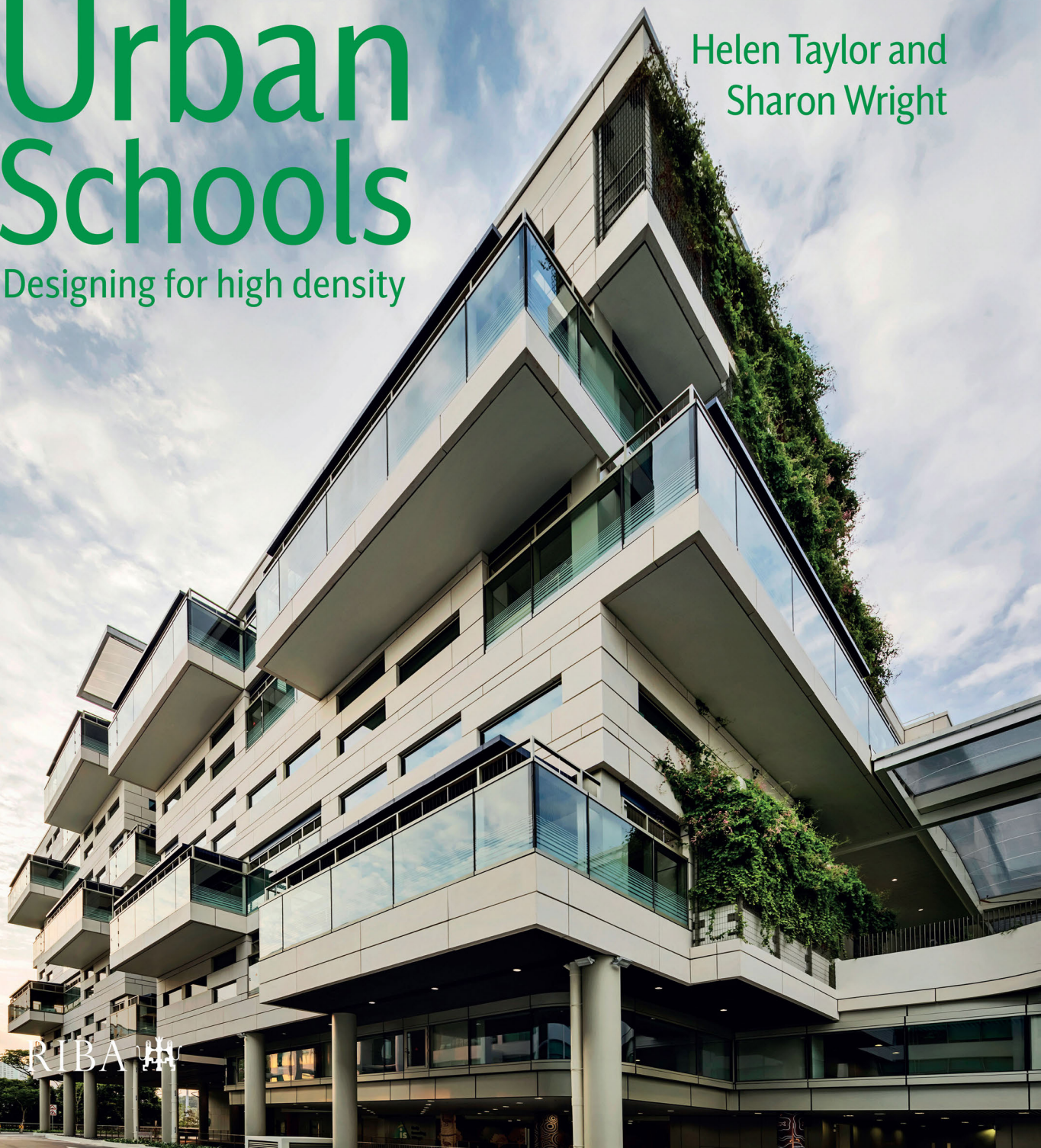


Urban Schools

Designing for high density

Helen Taylor and
Sharon Wright



RIBA 

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FOREWORD

The critique of modernist post-WW2 city planning is now so widely accepted that we see the idea of zoning by use, the design of buildings in isolation from each other and the neglect of context all as things of the past. They have been replaced by a collection of principles that currently go under the catch-all term of 'placemaking'. Curiously, the design of schools – the quintessence of social architecture – has been slower to move on. That is of course a generalisation, and this book richly illustrates the exceptions that open up future possibilities.

Schools built by 19th-century school boards displayed strong urban presence. They were often of three or four storeys, each storey almost twice as high as in later typologies, and generously lit with tall windows. Fitted onto tight sites, some had playgrounds on roofs. After the war such designs were seen simultaneously as

both cramped and wasteful. Some of that is understandable: if state education was to be on a par with private education, facilities needed to be as good, and private schools always had, for instance, extensive playing fields. However, when we look back, the Victorian Board School impresses us with its robust materials, thoughtful composition and clever designs, often with an Arts and Crafts sensibility.

In contrast, schools built to official guidance in the 20th century have been almost blind to context. Although some concessions were made as regards the extent of playing fields in central urban locations, the ideal of a two- or maximum three-storey building set in grounds prevailed. The school was a refuge from the city. Pupils might go on trips to museums and theatre but that was the extent of engagement with urban life; they would be taught the skills needed for

work, but the setting encountered in workplaces remained remote. The buildings rarely had any urban presence, with the favoured pattern being to set them back from the street, beyond a parking forecourt.

If we are to continue to deliver schools near to where people live, it is inevitable that as urban density goes up there will be pressure on land allocated for a school. High-density schools are not new: cities like New York and Hong Kong have long accommodated schools in high-rise buildings, with field sport often provided for via bus trips. However, there has been a tendency to see this as a compromise. What this book shows is that we can embrace the urban context and seize the possibilities it offers while accommodating the need for physical and outdoor activities in dynamic ways.

New ways of learning, teaching and working

– together with better understanding of young people's cognitive and emotional development – have in any case brought new design approaches to schools. If we add to this the parallel explosion of possibilities brought about by digital technology, the impact on school design is huge. A great strength of this book is in showing through case studies and essays how such factors can interact with a more intense relationship between schools and high-density neighbourhoods to create transformational places.

Looking forward, perhaps we will see progressive erasure of the opposition between nature and the city. The best high-density schools may be pioneers in showing what that might be like.

Sunand Prasad PPRIBA
Senior Partner, Penoyre & Prasad

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Our thanks to everyone who has contributed to this book. We know that developing schools for high-density areas is an emerging theme and, as such, requires new ways of thinking about old challenges. We have been grateful for the measured way in which chapter contributors have looked in detail at the pros and cons of high-density schools and their thoughtful contributions on both the educational experience and the quality of the urban landscape.

Thanks to Ginny Mills, Clare Holloway and the team at RIBA Publishing for patiently guiding us through the process of making a book.

A number of professionals shared their experience and expertise to help us develop the themes in the book and we are particularly grateful to Claire Jackson, Marcel Hendricks, Steve Smith, Gill Wynne Williams, Claire Barton, Bryan Schnabel and Inigo Woolf for their input.

We are also grateful to all the practices and individuals who generously allowed us to use photographs, drawings and diagrams of their urban school projects.

A special thanks to the team at Scott Brownrigg and colleagues at the-learning-crowd for their ideas, critique and endless enthusiasm for designing better schools.

EDITORS



Helen Taylor RIBA, Director of Practice, Scott Brownrigg. Helen is a chartered architect and champions inclusive, sustainable education in the profession as well as projects at collaborative international design practice, Scott Brownrigg. Specialising in Education design for nearly 20 years, she recently led a proposal for an innovative multi-storey Academy in the UK. She is passionate about cross industry collaboration, engagement and research and is currently a member of the Board of the RIBA. Helen was a founder member and co-chair of Architects for Change, the RIBA's Equality & Diversity Forum and Convenor of the RIBA Schools Client Forum. She played a significant role in the establishment of Modern Apprenticeships in Architecture.



Dr Sharon Wright, Senior Associate, the-learning-crowd. Sharon specialises in school design and has particular expertise in brief development, options appraisal, stakeholder engagement, and post occupancy evaluation. Over the past 17 years she has worked with education leaders, architects and contractors to create the best possible learning environments on a wide range of projects nationally and internationally. Previously she spent 12 years in the Civil Service working on education and employment policy and was a Fellow in Organisational Development with OPM before becoming Managing Director of the not for profit company School Works. Sharon is a Doctor in Education from King's College London. She is a Fellow of the RSA, a Fellow of the British American Project, a Member of the RIBA Validation Panel, and is on the Advisory Board of the Young Dancers Academy in West London.

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Michael Buchanan, Education Consultant. Michael has extensive experience in education and school design, latterly as Education Director leading the sector strategy at construction company Galliford Try, where he led the innovation of the multi-award winning 'Optimum Schools' approach to design and construction efficiency. Prior to that, he was Education Director at Partnerships for Schools and at consultants Place Group, Expert Adviser to the Design Council's Learning Environments Campaign, a secondary head teacher, Local Authority Senior Adviser, Ofsted Registered Inspector and Lecturer at the University of London.



Catherine Burke, Professor of History of Education at the Faculty of Education, University of Cambridge. Catherine is a historian of education whose research focuses on 20th and 21st century progressive education with a particular interest in material contexts. She collaborates with architects designing schools today who are interested in drawing useful knowledge from past efforts to design schools to fit the child. She is currently working on transatlantic transferences of knowledge about the design of education during the 'open learning' era of the 1960s and 70s.



Prof Peter Clegg, Senior Partner, Feilden Clegg Bradley Studios.

Peter is a Professor of Architecture at the University of Bath and a founding partner of Feilden Clegg Bradley Studios who over the last 20 years have designed multi-award winning secondary schools often in very constrained urban sites. He recently wrote 'Learning from Schools', a reflective history of the practice's involvement with the design of spaces for education



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Juliet is a Reader in Architecture and Urbanism at the Welsh School of Architecture at Cardiff University. She is Director of the Postgraduate Taught Programmes and teaches on the Masters in Urban Design. Her research interests include regeneration, urban inclusion, resilience and futures. Her AHRC-funded PhD, completed at the London School of Economics' Cities Programme in 2011, explored the planning and urban design of London's 2012 Olympic urban legacy, focussing on regeneration concepts, strategies and issues. She initially trained as an architect, graduating from Cambridge University with a first-class degree in 1995, and practiced as an architect for ten years in London before entering academia in 2007.



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Dianne Western, Director, The Landscape Partnership. Dianne is a Chartered Landscape Architect with over 32 years' experience in environmental planning and landscape and urban design. Over the last 20 years she has worked extensively in the education sector, site planning and designing the outdoor environment for schools under PFI, BSF, Academy and EFSA Framework programmes as well as traditional procurement routes.



Dr Joe Jack Williams, Researcher, Feilden Clegg Bradley Studios. Following a period of working as a consultant engineer, Joe undertook a doctorate to understand the impact of new school buildings on the occupants. He now works within FCBStudios, feeding back lessons from POEs into future projects, as well as the current secretary for the CIBSE School Design group.



INTRODUCTION

Helen Taylor & Dr Sharon Wright

Our cities are facing challenges in how they accommodate an increasing population. More school places are needed than ever before but land is in short supply and funding is limited. In this book we look at how the city can continue to provide the best education experience for children when space is tight.

As a sector we are working hard to deliver more for less. This includes making the most of smaller sites through creative design, and finding new ways to build schools using cost-effective materials and modern methods of construction. We are not suggesting that these new high density approaches are easy options – indeed, in many cases they would not be the preferred choice of how to accommodate school places. However, with careful planning and innovative use of existing and new buildings and external landscape, they can provide excellent spaces for high-quality education.

We asked the chapter authors to look at a series of themes including how we view the issues of delivering education within the city. We were mindful that external landscape is a vital part of every child's educational experience and a particular challenge within the urban context. If we think of a school as simply a building we are missing an opportunity to challenge our conception of where and how young people are educated. The dispersed school, using a variety

of sites and technology to support learning, is one emerging model. We also wanted to look at how we are creating and using educational buildings, so have explored tall schools, mixed-use developments and adaptive reuse of existing buildings.

We have used case studies from around the world and referenced historic examples in order to explore the educational, architectural, planning, construction and regulatory context that is driving this new wave of school designs.

Drawing on contributions from across disciplines, each of our authors looked at the issues from a different perspective.

Our first two contributions set the scene by considering how children experience the city, and in particular education, within their urban area. In **Chapter 1**, Catherine Burke and Dan Hill consider whether reimagining 'the city as a school' in the design of urban education might help us to explore the possibilities of how we deliver in the urban context. (This is further considered in Chapter 8, which looks specifically at Espoo in Finland where this idea has been brought to life.) In **Chapter 2**, Juliet Davis argues that, although a global priority, the provision of educational infrastructure in disadvantaged urban areas continues to be a challenge. There are emerging examples of how this issue is being tackled and they bring learning for both

developing and developed countries. Both authors explore how schools can become more integrated and inclusive in the urban setting.

In **Chapter 3**, Gareth Long and Sharon Wright argue that, in order to design high quality urban schools that meet a whole range of educational needs, the educator and architect must work together. In particular, school leaders can be pragmatic in how they address the challenges of high-density schools, considering new curriculum delivery and school organisational solutions through the design process.

By way of an extended case study to illustrate the points in Chapter 3, Ian Bogle and Sharon Wright use **Chapter 4** to interrogate our perceptions about early years education spaces. The Early Learning Village (ELV) in Singapore, which opened in August 2017, set out to do this on a larger scale than anything we have seen previously. Exploring the rationale and design concept of this unique environment provides lessons as to how we might challenge our thinking for the future.

The next two chapters explore the two main models of new-build, high-density schools that are starting to emerge across the world. In **Chapter 5**, Peter Clegg and Joe Jack Williams review the principles and rationale for well-designed mixed-use developments where schools share spaces with some combination of housing, commercial or other public services delivery. As mixed-use developments become an increasingly prevalent way to maximise available land and budgets, this chapter looks at both the very good reasons to build mixed-use developments and some of the key pitfalls to avoid. In **Chapter 6**, Helen Taylor looks at high-rise schools in the UK and around the world. Although high-rise schools are a relatively

new concept, educationalists and architects are having to work closely together to develop imaginative and visionary solutions that not only work as positive, flexible learning spaces but also still create a sense of community within the school and a positive relationship with the surrounding urban fabric and the natural world.

Many buildings are currently being repurposed for educational use and in **Chapter 7**, Michael Buchanan examines how existing redundant or underused buildings are being adaptively reused and repurposed to deliver more with what we currently have. Using case studies, he looks at some interesting and high-quality results, as well as highlighting some significant challenges.

Chapter 8 and **Chapter 9** deal with the cross-cutting themes of Information and Communications Technology and access to the external environment for social and educational use. These are major issues when considering the possibilities of high-density schools and the day-to-day experiences of the young people who use them. Digital infrastructure will become increasingly important in how new models of education will be delivered in the future. In Chapter 8 Ty Goddard looks specifically at how technology might help support high-density schools, ensuring students not only have access to high-quality learning but are prepared for their transition to further and higher education and the world of work.

One of the criticisms often levelled at high-density schools is the lack of external space. Traditionally we rely on schools in cities to play a key role in providing the opportunity for time outdoors and contact with the natural world. In Chapter 9, Dianne Western explores the relationship between high-density schools



Figure 0.01 A child's view through a skyscraper's window and glass floor

and private and public open spaces, and whether there are particular challenges in continuing to ensure children benefit from the physical and mental wellbeing of having significant dedicated external learning, play and social space on site.

In **Chapter 10**, Helen Taylor goes on to explore the challenges of building and operating these new models of schools on tight urban sites. Funding, legislative requirements (including planning approvals) and construction challenges all make these sites unique. If it is likely that we will see more of this type of building in our urban areas, policymakers and

funders will have to understand where the system needs to change to accommodate this sort of innovation.

Ultimately, we wanted to identify the successes and help the education design world learn the key lessons from them to deliver new solutions which meet the needs of children now and in the future. In doing so we have identified, in our conclusion to the book, the opportunities and challenges for integration of new types of schools into the city. We hope this book will be useful to educators, designers, property developers, constructors, planners and policymakers as they look for new ways to tackle the challenges ahead.