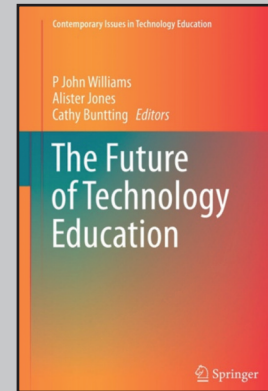


Review

The Future of Technology Education

Title:	The Future of Technology Education
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This book is one in the series Contemporary Issues in Technology Education published by Springer. The aim of the series is to draw on the latest research by focussing on contemporary issues, to create debate and to push the boundaries in order to expand the field of technology education and to explore new paradigms. This book offers a platform from which to continue discussions about how technology education might progress into the future. It is timely in light of the D&T Association's 'Designed and Made in Britain...?' initiative to highlight to policy makers that Design and Technology in schools is critical to the UK's future success. The book is organized into 15 chapters.

Chapter 1, *The More Things Change, the More (Some) Things Stay the Same*, written by the editors, starts with the assumption that whilst the detail within curriculum, assessment and education policy might change, the basic principles do not. This effectively sets the scene for the chapters in the book by providing a brief overview of what the reader may expect. This introductory chapter ends with the hope that the book will open up and inspire new areas for research and development.

Chapter 2, *'Seeing' and 'Interpreting' the Human-Technology Phenomenon*, written by Steve Keirl (UK), explores the interplay of philosophy, technology and education and their relationship to curriculum futures. This chapter comfortably explores four theoretical approaches before settling down to binarial hermeneutics as a tool to explore 'at-once-both' dyads pertinent to technology.

Chapter 3, *Theorising Technology Education from a Cultural-Historical Perspective: Foundations and Future Imaginings*, written by Marilyn Fleer (Australia), draws on three interrelated concepts from cultural history theory.

These are, tools and signs as cultural practice, everyday and technological concepts in technology education, and imagination and creativity in design and technology education. The chapter concludes that reimagining technology education as cultural practice brings to the fore a futures orientation.

Chapter 4, *Indigenous Technology in Technology Education Curricula and Teaching*, written by Mishack T. Gumbo (South Africa), makes the case that indigenous technologies have a place in technology education, with profound potential outcomes. One outcome being that students would work comfortably on design projects as they exchange and appreciate other's ideas from multiple perspectives.

Chapter 5, *The Pedagogical Ecology of Technology Education: An Agenda for Future Research and Development*, written by David Mioduser (Israel), weighs up the need to consider what is known about effective pedagogical models for technology education with what we might need for the future. The developing discussion leads to the belief that this opens a rich space for questions for future research for innovative technology education pedagogies.

Chapter 6, *Conversations to Support Learning in Technology Education*, written by Wendy Fox-Turnbull (New Zealand), explores the role played by talk in learning in technology education, identifies themes of talk, and considers the nature of sociocultural perspective to enhance achievement. The chapter culminates with discussion of the implications to maximise student learning in the twenty-first century.

Chapter 7, *Assessment: Feedback from Our Pasts, Feedforward for Our Futures*, written by Kay Stables (UK),

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reviews existing work on assessment in a comfortable style for those familiar with APU/TERU work on assessment. For those less familiar, this chapter is a useful primer of research concerning assessment of design capability. The chapter ends by looking at further development of assessment that is authentic.

Chapter 8, *Developing a Technology Curriculum*, written by David Barlex (UK), proposes three procedural principles that can inform technology curriculum development: being true to the nature of technology; developing a perspective on technology; enabling technology capability. Before these are described, there is lengthy commentary, which may have been better placed after outlining the three principles. Nevertheless, the chapter leads to a pertinent end which states that policy makers can benefit from informed discourse with and articulate and knowledgeable profession.

Chapter 9, *Developing a Deeper Understanding of Design in Technology Education*, written by David Spendlove (UK), starts with the truism 'design is central to being human'. Discussion proceeds from the well-trodden semantics of 'design' as a phenomenon in 'Technology Education' and 'design' as a noun and as a verb. The discussion reviews a wide range of concepts and their proponents in a well-signposted commentary, especially useful to those unfamiliar with the key research which has underpinned our thinking of the nature of what a sustainable D&T curriculum should be (but has yet to be).

Chapter 10, *The Alignment of Technology with Other School Subjects*, written by Cathy Bunting and Alister Jones (New Zealand), raises fundamental weaknesses which persist, without reason, in curriculum design: Why do we persist in having separate subjects which are indifferent to others? Why has D&T been non-synergetic with other school subjects? And, why do students not draw on knowledge from the subjects? How much better could it be if we tear down the walls? Do read this chapter first; it echoes what many think about curriculum compartmentalisation, wonder why no one ever dares to challenge this and why successive reforms are subject contractive rather than expansive.

Chapter 11, *Vocational and General Technology Education*, written by P John Williams (New Zealand), explores the interaction between vocational and general approaches to Technology Education, with an unclear divide. As in the previous chapter, this chapter ends with what some have thought for a long time, and wondered why others have failed to see the obvious: that developing competencies for a specific vocation seems short-sighted, and not a

useful preparation for employment opportunities that unfold over time.

Chapter 12, *Technology Education and Developing Countries*, written by Frank Banks (UK) and Vanwyk K.M. Chikasanda (Malawi), draws on technology and technical education in Bangladesh and Malawi to illustrate issues related to developing countries as they reform their curriculums to establish technology as a key learning area. These two countries are compared from starting points, through implementation to future implications for both developing and developed countries.

Chapter 13, *Politics and Policy*, written by Kendall N. Starkweather (USA), is a well-written, yet uncomfortable chapter to read. This is because issues are competently discussed about branding, product positioning and showcasing of technology education. In other words, it is all about raising the value of technology education. The discomfort arises because in the UK the subject has continually failed to deliver, not impressed policy makers and not gained a distinct identity. At every curriculum reform, battles are fought to retain the subject, only to find between these reforms we settle back into not raising the profile ready for the next assault. We are reminded of a statement attributed to Einstein, "Strive not to be a success, but rather to be of value."

Chapter 14, *Research Challenges for the Future*, written by Marc J. de Vries (Netherlands), starts with a brief overview of research in technology education. It then moves on to propose that research continues to be needed in the context of technology education. The discussion that follows reminds that it should be linked to professional practice, oriented to policy, epistemic based, and user-oriented. In the chapter's conclusion, good links are made to preceding chapters (especially Chapter 13), and the importance of universities investing and valuing technology education research. The irony is that this is not happening because technology education itself is not valued.

Chapter 15, *Much Remains to Be Done*, written by the editors, draws together, very succinctly, the key points made throughout the chapters.

Overall, this is a timely and excellent coverage of the issues to be researched for an effective technology education for the future. Each chapter is written authoritatively by leading academics in the respective areas. The commentary draws on acknowledged high quality research which incorporates topical examples from current practice. The style of presentation is interesting,

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consistently accessible and flows well. A strength is that each author draws very effectively, in their own chapter, on what is written in other chapters. The editors have ensured that reader's attention is maintained without having to constantly refer back to rewinding or fast-forwarding between chapters. There is a good balance of bringing to the table what is already known and what we need to do to evolve from this. As a consequence, the enthusiastic tone is inviting and encourages reader reflection.

I strongly recommend this book with only reservation, its cost. This includes the Ebook. Other than copies in libraries, this could be a book whose cost becomes the limiting factor on its readership.

This is a book which should be read by all concerned with the sustainability of technology as a curriculum entitlement. It achieves the aims set out from the start. It is informative, academically sound and provocative. It is a 'must read' for educational researchers and practitioners, irrespective of experience. It will help them to guide and inform policy makers that the issues have been identified, reflected on, and, that working together, the issues can be addressed collaboratively to move forward.