Improving Science Education in International Schools
Through Professional Development
Targeting Next Generation Science Standards
Assessment Design

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Research Question:
How does professional development mediated by the use of a screening tool (3D-PAST) enhance and/or challenge science teachers’ understandings of the Next Generation Science Standards (NGSS) in American international schools?

Background:
The Next Generation Science Standards, released in 2013, is a set of standards which seeks to develop science literacy utilizing a unique three-dimensional structure. Implementing the standards effectively requires significant professional development for teachers. As of January 2019, 21 U.S. states have adopted the standards for the basis of their k-12 science instruction, and so to have a number of not-for-profit American-curriculum international schools around the world.

Intervention:
Professional development targeting NGSS PE assessment design, leveraging the use of a screening tool to guide systematic critique of practitioner-designed assessments.

Implications:
The Revised Consensus Model (RCM) of Pedagogical Content Knowledge for science instruction is utilized to guide the study, which seeks to contribute to the understanding of how educators transfer collective PCK into personal PCK. Professional development activities utilizing 3D-PAST are ongoing in at least 15 international schools. Results from the study may serve to inform future iterations of professional development aimed at improving NGSS implementation in these schools.

1 The NGSS Logo is a registered trademark of Achieve. Neither Achieve nor the lead states and partners that developed the Next Generation Science Standards were involved in the production of this product, and do not endorse it.

2 Three Dimensional Assessment Screening Tool. Courtesy, Paul Andersen. 2018. Available at http:\thewonderofscience.com