

Book Review

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Accepted 29 October 2013

Doi: 10.12973/ijese.2014.219a

Identity Construction and Science Education Research: Learning, Teaching, and Being in Multiple Contexts

Edited by

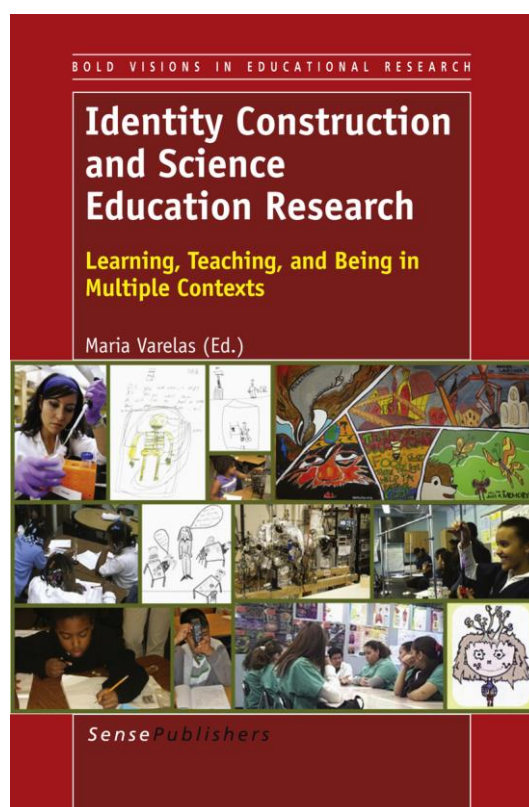
Maria Varelas

Sense Publishers: The Netherlands (2012)

ISBN Paperback: 9789462090415 (\$ 43.00)

ISBN Hardcover: 9789462090422 (\$ 99.00)

195 pages



This book, with twenty-three identity scholars contributing to thirteen chapters, is edited by Maria Varelas. It is divided into two sections: first student identity and then teacher identity work. Both sections contain research studies on various aspects of identity. Nancy Brickhouse

offers commentary on the student studies presented in the first section, while Gregory Kelly discusses the teacher identity work in the second section. Varelas introduces the book by providing its three overarching purposes; (i) to highlight the importance of identity research for science education, (ii) to argue for the use of identity research in science education, and (iii) to continue an academic discussion that began two years ago at AERA. Although it is primarily written for science education researchers, identity scholars in disciplines outside of science education should find the research methodologies, theoretical frameworks, and discussions beneficial to their general understanding of identity.

Identity is presented as a social construct where individuals are recognized as certain kinds of people according to the various communities in which they participate, and the research studies construct definitions of identity within a sociocultural perspective. The various methodologies used and explained in this book illuminate how diverse identity work can be. Examples of these methods are multiple identities in various figured worlds, identity stories, counter-narratives and identity trajectories. In addition to discussing their results, the authors provide justifications for why their line of identity research and methodology is needed in science education, which is insightful and helpful in understanding how their studies add to the general understanding of the discipline. Providing actual methods for constructing research studies also goes a long way towards allowing the reader to understand how identity work can be used in science education.

The methodology chapter written by Heidi B. Carlone presents a robust qualitative methodology within a sociocultural perspective and shows how one can shift one's analytical research lens to consider identity by providing examples of how she applied the methodology. In her commentary, Brickhouse uses Carlone's methodology to analyze the research studies on multiple identities, figured worlds and identity stories presented in chapters 3-6. Brickhouse analyzes how success is defined in each of the studies and how this definition affords or constrains students' science identities. In doing so she eloquently solidifies the section on student identity. Kelly weaves chapters 9-12 together by showing how each chapter contributes to the overall field of identity research. He reiterates that the book is a critical dialogue between scholars and points out various lines of identity research and the analytical lenses that can be used in science education.

Several implications for the science education community are highlighted in the book. Both Varelas and Kelly point out that this type of research provides a much-needed platform for identity scholars and science educators to converse on the concept of identity. They also identify various methodologies and areas where further research is needed. Similarly, each of the chapter authors demonstrates how using identity as an analytical lens has the potential to help the science education community uncover insights concerning students, teachers, and classrooms that have thus far remained hidden.

The book also has implications for educational policy. Identity research provides new insights into the possible reasons for the science achievement gap among ethnic and socioeconomic groups that have not yet been explored. In light of understanding the culturally produced definition of a successful science student, educational policy can be designed to address classroom culture with the hope of creating more equitable situations that have a broader definition of success, which in turn might help the science achievement gap.

Another potential implication for education policy is in the rich descriptions provided by the qualitative studies which provide deep insights into what is occurring in classrooms, and how this affects not only students' view of science but also their own identities as potential scientists. Instead of only looking at test scores as indicators of success, these studies provide evidence for addressing the environments educators, scholars, and policymakers are creating for students, and how these experiences inform students about what it means to be successful in science. The book will hopefully be the catalyst for a much-needed discussion of the possible ways identity research

can be utilized to help further understand issues in science education such as social justice, equitable education, and the nature of science.

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Please cite as: Huffling, L. (2014). Book Review [Title of Book: Identity Construction and Science Education Research: Learning, Teaching, and Being in Multiple Contexts by Maria Varelas (Eds.)], *International Journal of Environmental and Science Education*, 9(3), 347-349. doi: 10.12973/ijese.2014.219a