientific knowledge are developed and validated, and the characteristics of this knowledge – has been accepted as a central component of scientific literacy. The COVID-19 pandemic has put these long-lived goals and underlying assumptions to a crucial, naturalistic test. The results are, to say the least, deeply concerning. This talk will provide an overview of trends in research on nature of science over the past seven decades and, using the USA as a case study, explore implications for this research field of the widespread apathy toward, disregard for, and outright rejection of, science-informed decisions that were crucial to addressing the catastrophic pandemic.

Abd-El-Khalick is Dean and Professor of Science Education at the School of Education of the University of North Carolina at Chapel Hill, USA. He is a leading science education researcher who made significant, transformative contributions to the development of the scholarly study of teaching and learning about, and assessment of, “nature of science”. Nature of science (NOS) describes the characteristics of scientific knowledge and how that knowledge is developed and validated. Among many national and international honors and awards, Abd-El-Khalick just recently received the “NARST Distinguished Contributions to Science Education through Research Award”. The award is the highest honor bestowed by the U.S. National Association for Research in Science Teaching (NARST). It recognizes scholars who, over at least 20 years since earning their doctorate, have made significant contributions to, provided notable leaderships in, and had substantial impact on, science education through research.