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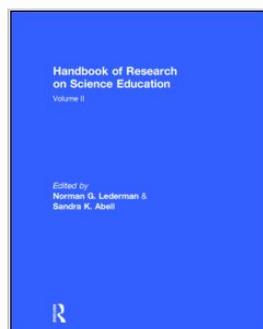
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References



**Research on  
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**Handbook of**

# Research on Science Education

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## Abstract

The purpose of this chapter is to update new advances in the research on the teaching and learning of nature of science since the previous Handbook of Research on Science Education (Abell & Lederman, 2007). As this is a new volume, the previous handbook will remain in print, and so a complete recapitulation of what was published previously is not necessary. However, some review of research considered in the previous handbook is needed to provide some context for the more recent work. Consequently, reference to some of the more influential studies and findings reported in the previous handbook chapter will be referenced, but an attempt is made not to reprint all that can be found in the first

handbook. More than 7 years have passed, and it is debatable if anything new has been revealed relative to nature of science (NOS). One could say that there is more than 7 years of new research. On the other hand, little new about how students learn NOS or how it is best taught has been revealed. However, research on NOS does continue to be a vibrant area of concern. Alternatively, there has been much written that attempts to reconceptualize how NOS is viewed. Indeed, some of this reconceptualization can be found in the Next Generation Science Standards in the United States (NGSS Lead States, 2013), but how well this newly advocated view is consistent with the existing empirical research certainly warrants discussion. That said, this chapter will be organized around a conceptualization of the construct “nature of science” and how it is taught, learned, and assessed. In addition, there will be a discussion of recent trends regarding thinking about nature of science and how these trends may or may not help improve students’ and teachers’ understandings of nature of science.



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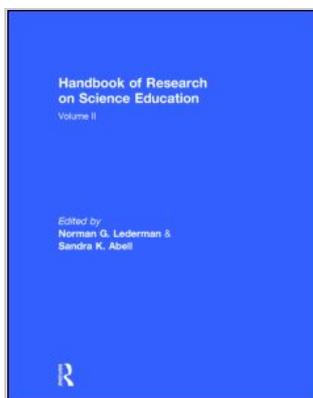
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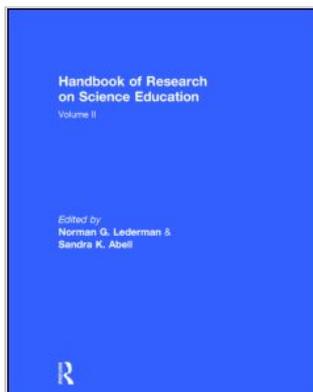
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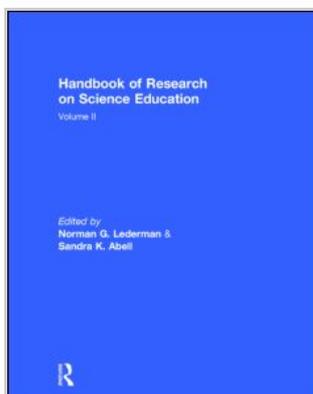
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