

A VOLUME IN RESEARCH IN GLOBAL CHILD ADVOCACY

# DIGITAL TECHNOLOGIES AND EARLY CHILDHOOD IN CHINA

Policy and Practice

edited by

Ilene R. Berson | Wenwei Luo  
Michael J. Berson | Chuanmei Dong

---

# **Digital Technologies and Early Childhood in China**

---

A volume in  
*Research in Global Child Advocacy*  
Ilene R. Berson and Michael J. Berson, *Series Editors*

## **Research in Global Child Advocacy**

---

Ilene R. Berson and Michael J. Berson, *Series Editors*

*Participatory Methodologies to Elevate Children's Voice and Agency* (2019)

Ilene R. Berson and Michael J. Berson

*Child Advocacy and Early Childhood Education Policies in the Caribbean* (2015)

Ilene R. Berson and Michael J. Berson

*High-Tech Tots: Childhood in a Digital World* (2010)

Ilene R. Berson and Michael J. Berson

*Overcoming AIDS: Lessons Learned from Uganda* (2006)

Donald E. Morisky, W. James Jacob, Yusuf K. Nsubuga,  
and Steven J. Hite

*Childhood in South Asia* (2006)

Jyotsna Pattnaik

*Advocating for Children and Families in an Emerging Democracy: The Post Soviet Experience in Lithuania* (2003)

Judy W. Kugelmass and Dennis J. Ritchie

*Cross Cultural Perspectives in Child Advocacy* (2001)

Ilene R. Berson, Michael J. Berson, and Bárbara C. Cruz

---

# **Digital Technologies and Early Childhood in China**

**Policy and Practice**

---

*edited by*

**Ilene R. Berson**

*University of South Florida*

**Wenwei Luo**

*Shanghai Normal University*

**Michael J. Berson**

*University of South Florida*

**Chuanmei Dong**

*Macquarie University*



INFORMATION AGE PUBLISHING, INC.  
Charlotte, NC • [www.infoagepub.com](http://www.infoagepub.com)

**Library of Congress Cataloging-in-Publication Data**

A CIP record for this book is available from the Library of Congress  
<http://www.loc.gov>

ISBN: 979-8-88730-493-9 (Paperback)  
979-8-88730-494-6 (Hardcover)  
979-8-88730-495-3 (E-Book)

Copyright © 2024 Information Age Publishing Inc.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission from the publisher.

Printed in the United States of America

---

# CONTENTS

Preface.....	vii
<i>Ilene R. Berson and Michael J. Berson</i>	
Acknowledgments .....	xi
1 Examining Early Childhood Teacher's Technology Integration in Mainland China Through a Sociocultural Lens .....	1
<i>Wenwei Luo, Ilene R. Berson, Michael J. Berson, and Sophia Han</i>	
2 The Role of Chinese Culture and Western Influences in Preservice Teachers' Beliefs About the Use of Digital Technologies in Early Childhood Education .....	23
<i>Chuanmei Dong and Pekka Mertala</i>	
3 The Potential Integration of Developmentally Appropriate Digital Technologies Into a Tao Xingzhi Kindergarten Where Action and Thinking Progress Together .....	41
<i>Marylou M. Matoush</i>	
4 Integrating Digital Technologies During COVID-19 Kindergarten Suspension Period in Hong Kong .....	61
<i>Xinyun Hu, Nicola Yelland, Wai Man Vivienne Leung, Yutong Liang, Chunrong Sun, and Charles R. Graham</i>	

5 Q-Inquiry: Can Digital Technology Ease Chinese Parents’  
Concerns About Their Children’s Transition From  
Kindergarten to Primary School Education? ..... 81  
*Tianhong Zhang and Kevin M. Jones*

6 Coding and Computational Thinking Among Chinese Young  
Children: A Review of Empirical Studies ..... 113  
*Huiyan Xu and Weipeng Yang*

About the Contributors..... 137

---

# PREFACE

This edited book, *Digital Technologies and Early Childhood in China: Policy and Practice*, is the eighth volume in the Research in Global Child Advocacy series. This volume details the entanglement of digital technologies and early childhood ecologies, learning and pedagogies in China. It analyzes how traditional Chinese values, Eastern and Western curricular approaches, and sociopolitical, economic, cultural, and demographic changes influence current policies, services, and practice. This book is the first research-based review of technology integration into early childhood education and the factors that affect it in China. It is particularly timely given China's growing influence and the increased recognition of the importance of early childhood education for human capital development globally. Across international contexts, there is limited knowledge of China's early childhood curricular reforms, and this book offers insight into the sociocultural and political influences that have driven the nation's tremendous investment in the technology infrastructure, the ambitious goals for implementation into the education of young children, and barriers to these integration efforts.

The first chapter, authored by Wenwei Luo, Ilene R. Berson, Michael J. Berson, and Sophia Han, explores early childhood teachers' technology integration practices in mainland China from a sociocultural perspective. The study investigates the interaction between culture and technology that shapes teachers' technological and pedagogical practices. Through survey data collected from early childhood teachers who attended China's national teacher training program, the findings reveal the influence of sociocultural values on teachers' technological knowledge, technological content knowledge, and



technological pedagogical knowledge. The study highlights the power dynamics within the Chinese educational system and suggests that technology is gradually becoming a driving force of cultural fusion.

Building on these insights, the second chapter, authored by Chuanmei Dong and Pekka Mertala, examines the influence of Chinese educational traditions and Western theories on preservice teachers' beliefs about technology integration. The authors challenge preconceived notions of preservice teachers as "digital native teachers" and reveal how deeply rooted Chinese educational traditions continue to influence the pedagogical beliefs and practices of educators. These teachers conceptualize technology as screen-based devices, primarily used for teacher-centered instructions. Additionally, they perceive themselves as educational authorities responsible for correcting parental practices regarding children's technology use at home. Implications for teacher education, educational policies, and future research are also discussed.

In the following chapter, Marylou M. Matoush examines the potential integration of developmentally appropriate digital technologies into a Tao Xingzhi kindergarten, a unique educational setting inspired by the Chinese educational reformer Tao Xingzhi. This qualitative, observational study documents a pre-COVID Tao Xingzhi kindergarten, which emphasizes action-oriented learning that reflects the lives and culture of young students. By discussing the implementation of Tao Xingzhi's ideas and the pedagogy of "lively schools," this chapter contributes to the broader discussion of integrating digital technologies into early childhood programs in China. It highlights the importance of considering local knowledge and culturally relevant technology uses in an action-oriented, situated kindergarten.

Adding to the discourse, the next chapter, contributed by Xinyun Hu, Nicola Yelland, Wai Man Vivienne Leung, Yutong Liang, Chunrong Sun, and Charles R. Graham, focuses on the integration of digital technologies during the COVID-19 kindergarten suspension period in Hong Kong. This mixed methods research project explores how technology was utilized by kindergarten teachers in home-based learning contexts. The passive-interactive-creative/replace-amplify-transform (PICRAT) model guides the research, revealing that teachers used digital technologies to replace traditional learning scenarios, amplify learning content, and create innovative content that had the potential to transform learning. However, the authors also uncover the challenges faced by teachers in terms of technological difficulties and addressing individual student needs within the home context. The chapter emphasizes the importance of technological support, open communication, and creative design of learning activities.

The fifth chapter, by Tianhong Zhang and Kevin M. Jones, investigates whether digital technology can ease Chinese parents' stress over the impact of "de-elementarization" in kindergarten education in China. Through Q

methodology, the study examines young parents' subjective views on the link-up between kindergarten and primary school education and the role of online digital education resources in preparing children for the transition. The findings reveal four types of subjective viewpoints, ranging from the need for well-designed online resources to the limited role played by digital education resources in transition preparation. This study contributes to the literature on the link between kindergarten and primary school education and informs curriculum development and policy decisions regarding alignment between the two levels.

Lastly, Huiyan Xu and Weipeng Yang present a scoping review of empirical studies on coding and computational thinking education for young children in mainland China. As China pursues technological and digital transformation, it is crucial to provide developmentally and culturally appropriate coding education. The review highlights the need for theoretical frameworks, scientific evaluation of coding platforms, and teacher training for intentional teaching of early coding and computational thinking.

Collectively, this rich collection of chapters offers a nuanced understanding of the entanglement of digital technologies and early childhood education in China. Each chapter sheds light on a distinct aspect of this complex landscape, providing valuable insights and opening new avenues for exploration. It sheds light on the sociocultural and political influences that have shaped China's ambitious goals for technology integration in the education of young children. By addressing the barriers and challenges faced in these integration efforts, the book provides critical knowledge for policymakers, researchers, and educators seeking to enhance early childhood education practices in China and beyond.

Furthermore, this volume contributes to the global understanding of China's early childhood curricular reforms and the significant investments made in technology infrastructure. As China continues to play an influential role in the global landscape, understanding its early childhood curricular reforms and technology integration efforts becomes increasingly important. This book contributes to the international knowledge base by offering insights into the sociocultural and political influences driving China's investment in technology infrastructure and the challenges faced in its implementation. It serves as a valuable resource for researchers, policymakers, and educators worldwide seeking to enhance early childhood education practices, promote digital literacy, and harness the potential of digital technologies in early learning environments.

It is our hope that this book will inspire further research, policy advancements, and innovative approaches to leverage the potential of digital technologies for enriching early childhood education experiences in China and beyond.

—Ilene R. Berson  
Michael J. Berson

This page intentionally left blank.

---

# ACKNOWLEDGMENTS

This book would not have been possible without the contributions, guidance, and support of many individuals. We would like to express our deepest gratitude to all those who have played a significant role in the creation of this volume entitled *Digital Technologies and Early Childhood in China: Policy and Practice*. Each of these insightful and creative colleagues has shared meaningful and thought-provoking perspectives with us, and we value their collaboration and collegiality throughout this endeavor.

First and foremost, we would like to thank the early childhood educators, policymakers, and practitioners in China who have generously shared their insights, experiences, and knowledge. Their dedication and commitment to improving early childhood education in the digital age have been instrumental in shaping the content of this book.

We would like to extend our appreciation to George F. Johnson, our publisher, for his assistance in developing this book series and promoting learning and research in global child advocacy. We are very appreciative of his vision and assistance in highlighting this important work.

We are deeply indebted to the academic researchers and scholars who have conducted groundbreaking studies and shared their knowledge on early childhood education and digital technologies in China. Their rigorous research and scholarly contributions have served as a valuable foundation for this edited volume.

We are also grateful to our colleagues and peers who have provided constructive feedback, insightful discussions, and intellectual inspiration throughout the process of writing and reviewing this book. Your expertise

and collaboration have enriched our understanding and strengthened the overall quality of this work.

Finally, we would like to express our heartfelt appreciation to our families and loved ones for their unwavering support and understanding during the hours spent researching, writing, and editing. Your encouragement and patience have been invaluable in bringing this project to fruition.

In conclusion, we extend our deepest gratitude to all those who have contributed directly or indirectly to this book. It is our hope that *Digital Technologies and Early Childhood in China: Policy and Practice* will serve as a valuable resource and contribute to the advancement of early childhood education in China and beyond.

## CHAPTER 1

---

# **EXAMINING EARLY CHILDHOOD TEACHER'S TECHNOLOGY INTEGRATION IN MAINLAND CHINA THROUGH A SOCIOCULTURAL LENS**

**Wenwei Luo**  
*Shanghai Normal University*

**Ilene R. Berson**  
*University of South Florida*

**Michael J. Berson**  
*University of South Florida*

**Sophia Han**  
*University of South Florida*

---

## ABSTRACT

With the proliferation of instructional technology development on a global scale, there has been a growing body of research examining the utilization and integration of various technologies in early childhood classrooms. However, limited research has specifically investigated the technology integration practices of Chinese early childhood teachers within the contemporary sociocultural context. This study aims to address this gap by exploring the intricate and dynamic interaction between culture and technology that shapes the technological and pedagogical practices of Chinese early childhood teachers. Data for this study were collected through a survey focused on technology integration from 283 early childhood teachers who participated in China's national teacher training program. The collected data were analyzed using content analysis of participants' narrative descriptions. The analysis revealed the influence of sociocultural values on teachers' technological knowledge (TK), technological content knowledge (TCK), and technological pedagogical knowledge (TPK). The findings indicate that the Chinese government exerts significant control over schools, while teachers hold authority over students, in accordance with Chinese Confucian values. The results suggest that Chinese sociocultural traditions and values play a substantial role in shaping teachers' technology integration practices. Furthermore, technology itself is emerging as a catalyst for cultural fusion within the contemporary Chinese educational system. This research sheds light on the complex interplay between culture and technology in Chinese early childhood classrooms, offering insights into the specific sociocultural factors that influence technology integration. The findings have implications for policymakers, educators, and researchers seeking to enhance technology integration practices in early childhood education. Additionally, the study underscores the need for continued exploration and understanding of the evolving relationship between culture, technology, and pedagogy in the context of early childhood education in China.

Existing research has extensively examined the process of integrating technology into early childhood teacher education. This includes investigating teachers' acceptance of technology (Jeong & Kim, 2017), their attitudes and beliefs (Dong & Xu, 2020), barriers and challenges faced when adopting technology (Plumb & Kautz, 2015), adapting technological frameworks to align with early childhood pedagogy (Park & Hargis, 2018), teachers' pedagogical approaches (Berson et al., 2019), and the development of teachers' digital competence (Murcia et al., 2018). Considering the sociocultural impact is crucial when integrating technology, whether in Western or Eastern countries (Arnott, 2016; Byrne-Cohen, 2020; Dong & Mertala, 2021; Luo et al., 2021a; Park & Hargis, 2018). However, there is a lack of empirical studies focusing on how teachers' technology integration practices differ or are influenced by the sociocultural context in which they teach (Dong & Mertala, 2021).

Given the wide range of technological possibilities in education and the diverse educational philosophies guiding different societies, it would be valuable for educational researchers to understand the unique intersection between technology and culture. Therefore, this study aims to explore how Chinese early childhood teachers integrate technology into their practices from a sociocultural perspective. To provide context, a brief overview of the historical and sociocultural background of Chinese early childhood education is presented, followed by an introduction to the foundational frameworks that inform this study.

### **Historical and Sociocultural Background of Chinese Early Childhood Education**

The history of early childhood education in China reveals significant shifts and influences. The first preschool, established in 1903, adopted the Japanese model, which drew heavily from Germany's Froebelian approach (Qi & Melhuish, 2017; Zhu & Zhang, 2008). However, after the establishment of the People's Republic of China in 1949, the country's early childhood education underwent a complete transformation under socialist ideology. It abandoned its previous model and adopted the subject-based curriculum of the Soviet Union (Wang & Mao, 1996).

In 1978, the Chinese government launched the "open door" policy, which initiated economic reforms and opened the country to foreign investments and trade (Li & Chen, 2017). As a result, China experienced significant economic transformations. Subsequently, the Chinese government began to embrace the American model of early childhood education, emphasizing child-initiated activities, individual differences, and play-based learning (Li & Chen, 2017; Zhu & Zhang, 2008).

Contemporary Chinese early childhood education reflects a fusion of three distinctive cultures. It is deeply influenced by traditional Confucianism and two disparate imported ideologies from the Soviet Union and the United States (Li & Chen, 2017). Traditional Chinese culture is rooted in Confucianism, which emphasizes conformity, discipline, self-control, effort, and academic achievement of young children (Chen, 2007; Rao et al., 2010). Confucianism places greater emphasis on memorization of content rather than creativity (Li et al., 2012), prioritizes group-orientation over individual initiative (Tobin, 2005); is more teacher-centered than child-centric (Jung & Han, 2018), and highlights the significance of rituals (Li et al., 2017). In Chinese education, there is a belief that "an act for a child becomes meaningful at the time when it is ritualized" (Regni, 2013, p. 3). In Confucianism, rituals, represented by Li (礼), play a crucial role