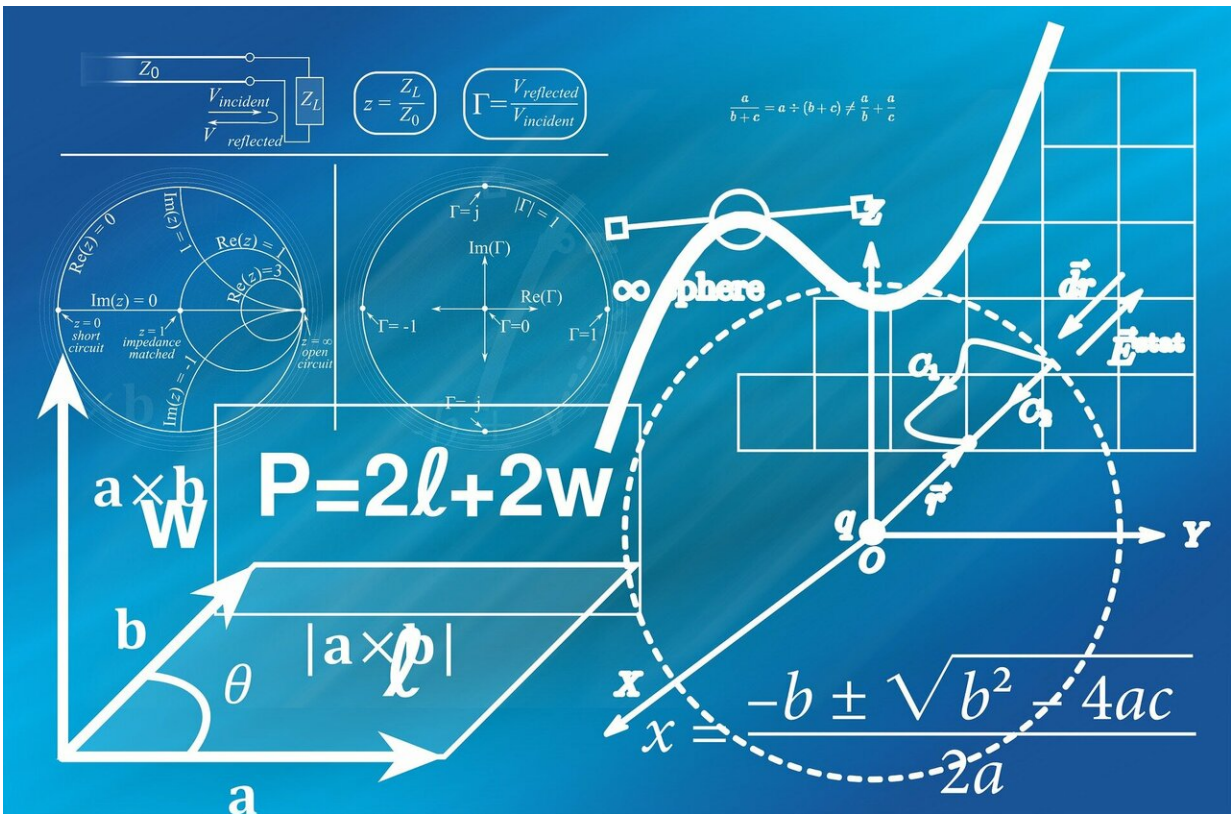


Science education community should withdraw from international tests, study says

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The science community should withdraw from involvement in international tests such as PISA because they have forced schools to adopt "narrow" curricula and pedagogies, a study says.

Researchers examining the future of [science](#) lessons post-COVID have also urged teachers and educators to develop a new focus on the environment and health. They have argued children need to learn more about the complexities of research in lessons to improve scientific literacy.

The study, by Professor Justin Dillon from the University of Exeter and Dr. Lucy Avraamidou from the University of Groningen, says international tests, and PISA, in particular, have "failed to provide adequate information about scientific literacy in any useful shape or form". The researchers argue their influence has forced many [school systems](#) to adopt "reductionist curricula and a narrow range of pedagogies".

Professor Dillon said: "We want to stimulate the development of science education in the post-pandemic era, to invite our community to engage with pressing issues with the curriculum and assessment. It is of paramount importance that social justice is used to shape a vision for science education in the post-pandemic era. Failure to do this will only serve as a way of perpetuating existing inequalities.

"During the pandemic science and scientists find themselves in the spotlight as both potential saviors or as untrustworthy puppets in ways that would have been unthinkable a year ago. Yet science [education](#) and science educators are invisible."

The researchers argue in the *Journal for Activist Science & Technology Education* that science lessons currently emphasize facts, while the processes of science is more similar to a "black box". They say students are rarely taught about the key processes of scientific research which go on to save lives.

Professor Dillon said: "At school pupils learn science is logical,

empirical, and a reliable enterprise carried out by highly trained and trustworthy people. This is not always the case, but children do not question it. The result is, although the public has high trust and confidence in science and believes that science provides great benefits to the world, many people continue to deny the conclusions of science in areas such as evolution, climate change and vaccination. Too many people are not functionally scientifically literate. What scientists do, what kinds of data they collect and how they analyze those data to form conclusions, remain a mystery for most young people."

The study says teachers need to be in a position to switch quickly to an "accessible, inclusive, equitable, and engaging" [science education](#) online with support for parents and carers, because currently teachers do not seem to be learning anything systematically about what works in terms of taking schools online. Researchers say being forced to explore the potential of various technologies and [digital tools](#) for teaching and learning might serve as an awakening to the possibilities of the private sector and industry in sponsoring educational research and forming of industry-university coalitions.

More information: Steve Alsop et al, Editorial: Reimagining Science and Technology Education in the COVID-19 Portal, *Journal for Activist Science and Technology Education* (2020). [DOI: 10.33137/jaste.v1i2.34530](#)

Provided by University of Exeter

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