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## Cases on Research-Based Teaching Methods in Science Education



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## Cases on Research-Based Teaching Methods in Science Education

Part of the Advances in Educational Technologies and Instructional Design Book Series

Eugene de Silva (Virginia Research Institute, USA & MRAS - Walters State Community College, USA)

While the great scientists of the past recognized a need for a multidisciplinary approach, today's schools often treat math and science as subjects separate from the rest. This not only creates a disinterest among students, but also a potential learning gap once students reach college and then graduate into the workforce.

**Cases on Research-Based Teaching Methods in Science Education** addresses the problems currently facing science education in the USA and the UK, and suggests a new hands-on approach to learning. This book is an essential reference source for policymakers, academicians, researchers, educators, curricula developers, and teachers as they strive to improve education at the elementary, secondary, and collegiate levels.

### Topics Covered:

- Developing Scientific Literacy
- Model for Multidisciplinary Teaching
- Online-Based Teaching
- Problem-Based Teaching
- Research-Based Teaching
- Teaching Science through Research
- Traditional Teaching
- Trends of Students Entering Science Education

**Market:** This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners. Ideal for classroom use.

**Eugene de Silva** has been an educator for over 25 years. As a professor of physics and chemistry, he developed the first online college physics programs under the auspices of Walters State Community College and the Board of Regents for the State of Tennessee. He established the National Accrediting Commission for Martial Arts (NACMA) - a registered charity - and Virginia Research Institute (VRI) - a non-profit organization in the United States in 2004. These foundations were set in place to spark the younger generation's interest in furthering their education and research. He has been the President of the Tennessee Science Department Chairs Association since 2008. He is also the Chair of Institute of Physics UK/USA Branch (South Eastern USA). He is an Executive Member of the Tennessee Academy of Sciences. De Silva has written several books including textbooks in physics and chemistry and is an internationally recognized educator with his name entered in the Who's Who in the World, Who's Who in American Education, and Who's Who in America. He developed the first Martial Arts educational degree in the world in 1993 when he was in the UK. He holds the highest Dan grade in martial arts and is the founder of an international charity known as The Society of Martial Arts, UK. He, as a practitioner of martial arts, introduced a syllabus of teaching physics through martial arts in 2007. He introduced Physics Day in the USA, which has been in place since 2005 for high school students where mechanics section of physics is taught through martial arts. He has also won the "Innovative Teaching Award," "Above and Beyond Award," and has received recognition awards from the Tennessee Academy of Sciences, USA and the Institute of Chemistry, Sri Lanka. He is a chartered chemist, chartered scientist, and chartered physicist; he was also elected as a fellow of the Royal Society for the encouragement of Arts, Manufactures, and Commerce in recognition of his outstanding work in the field of education. The World Head of Family Sokeship Council also inducted him to the Hall of Fame in 2001 in Florida, USA. His novel teaching model, "START," is now being introduced in the teaching of science through the Virginia Research Institute. He also holds two world records in breaking cinder blocks on different parts of his body.



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Carole Haeusler (University of Southern Queensland, Australia)

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