

STEAM Education

STEAM Education

Intersections and Thresholds

Edited by

Yichien Cooper and Alice Lai



BRILL

LEIDEN | BOSTON

Cover illustration: Design by Emilie Cooper

All chapters in this book have undergone peer review.

The Library of Congress Cataloging-in-Publication Data is available online at <https://catalog.loc.gov>

Typeface for the Latin, Greek, and Cyrillic scripts: "Brill". See and download: brill.com/brill-typeface.

ISBN 978-90-04-71472-4 (paperback)

ISBN 978-90-04-71473-1 (hardback)

ISBN 978-90-04-71474-8 (e-book)

DOI 10.1163/9789004714748

Copyright 2025 by Yichien Cooper and Alice Lai. Published by Koninklijke Brill bv, Plantijnstraat 2, 2321 JC Leiden, The Netherlands.

Koninklijke Brill bv incorporates the imprints Brill, Brill Nijhoff, Brill Schöningh, Brill Fink, Brill mentis, Brill Wageningen Academic, Vandenhoeck & Ruprecht, Böhlau and v&r unipress.

Koninklijke Brill bv reserves the right to protect this publication against unauthorized use. Requests for re-use and/or translations must be addressed to Koninklijke Brill bv via brill.com or copyright.com.

For more information: info@brill.com.

This book is printed on acid-free paper and produced in a sustainable manner.

Contents

Acknowledgments IX
List of Figures and Tables X
Notes on Contributors XIV

Introduction: Celebrating Diverse Perspectives on STEAM
Education 1
Yichien Cooper and Alice Lai

PART 1 ***Rethinking STEAM Frameworks***

- 1 You Don't Need a List of the Best STEAM Lesson Ideas: Focusing on the Transdisciplinary Competencies 21
Christine Liao
- 2 Cultivating Authentic Approaches to STEAM Teaching and Learning through the Arts and Design 38
Debrah C. Sickler-Voigt
- 3 Challenges and Prospects for STEAM Education in Japan: Considerations from the Perspective of Art Education 51
Isao Ohashi
- 4 Effect of STEAM Education on Schools and Universities in Türkiye 69
Vedat Özsoy

PART 2 ***Redirecting STEAM Foci in the Communities***

- 5 Reflections on the Practice of STEAM Education in Penang, Malaysia 85
Paul Boey
- 6 Natural Aesthetics: Interdisciplinary Learning of the Arts and Natural Science 97
Chia-Hung Kao

- 7 Reflections on the Design of a STEAM Curriculum for 12- to 14-Year-Old Girls 107
Eliza Pitri, Maria Evagorou and Agni Stylianou-Georgiou
- 8 Application of Data Visualization in Hakka Cultural Education in Taiwan 126
Shyh-Shiun Shyu and Yui-Chih Wu
- 9 Promoting DEI with STEAM Technology for People with Visual Impairment and Blindness in Taiwan 145
Hsin-Yi Chao

PART 3

Reimagining STEM as STEAM

- 10 “Uncharted Territory”: Interactive Augmented Reality for Exploring Concepts in Chemistry with Science-Averse College Students 161
Jonah B. Firestone and Don McMahon
- 11 Incorporating Art in Mathematics Teacher Education: Examples with Primes and Pendulums 181
David Glassmeyer and Kevin Hsieh
- 12 STEAM in Higher Education Art Programs 193
Snow Yunxue Fu and Luke Hampton
- 13 Expressive STEM Storymaking: Art, Literacy, and Creative Computing 210
Sean Justice and Lori Czop Assaf
- 14 Considering STEAM Aesthetics through an Arts-Driven STEAM Pedagogy 227
Alice Lai

PART 4

Remapping Teacher Education through STEAM Practices

- 15 STEAM-Oriented Instructional Design in Visual Arts Teacher Education in Türkiye 249
Suzan Duygu Bedir Erişti and Yeliz Erdoğan

- 16 Teaching STEAM Education in Hong Kong 264
So Lan Wong
- 17 Developing Visual Art Workshops for STEM Teachers 281
Kevin Hsieh and Michael White
- Index 295

Acknowledgments

We (Yichien and Alice) deeply appreciate our publisher and editorial team, particularly John Bennet and Christine Hededam at Brill, who have provided us with clear guidance throughout the process of producing this collection. Its completion would have been impossible without the trust and support of Dr. Patricia Leavy, who invited Yichien to apply her expertise in arts integration to contribute to the Art Plus series at Brill. Thanks to her for her generosity in providing vital suggestions during the book proposal process. We are profoundly grateful for our amazing copyeditor Dr. Linda Meixner for her invaluable, meticulous, and plentiful comments, ensuring the stylistic features of this book. We are indebted to Dr. Debrah Sickler-Voigt for inviting us to present early content at the 2023 National Art Education Association convention and to the NAEA Higher Education Forum for the opportunity to share a snippet of the introductory chapter at the 2024 NAEA convention. We acknowledge the timely feedback of Dr. Enid Zimmerman, pointing out the main attractions of this book. Thanks to all our contributors from around the world for their patience and cooperation in making this anthology possible and most importantly for graciously working with us to share their insights on STEAM education despite linguistic and time-zone constraints.

Yichien is thankful for the opportunity to expand the meaning and practices of integrating the arts with support from Dr. Judith Morrison, academic director of the College of Education at Washington State University, Tri-Cities. In addition, she appreciates insightful conversations she had with her preservice teachers at WSUTC, workshop attendees around the world, and young students in local communities. She is grateful to her husband Matt and her children Emilie, Katherine, and Benjamin for their unflagging encouragement and dedicates this book to her parents.

Alice acknowledges the professional development funds provided by Empire State University, State University of New York, and the earnest support of Dr. Nicola Allain, dean of the School of Arts and Humanities. She also extends her gratitude to her family, especially Dr. Eric Ball, for engaging in insightful and critical dialogue about ever-changing educational contexts in a global society.

Figures and Tables

Figures

- 1.1 STEAM concept expanding IPOP theory (Perkarik et al., 2014) and curricula as bridges (Cooper, 2013). 5
- 1.2 Pinhole photography, 2021. Exposure from January 10 to June 10, 2021. 6
- 1.3 Example of tensegrity sculpture by Emilie Cooper, 2020. 7
- 1.1 The relationship between STEAM teaching approaches, STEAM competencies, and SEL skills. 28
- 2.1 This STEAM logo includes visual icons representing the content of *STEAM Teaching and Learning Through the Arts and Design: A Practical Guide for PK–12 Educators* (Sickler-Voigt, 2023). Its design symbolically unifies the STEAM disciplines and represents the value of interdisciplinary and transdisciplinary studies. © Debrah Sickler-Voigt. 46
- 2.2 This photo of the tunnel book shown with white LED lighting showcases its removable hand-assembled rabbit ears. © Debrah Sickler-Voigt, Paige Brenner, and Richard Sickler. 47
- 2.3 This photo collage shows the tunnel book with its range of LED hues. Its associated video illustrates its dynamic multimedia qualities (see Sickler & Sickler-Voigt, 2023). © Debrah Sickler-Voigt, Paige Brenner, and Richard Sickler. 48
- 3.1 Learning structure as a process of self-actualization based on Ohashi (2021) and updated for this chapter. 58
- 3.2 Rabbits with a sword and a fishing rod. 60
- 3.3 Out! The crocodiles are coming! (If you fail in a game programmed with the Micro:bit, you will be attacked by an alligator.). 61
- 3.4 The children used the PC as fluently as they used scissors and glue to give shape to their ideas. 62
- 3.5 Paper Cup Tower Activity, conceived by Dr. Tetsuo Kiyota and practiced by Ms. Hiroko Hanazato at Nakano 5th Junior High School, Tokyo. 66
- 4.1 STEAM training examples: weather. 71
- 4.2 STEAM education applications of a Grade 7 student, 2022. 76
- 5.1 I used scrap tires to create an installation art, depicting an endangered dusky leaf monkey in Myanmar, Malaysia. 91
- 5.2 For the *Heart of the Ocean* community art education exhibition, I collaborated with teachers and students to create an installation piece on campus depicting a stranded whale. The purpose of this collaborative effort

- was to inspire others and raise awareness about important topics related to environmental protection. 92
- 6.1 Emblem of the National Museum of Natural Science. 98
- 6.2 A conceptual map of the pedagogical content for the natural aesthetics curriculum that aligns with the three core aspects of aesthetics education in Taiwan. 99
- 6.3 The spotted, strap-shaped, and thematic learning approaches. 100
- 6.4 A learner sew plant specimens. 103
- 6.5 Learner made a piece of paper in the shape of Taiwan by using plant fibers and stencils. 104
- 6.6 Student's example of an island feast. 106
- 7.1 Photo from Day 4: final product created by the groups (uniforms for four people working in STEM). 114
- 7.2 Photo from Day 1: exploring a lab in a virtual environment. 117
- 7.3 Photo from Day 2: observing organisms collected from the soil at the park. 117
- 7.4 Photo from Day 5: working on the prototype of the product, a pillow that can change color. 118
- 8.1 Teaching method for online summer camp curriculum. 132
- 8.2 Left to right: participant L's and K's Data Visualization Project from Unit 1. 135
- 8.3 Left to right: projects of participant C and D from Unit 2. 137
- 8.4 Left to right: participant J's and D's data visualization project from Unit 3. 141
- 9.1 Six capabilities of visual art education for students with visual impairments and blindness. 150
- 9.2 Functional flow chart of National Taiwan Museum of Fine Arts Accessible Application for the visual and hearing-impaired audience features three guide models: nearby, map, and list with extended usage. Created by Hsin-Yi Chao. 152
- 9.3 Universal color wheel with visual and tangible textures was invented by Chao in 2022. 156
- 10.1 The reality–virtuality continuum (Milgram et al., 1994, p. 283). 162
- 11.1 The Desmos graph of class data (green) with previous class data (blue), comparing the length of the string on the horizontal x -axis (measured in meters) to the period (measured in seconds). 187
- 11.2 The Desmos graph of a function modeling the relationship between the pendulum string length and period. 188

- 12.1 Screenshot of an avatar running through an abstracted city scape. Fu, Y. (n.d.). *Run – Valley City Arts Game Recording Building Level (Take2)*, 2021 (from <https://snowyunxuefu.com/section/505997-Run%20-%20Valley%20City.html>). 199
- 12.2 Virtual aerial view of VR WSPark. Fu, Y. (n.d.). *VR WSPark metaverse project* (from <https://snowyunxuefu.com/artwork/5087411ArtLab%20Opening%20on%20VR%20WSPark.html>). 204
- 12.3 YouTube thumbnail advertising the online Metaverse Artlab Show Opening. Fu, Y. (n.d.). *VR WSPark metaverse project* (from <https://snowyunxuefu.com/artwork/5087411ArtLab%20Opening%20on%20VR%20WSPark.html>). 204
- 13.1 Camouflaged sight words in ScratchJr. The right screen shows a sight word hiding in the trees. The left screen shows the student's code: when the cat is touched, ScratchJr. will play audio made by the student of herself speaking the sight words she has hidden. 216
- 13.2 Interactive, screen-based storymaking. *Knights of the Woods* (Picou, 2021) combined hand-drawn characters with Scratch's stock characters and dialog, music, and creative coding to advance the narrative. To amplify reader interaction, Picou programmed keystrokes that animate the characters when tapped by a reader. 218
- 13.3 Transdigital storymaking. *If You Are Given a Cookie ...* by Lyla Guidry (2022) is constructed from a paper collage connected to a Scratch animation with a Makey Makey[®]. Each touch of the paper cookie takes another bite from the screen cookie, producing a munching sound. 220
- 14.1 Student A's golden rectangles and spirals (left). The predominant geometric shapes placed over the golden rectangles (right), 2022. 237
- 14.2 Student A's poster design in progress (left). Student A's final poster design (right), 2022. 238
- 14.3 Student B's sketch of a Fibonacci spiral. 239
- 14.4 Student B. *Fibonacci Koi Pond*. 8" × 13." Gouache on Stonehenge Print Paper. 2023. 240
- 14.5 Student C. *Transformation Zone*. Watercolor, 2023. 240
- 15.1 Kaleidocycle designs of the lecturers and teacher candidates (left to right): Top row: Yeliz Erdoğan, Yeliz Erdoğan, Zehra Dede. Middle row: Esra Kuş, Gamze Gezer, Sena Sevinç. Bottom row: Sümeyye Güneş, Ela Kantarcı, Birsen Çelik, 2020, Eskişehir, Türkiye. 255
- 15.2 Model designs by Buse Buket Turan, Ela Kantarcı, Sena Sevinç, Esra Kuş (left to right), 2020, Eskişehir, Türkiye. 257
- 15.3 Kitchen lithography: printmaking with drawing on aluminum foil, emulsion by Buse Buket Turan and Sena Sevinç, 2020, Eskişehir, Türkiye. 258

- 16.1 Learning activities based on KLA topics. 266
- 16.2 Learning activities based on projects. 266
- 16.3 Front (L) and inner (R) pages of a light-up greeting card. 271
- 16.4 Students' drawings and exploration of various methods to use the Makey Makey[®] Kit and closed circuits 272
- 16.5 Using the Makey Makey[®] Kit and drawings to play a song. 273
- 16.6 Using reassembled hexagons to create a new tessellation pattern. 275
- 17.1 In the Making Sketchbooks Workshop, 2020, the instructor gave a step-by-step demonstration on how to use recycled cereal boxes and copy paper to make sketchbooks. 284
- 17.2 Drawing and painting lecturer showed the processes of 2D design and making patterns. 285
- 17.3 In the Sculptural Hats Workshop (2021) taught by an art education professor, the participants showed their three-dimensional paper hats. 287

Tables

- 1.1 Key initiatives advocating for STEAM education nationwide and in the field of art education. 8
- 1.2 Preliminary data on STEAM-centered articles appearing in selected journals in the field of art education. 9
- 1.3 Various approaches applied in STEAM education. 10
- 7.1 STEAM curriculum, Version 1. 112
- 7.2 STEAM curriculum, Version 2. 115
- 9.1 The methods of visual art exhibition designed for the blind. 153
- 10.1 Overall change per question and question type from pretest to posttest. 172

Notes on Contributors

Lori Czop Assaf

is a professor in reading education in the Department of Curriculum and Instruction at Texas State University. She is past director of the Central Texas Writing Project and teaches the study abroad program to South Africa. Her research focuses on teacher learning, teacher identity, and supporting K–12 English Language Learners as readers and writers. Dr. Assaf is committed to international collaboration specifically on culturally mediated writing instruction across the disciplines and professional development for preservice and in-service teachers.

Paul Boey

is a postdoctoral fellow in art from Southeast University in China. His research specialty and interests include Chinese and foreign art history, art education, and the development of culture and art through One Belt One Road in China and Southeast Asia. He served as the director and master's degree supervisor of the Oriental Culture and Art Research Centre of the University of the Thai Chamber of Commerce in 2018 and was appointed visiting professor at Chongqing Technology and Business University in China in 2019. Currently, he is a supervisor of master's and doctoral students at New Era University College in Malaysia and a committee member of the World Chinese Arts Education Association. Boey has presented research-based papers at national and international academic conferences and has authored art-related publications, including two volumes of *A History of Malaysian Art* (2016).

Hsin-Yi Chao

is an assistant professor in the Cultural and Creative Industry program at the National Chung Hsing University in Taiwan. After earning a Master of Fine Arts at the National Taipei University of Education and a Ph.D. in architecture at the National Taiwan University of Science and Technology, she continued postdoctoral research in the psychology graduate program at the University of Toronto in Canada. She spent 10 years as a visual art teacher at a primary school and the last six as a curator working on accessible technology and multisensory exhibitions at the National Taiwan Museum of Fine Arts. The founder of the national nonprofit Taiwan Art Beyond Vision Association, Dr. Chao focuses her research on nonvisual art educational theory and practice, accessible technology applications, universal display design, audio description of art, and tactile–spatial cognition research focusing on special education,

psychology, museums, and art to promote equal rights to art education for those with visual impairment.

Yichien Cooper

is an artist, educator, author, and arts advocate, serving as a career-track assistant professor and field supervisor at Washington State University, Tri-Cities. In her research she explores STEAM education, arts-based pedagogy, data visualization, socially responsible teaching, mixed identity, and Asian aesthetics. Dr. Cooper has not only delivered keynote addresses and conducted workshops in Australia, China, Malaysia, South Korea, Taiwan, Thailand, Türkiye, and the United States, but she has also published extensively on integrating arts curriculum for Chinese educators. As the current Director of the Higher Education Division for the National Art Education Association, she has received numerous honors, including the 2019 City of Richland Proclamation of Appreciation, the 2023 Ziegfeld Service Award from the United States Society of Education through Art, the 2024 Kathy Connors Teaching Award from the NAEA Coalition for Feminisms in Art Education, and the 2024 Washington State University, Tri-Cities Campus Distinguished Teaching Award.

Yeliz Erdoğan

is a native Trabzon, Türkiye, graduated in 2014 from the Ondokuz Mayıs University (OMU) Faculty of Education, specializing in fine art education. Having earned her master's degree in Fine Art Education from OMU in 2018 and her doctorate from Anadolu University Institute of Educational Sciences in 2023 with a concentration on STEAM education, she currently serves as a lecturer at Van Yüzüncü Yıl University, specializing in fine arts education with a focus on STEAM integration. She continues to advance her work in this field while teaching courses on STEAM applications in the visual arts.

Suzan Duygu Bedir Erişti

is an esteemed professor at Anadolu University's Faculty of Education, specializing in fine arts education. Dr. Erişti's academic journey includes master's and doctoral degrees in art, visual design, art history, and education. She is dedicated to innovative pedagogical methods, using art-based and visual research techniques, and pioneering a/r/tography methodologies. Her research interests encompass digital visual culture, AI in art education, technology-driven pedagogy, multicultural art education, graphic design, interactive instructional design, gamification, digital storytelling, and STEAM applications. She explores the intersection of digital visual culture and artificial intelligence in her work. Dr. Erişti is a fervent advocate for international collaboration, participating in

national and international exhibitions, research initiatives, and projects. Recognized as Visual Arts Educator of the Year in 2016, she continues to make significant contributions to academia, demonstrating unwavering dedication to excellence and profound impact in her field.

Maria Evagorou

is an associate professor of science education at the University of Nicosia, Cyprus. Her research focuses on STEM education with an emphasis on integrated STEM and teacher professional development. Dr. Evagorou participates in funded projects on argumentation, socioscientific issues, the role of language and culture in the teaching of STEM [IncluSME], and support for girls who wish to pursue STEM careers. Maria currently leads a policy initiative as part of a European project, placing emphasis on the development of STEM training for in-service and preservice teachers.

Jonah B. Firestone

is currently an associate professor in science education in the College of Education at Washington State University, Tri-Cities. Dr. Firestone has also worked as a science and mathematics teacher for diverse groups of students in Arizona. With over 20 years' experience working with large-scale and high-stakes test preparation, creation, teacher-training, and evaluation in the U.S. and Hong Kong, he is the principal investigator for the Simulation and Integrated Media for Instruction, Assessment, and Neurocognition (SIMIAN) Laboratory on the Washington State University Tri-Cities campus. His research concerns the use of emerging technologies in virtual reality, augmented reality, and neurocognition in decision-making, attitude formation, and problem-solving in students as well as simulations to foster learning. He also leads the development of a computer science education certificate program for K–12 teachers in Washington.

Snow Yunxue Fu

is an assistant arts professor at the Tisch School of the Arts in the Department of Photography and Imaging at New York University. She sees new media art making within a postphotographic framework as one of the most exciting interdisciplinary and relevant art fields of the 21st century. An internationally exhibited new media artist practicing for over a decade, Fu is active as a curator and collaborator with international artists and arts organizations focused on emerging simulation technologies, such as 3D, VR, AR, Web 3.0, and the metaverse, where her projects are hosted on social VR platforms like Sansar, Mozilla Hubs, and Decentraland.

David Glassmeyer

is a professor of mathematics education at Kennesaw State University, GA, USA, who teaches graduate mathematics and mathematics education courses in the online M.Ed., Ed.S., and Ed.D. programs in middle and secondary grades education. Dr. Glassmeyer aims to help teachers increase STEAM integration and consequently K–12 student learning. As a mathematics education researcher, he focuses on examining and developing teachers' STEM content knowledge, specifically secondary teachers' reasoning of mathematics concepts.

Luke Hampton

is an art educator and alumnus of the Visual Arts Administration program at New York University. He has over 15 years of experience in international art education and urban nonprofits, developing curricula for visual arts, writing, and technology in the United States and China and is active in the contemporary art world as a writer and collaborator with Snow Yunxue Fu. As an educator he currently trains international students to succeed as artists and professionals. As a researcher Hampton engages in the culture, histories, and current events that shape the experiences of artists and art students from China.

Kevin Hsieh

is a professor of art education at Georgia State University, GA, USA. Dr. Hsieh's research topics include instructional technology, museum education, LGBTQ+ issues, AsianCri pedagogy, and transdisciplinary art education. He has presented his research studies internationally. His articles have appeared in research journals, such as *Studies in Art Education*, *Art Education*, *Visual Arts Research*, *Museology Quarterly*, *Humanities and Social Sciences Research*, *Journal of Fine Arts*, *Journal of Liberal Arts*, *International Journal of Art and Design Education*, and *Social Sciences*.

Sean Justice

is an associate professor of art education at Texas State University in San Marcos, Texas. Dr. Justice teaches and writes about art and computer science education, creative computation, and teacher education in the digital age. As an artist, he has exhibited photographs, videos and computer animations both nationally and internationally. His book *Learning to Teach in the Digital Age: New Materialities and Maker Paradigms in Schools* was published by Peter Lang in 2016. In 2020 he received a National Science Foundation award to study teachers' computational thinking in early childhood classrooms with 4- to 8-year-old children.

Chia-Hung Kao

is an assistant professor from National Kaohsiung Normal University, specializing in art education and printmaking. Dedicated to promoting art education and practicing the spirit of A/r/tography, he was honored in 2021 with the Award for Excellence in Praxis by the International Society for Education through Art, a UNESCO affiliate. His printmaking works have garnered accolades, including the Gold Medal at the Taiwan Fine Arts Exhibition and the Kaohsiung Award. His works are collected by the Ministry of Culture and international galleries.

Alice Lai

is a professor at the School of Arts and Humanities at Empire State University, State University of New York, USA, where she formerly coordinated undergraduate online arts curriculum for 20 years. She earned a Ph.D. in art education from the Ohio State University and an M.A. in art education and a B.A. in graphic design from California State University at Los Angeles. She received the Susan H. Turben Award for Excellence in Scholarship at Empire State University and the Marantz Distinguished Alumni Lectureship Award from the Ohio State University. Her teaching topics include diversity in the arts, women's art history, art theory, and arts-based research. Her research topics include art education, STEAM education, Asian American transnational art, and critical theories and pedagogies encompassing feminism, critical multiculturalism, anticolonialism, and digital equality. She frequently publishes in the field of art education and delivers presentations at national and international conferences.

Christine Liao

(Ph.D.) is an associate professor and coordinator of the Art Education MAT program at the University of North Carolina Wilmington. Her research areas include not only theorizing virtual body and identity and exploring interactions of the virtual and the real but also media arts and digital performance, STEAM, technology integration in art education, and intercultural education. She has presented at national and international conferences, including NAEA, AERA, and InSEA, and has published in journals in the field of art education and education.

Don McMahon

is an associate professor of special education at Washington State University, who has proven experience leading research teams during the implementation of technology-based interventions for people with ID and ASD. Dr. McMahon

has conducted research on a variety of technology-based interventions for individuals with disabilities, including mobile devices, video modeling, communication tools, podcast-based read-aloud testing accommodations, augmented reality applications, and virtual reality. In summer 2011 he was selected to attend the Harvard Graduate School of Education summer institute on universal design for learning. Dr. McMahon has 12 years of experience involving inclusive postsecondary education. A cofounder of the WSU ROAR program, he has served as its director.

Isao Ohashi

is a professor emeritus of Okayama University as well as a professor of education at Wakayama Shinai University in Japan. His research focuses on the learning process in art as a progression toward self-actualization, the relationship between perception and representation, and teaching methods for education through art from infancy to adolescence. He has served as the representative director of the Art Education Society of Japan and president of the Japan Practical Art Education Society. His research has been published in his books on art education, as book chapters, and in numerous journals in the field of art education in Japan.

Vedat Özsoy

graduated from the Gazi Faculty of Education in Türkiye, completing his master's degree at Birmingham Institute of Art and Design in U.K., his Ph.D. at Gazi University, and his postdoctorate fellowship at Arizona State University in the USA. He achieved the rank of professor in 2004. Having founded the Visual Arts Education Association (GÖRSED) in 2003, he served as its president until 2010. Prof. Özsoy also served as the InSEA Secretary (2014–2017). In addition, he has published books and articles on art and design education, museum education, curriculum development, and art teacher education.

Eliza Pitri

earned a B.A. in early childhood education from the University of Cyprus and an M.A. and Ph.D. in art education from the University of Texas–Austin and The Ohio State University, respectively. She is currently an associate professor of art education in the Department of Education at the University of Nicosia, Cyprus, teaching in both the undergraduate and the graduate program. Her research interests focus on socioconstructivist learning through the visual arts in various contexts by facilitating meaningful artmaking related to processes and skills, such as constructing a knowledge base, playfulness, flexibility, risk-taking, fluency, originality, humor, problem finding, and problem solving.

Shyh-Shiun Shyu

is the chairperson of Hakka Affairs Commission, Taipei City Government, who obtained his master's degree in molecular genetics from the State University of New York at Buffalo. Before joining Taipei City Government, he was the Taipei City Councilor, focusing on digital education and antidrug programs for children. He is also a devoted, lifelong volunteer with autistic children and is now a board member of the Republic of China (ROC) Foundation for Autistic Children and Adults in Taiwan.

Debrah C. Sickler-Voigt

(Ph.D.) is a professor of art education at Middle Tennessee State University. She authored *Teaching and Learning in Art Education: Cultivating Students' Potential from Pre-K Through High School* (2020), a widely-adopted art methods textbook, followed by *STEAM Teaching and Learning Through the Arts and Design: A Practical Guide for PK–12 Educators* (2023), her second book. Sickler-Voigt served as the senior editor for NAEA's Assessment Papers for Art Education from 2016 to 2023. She received the Ziegfeld Service Award in 2022 from the United States Society for Education Through Art and the Southeastern Region Higher Education Art Educator Award in 2023 from the National Art Education Association.

Agni Stylianou-Georgiou

is an associate professor of educational psychology in the Department of Education at the University of Nicosia. She studied elementary education at the University of Cyprus and earned a Ph.D. in educational psychology (cognition and instruction) from the University of Connecticut. Her research interests focus on metacognition, and creative teaching and learning in face-to-face and digital environments. She has been involved in EU-funded projects targeting the role of information and communication technologies in enabling a pedagogy for autonomy for teacher professional development and fostering dialogue and argumentation for cultural literacy learning in schools using wordless picture books.

Michael White

is the interim director of the Ernest G. Welch School of Art & Design and an Associate Professor of Interior Design. He is both NCARB and NCIDQ certified and is a registered architect and interior designer in the State of Georgia with degrees from Mississippi State University and the Georgia Institute of Technology. Michael joined Georgia State following an extensive national career in interior architectural practice, most notably as Studio Director of the Atlanta office of Gensler—the nation's largest interior architecture firm. His

20+ years of professional experience in commercial interiors included more than one million square feet in projects for national clients including Aetna, the McDonald's Corporation, Bank of America, BlueCross BlueShield, GTE, and Atlanta's own legal powerhouse, King & Spalding.

So Lan Wong

is currently a senior lecturer and the program leader of the Professional Development Programme (Visual Arts Teaching) in the Department of Cultural and Creative Arts at the Education University of Hong Kong. Dr. Wong's research interests include visual arts curricula and instructional design, including STEAM teaching. She is currently a member of the author team of *Hong Kong Chronicles—Visual Arts* (《香港志：視覺藝術》; 2022–25), a consultant (Phases 1–3, 2020–2023), and the principal investigator (Phase 3) of the Special Education Needs Section of the Curriculum Development Institute of the Hong Kong Education Bureau. She is also a specialist in the Hong Kong Council for Accreditation of Academic and Vocational Qualifications (2018–2024) and the Vice Chairman of the World Chinese Art Education Association (2019–2025).

Yui-Chih Wu

is a Ph.D. student in art education at Taiwan Normal University and a licensed art teacher in Taiwan. She has worked at the Ju Ming Museum, where she established alliances between the museum and schools in New Taipei County. This experience led to her employment at Gymchina, an art education institution in China, where she sought to expand contemporary art into the realm of children. When she served as vice CEO of Taipei Hakka Cultural Foundation, she integrated contemporary art education into ethnic cultural education. Her work focuses on STEAM, arts-based research, and data visualization.

