Springer Reference
Marc J. de Vries (Ed.)

Handbook of Technology Education

Series: Springer International Handbooks of Education

- Delivers a timely comprehensive handbook on the emerging research field of technology education
- Critically evaluates the concept of technological literacy
- Provides curriculum perspectives in exemplary case studies from the USA, New Zealand, the UK and Sweden
- Explores technology learning pathways through primary, secondary and tertiary education

This handbook of technology education offers a state-of-the-art survey of developments in technology education worldwide. It deals with general themes like philosophical foundations, curriculum, teaching and learning, teacher education, and educational technology. It also has some technology-specific topics, such as designing, making, and assessment (portfolios). To focus on the specific learning challenges a separate section of the book is dedicated to sub-domains of technology and engineering, like food, textiles, materials and robotics. Explicit attention is given to the possible role of technology (and engineering) education in Science, Technology, Engineering and Mathematics (STEM) education. Recent developments such as technology concept learning, authentic learning, pre-university engineering education, design-based learning and design-based research for technology education, pedagogical content knowledge for technology educators, and the use of e-portfolios are included. One section deals with social and cultural issues, such as education for sustainability, gender issues in technology education, indigenous technologies, industry involvement and the relation between technology education and communication. As could be expected in a handbook on technology education, there is also a section on the use of technology for teaching about technology: the use of CAD, science fiction movies, animations, internet and social media. All chapters are written especially for this handbook by a selection of authors, some of whom have been part of the history of technology education for many years, some of whom are promising young researchers. The book can be used as a reference by technology education researchers to get a concise introduction into the field. It can also be used as a resource in technology teacher education programs.