

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

STRUCTURE AND IMPROVISATION IN CREATIVE TEACHING

With an increasing emphasis on creativity and innovation in the twenty-first century, teachers need to be creative professionals just as students must learn to be creative. And yet, schools are institutions with many important structures and guidelines that teachers must follow. Effective creative teaching strikes a delicate balance between structure and improvisation. The authors draw on studies of jazz, theater improvisation, and dance improvisation to demonstrate that the most creative performers work within similar structures and guidelines. By looking to these creative genres, the book provides practical advice for teachers who wish to become more creative professionals.

Dr. R. Keith Sawyer is internationally known as an expert in the learning sciences and in the psychology of creativity. He is the editor or author of more than eighty scholarly articles and ten books, including *The Cambridge Handbook of the Learning Sciences* (2006), *Explaining Creativity: The Science of Human Innovation* (2006), and *Group Genius: The Creative Power of Collaboration* (2007).

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

Structure and Improvisation in Creative Teaching

Edited by

R. Keith Sawyer

Washington University in St. Louis



CAMBRIDGE
UNIVERSITY PRESS

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

CAMBRIDGE UNIVERSITY PRESS

Cambridge, New York, Melbourne, Madrid, Cape Town,
Singapore, São Paulo, Delhi, Tokyo, Mexico City

Cambridge University Press

32 Avenue of the Americas, New York, NY 10013-2473, USA

www.cambridge.org

Information on this title: www.cambridge.org/9780521746328

© Cambridge University Press 2011

This publication is in copyright. Subject to statutory exception
and to the provisions of relevant collective licensing agreements,
no reproduction of any part may take place without the written
permission of Cambridge University Press.

First published 2011

Printed in the United States of America

A catalog record for this publication is available from the British Library.

Library of Congress Cataloging in Publication data

Structure and improvisation in creative teaching / [edited by] R. Keith Sawyer.
p. cm.

Includes bibliographical references and index.

ISBN 978-0-521-76251-9 (hardback) – ISBN 978-0-521-74632-8 (paperback)

1. Student-centered learning. 2. Active learning. 3. Creative teaching.
4. Motivation in education. I. Sawyer, R. Keith (Robert Keith)

LB1027.23S77 2011

371.102-dc22 2011010351

ISBN 978-0-521-76251-9 Hardback

ISBN 978-0-521-74632-8 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for
external or third-party Internet Web sites referred to in this publication and does not guarantee
that any content on such Web sites is, or will remain, accurate or appropriate.

CONTENTS

<i>List of Table and Figures</i>	page vii
<i>Notes on Contributors</i>	ix
<i>Foreword</i> <i>by David C. Berliner</i>	xiii
1. What Makes Good Teachers Great? The Artful Balance of Structure and Improvisation <i>R. Keith Sawyer</i>	1
PART 1 THE TEACHER PARADOX	
2. Professional Improvisation and Teacher Education: Opening the Conversation <i>Stacy DeZutter</i>	27
3. Creativity, Pedagogic Partnerships, and the Improvisatory Space of Teaching <i>Pamela Burnard</i>	51
4. Improvising within the System: Creating New Teacher Performances in Inner-City Schools <i>Carrie Lobman</i>	73
5. Teaching for Creativity with Disciplined Improvisation <i>Ronald A. Beghetto and James C. Kaufman</i>	94
PART 2 THE LEARNING PARADOX	
6. Taking Advantage of Structure to Improvise in Instruction: Examples from Elementary School Classrooms <i>Frederick Erickson</i>	113

vi	<i>Contents</i>	
7.	Breaking through the Communicative Cocoon: Improvisation in Secondary School Foreign Language Classrooms <i>Jürgen Kurtz</i>	133
8.	Improvising with Adult English Language Learners <i>Anthony Perone</i>	162
9.	Productive Improvisation and Collective Creativity: Lessons from the Dance Studio <i>Janice E. Fournier</i>	184
PART 3 THE CURRICULUM PARADOX		
10.	How “Scripted” Materials Might Support Improvisational Teaching: Insights from the Implementation of a Reading Comprehension Curriculum <i>Annette Sassi</i>	209
11.	Disciplined Improvisation to Extend Young Children’s Scientific Thinking <i>A. Susan Jurow and Laura Creighton McFadden</i>	236
12.	Improvisational Understanding in the Mathematics Classroom <i>Lyndon C. Martin and Jo Towers</i>	252
13.	Conclusion: Presence and the Art of Improvisational Teaching <i>Lisa Barker and Hilda Borko</i>	279
	<i>Index</i>	299

TABLE AND FIGURES

TABLE

2.1	General-methods textbooks used in content analysis	<i>page 38</i>
-----	--	----------------

FIGURES

6.1	Amber’s molecules diagram	125
6.2	Eli’s clay model – solid	126
6.3	Eli’s clay model – liquid	126
6.4	Eli’s clay model – gas	127
12.1	The annotated parallelogram	262
12.2	The “cake,” showing the sector	263
12.3	The “cake,” showing the sector and segment	263
12.4	The circle with the drawn square	263
12.5	The labeled triangle	266
12.6	The annotated triangle	266

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

NOTES ON CONTRIBUTORS

LISA BARKER is a doctoral candidate in teacher education at Stanford University. A former K–12 English and drama teacher, she is an instructor in the Stanford Teacher Education Program and the Center to Support Excellence in Teaching. Her research centers on the ways in which improvisational theater training can engage teachers in thinking actively about notions of presence, classroom discourse, and relationship-building with young people and colleagues.

RONALD A. BEGHETTO is an Associate Professor of Education Studies at the University of Oregon. His research focuses on supporting creativity in classrooms and teacher development. He has published more than 50 articles and book chapters on these topics. His latest book (with James C. Kaufman) is *Nurturing Creativity in the Classroom*.

DAVID C. BERLINER is Regents' Professor Emeritus at Arizona State University. His interests are in the study of teaching and educational policy. He is the author or co-author of more than two hundred books, chapters, and journal articles; a former president of the American Educational Research Association; and a member of the National Academy of Education.

HILDA BORKO is a Professor of Education at Stanford University. Her research explores the process of learning to teach, with an emphasis on changes in novice and experienced teachers' knowledge and beliefs about teaching and learning, and their classroom practices, as they participate in teacher education and professional development programs. She is also designing and studying a program to prepare math educational leaders.

PAMELA BURNARD is a Senior Lecturer at the University of Cambridge, UK, where she manages Higher Degree courses in Educational Research and Arts, Culture, and Education. Her books include *Music's Creativities*, *Reflective*

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

Practices in Arts Education, Creative Learning 3–11, and Music Education with Digital Technology. She is co-convenor of the British Education Research Association SIG Creativity in Education.

STACY DEZUTTER is an Assistant Professor of Education at Millsaps College. Her research builds on insights from sociocultural theory to examine two separate, but related, areas of interest: the social formation of teacher cognition and the distributed creative processes of groups. She holds a PhD in the Learning Sciences from Washington University in St. Louis.

FREDERICK ERICKSON is the George F. Kneller Professor of Anthropology of Education at the University of California, Los Angeles, where he is also appointed as Professor of Applied Linguistics. He is a pioneer in the video-based study of face-to-face interaction, with special attention to the musicality of speech and of listening behavior, and he also writes on qualitative research methods. His most recent book is titled *Talk and Social Theory: Ecologies of Speaking and Listening in Everyday Life*.

JANICE E. FOURNIER is a Research Scientist for UW Information Technology at the University of Washington. She also teaches in the UW College of Education and is an education consultant to arts organizations. Her research interests include the arts and learning, arts literacy, and educational technology.

A. SUSAN JUROW is an Assistant Professor of Educational Psychological Studies at the University of Colorado, Boulder. She studies the interrelations between identity, interaction, and culture in and across learning environments. Her research has been published in journals including *Journal of the Learning Sciences*; *Mind, Culture, and Activity*; and *Journal of Teacher Education*.

JAMES C. KAUFMAN is an Associate Professor of Psychology at the California State University at San Bernardino, where he directs the Learning Research Institute. His past books on creativity include *Creativity 101* and *The Cambridge Handbook of Creativity*. He is active in APA's Division 10 as president-elect and co-editor of their journal, *Psychology of Aesthetics, Creativity, and the Arts*.

JÜRGEN KURTZ is Professor of English and Teaching English as a Foreign Language at Justus Liebig University Giessen, Germany. He previously taught at the University of Dortmund and at Karlsruhe University of Education. His current research focuses on the role of improvisation in enhancing oral proficiency in EFL classrooms, on EFL textbook analysis and use, and on culture-sensitive foreign language education in all-day schools.

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

Notes on Contributors

xi

CARRIE LOBMAN is an Associate Professor in the Rutgers Graduate School of Education. Her research interests include teacher education and the relationship between play, performance, learning, and development. She is a co-author of *Unscripted Learning: Using Improv Activities Across the K-8 Curriculum*.

LYNDON C. MARTIN is an Associate Professor in the Faculty of Education at York University. His research interests are in mathematical thinking and learning with a particular emphasis on understanding and how this can be characterized and described. He is also concerned with mathematical understanding in the workplace and in how adults working in construction trades understand and use mathematical concepts in formal and informal ways.

LAURA CREIGHTON MCFADDEN received her PhD in science education at the University of Colorado at Boulder. She has taught junior high school science and was an Assistant Professor of Science Education at Rhode Island College. Laura is currently pursuing a career in fiction writing and is working on her first young-adult novel.

ANTHONY PERONE is a doctoral candidate at the University of Illinois at Chicago. His research focuses on the life-span presence, development, and benefits of imaginative play activity and the role of improvisational theater activities in formal and informal learning environments and in teacher education.

ANNETTE SASSI is an independent education researcher and evaluator based in the greater Boston area. She currently works as a consultant at TERC in Cambridge, MA, and has worked at Education Matters, Inc., in Cambridge, MA, and Education Development Center in Newton, MA. She is a co-author of *The Effective Principal: Instructional Leadership for High-Quality Learning*.

R. KEITH SAWYER studies creativity, collaboration, and learning. He has published more than eighty scholarly articles and is author or editor of ten books, including *The Cambridge Handbook of the Learning Sciences*, *Explaining Creativity: The Science of Human Innovation*, and *Group Genius: The Creative Power of Collaboration*.

JO TOWERS is a Professor in the Faculty of Education at the University of Calgary. Her research interests center on the phenomenon of mathematical understanding. Bringing to bear conceptions of learning drawn from the domains of ecology, complexity theory, and improvisational theory, she studies students' growing understandings of mathematics, the role of the teacher in occasioning such understandings, and the implications for teacher education structures and pedagogies.

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

FOREWORD

DAVID C. BERLINER

The first and last chapters of this book provide both a forward and a backward glance at the important contributions each author has made to right a great wrong. This wrong has been promoted and supported by many politicians, business people, and school administrators. This wrong has made it more difficult for America's teachers to be effective.

This wrong is the imposition of structures on teachers, in the belief that structures such as algorithms, procedures, scripts, and protocols for conducting instruction will improve teaching and learning. In areas like airline travel, manufacturing, or finance, tried-and-true protocols – routines and scripts for accomplishing one's job – make businesses more efficient and profitable, allow workers to achieve competency sooner, and often make customers happier. In these industries, structures have a proven ability to enhance efficiency and increase quality control. But it is misguided to apply these same ideas in the much more uncertain environment of a classroom with thirty diverse students.

Although the airline industry and its pilots depend on routines, checklists, and protocols for doing many things, when a plane's engines fail – as they did in 2009 over the Hudson river – there was no procedure to follow. The pilot improvised, saving everyone's life, and reminding us that protocols, scripts, and checklists for performing a job simply cannot cover everything that happens on the job.

And in spite of the demonstrated power of structures in many businesses, there is plenty of contrary evidence that overadherence to routines, scripts, protocols, and the like can act as a straightjacket, restricting reflection and creativity. For example, when the future of the gasoline engine began to be questioned, and the environmental hazards associated with its use became clear, General Motors continued to make the same cars they had made for decades. Apparently no one in command could stop and

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

reflect, and change the course of this giant American company. The managers could not, or would not, respond to changing conditions. The creativity that had brought our auto industry into worldwide prominence was nowhere to be found. Similarly, banks continued to offer mortgages as their risks escalated and even as respected members of their community issued warnings about the unsustainability of the housing market. Their actions caused an international economic recession because they could not stop what they were doing. Reliance on the routines that served them so well in the past overwhelmed good sense: The routines they used blocked the reflection they needed.

To be sure, the power of routines, scripts, and all kinds of established procedures to guide action in environments that are stable and predictable is not to be questioned. Semmelweis, who taught physicians to wash their hands before and after every contact with a patient, dramatically taught us that! And business process techniques like Six Sigma have increased quality and efficiency, lowering product costs and increasing value for everyone.

But as events become less certain, and the outcomes desired less standardized, adherence to those same routines can be ineffectual, if not dangerous. That is the paradox addressed in this book. Too much of classroom life has become too routinized. In both the United Kingdom and the United States, this is due partly to powerful accountability policies that demand that certain student outcomes be achieved, greatly constraining what teachers do in classrooms. But another reason for this increase in demand for uniformity and routines in our schools arises from the increasing dominance of business models applied to education. The protocols, routines, and scripts that can be helpful in business settings are believed to apply easily to classroom life, so they are promoted by school administrators without regard for their effects on teaching and the outcomes of education.

The imposition of structure and efficiency approaches to schools is resulting in what I call *creaticide*. “Creaticide” is a national movement to kill literary, scientific, and mathematical creativity in the school-age population of the United States of America, particularly among impoverished youth. While all of public education feels the impact of accountability policies and policies that promote business models to improve education, it is the schools with the most impoverished students that feel these pressures the most. Schools with poor children often have the lowest test scores, and so policies thought to improve test performance are implemented with greater fervor. But it is now recognized that contemporary educational policy in both the United Kingdom and the United States, particularly for impoverished youth, has resulted in four outcomes: curriculum narrowing, narrowing of

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

Foreword

xv

the assessments used to judge the quality of schooling, narrowing of the schools' conceptions of what it means to be smart in school, and narrowing of the ways we judge teacher competency. With a few notable exceptions, policies designed to improve schools in both countries have resulted in a diminution of those classroom activities that are more likely to promote higher levels of thought, problem solving, and creativity in academic areas. It is not that the research community can agree on how to produce higher-order thinking and creative responses among youth. Far from it! But there is remarkable agreement about how *not* to produce the outcomes we desire. And by constraining what teachers and students can do in classrooms we do just that.

I have been in schools that were heavily routinized. It always sounds so simple to engineer and so it is so easy to garner support for these practices: Turn over to teachers an approved curriculum (often a text, workbook, and teacher's manual with test questions), train the teachers or aides in "good" classroom practice (have them learn scripts such as "Repeat: C, A, T, spells CAT. Say it again, C, A, T! Good. Is the C in CAT a hard C sound or a soft C sound? Everybody: It is a hard C sound"), and the students will magically learn all that they should. In fact, the children in this class did seem to be learning through this kind of direct instruction – in part, because some aspects of reading, such as phonemic awareness and spelling, can be routinized. I am sure there are other, and perhaps better, ways to teach phonemic awareness, but the predictability in this aspect of reading, or in learning some mathematics, or for composing a letter to an editor, all can be routinized to some degree. So teachers can learn to be better at their craft by learning about best practices for teaching certain curricula to students x, y, or z, just as physicians can learn best practices for treating patients x, y, or z.

But in those same scripted classrooms, there is Juanito, the student who cannot learn the way the teacher taught that lesson. There is Johnny, the student who refuses to learn. There is Sarah, who expresses a wonderful idea that leads the class off in a different direction from what the curriculum demands, but it is a pleasant path to follow for a while. For the physician, there is Juanito's father, who does not respond to the cholesterol-lowering drug that is recommended for his condition. There is Johnny's mother, who will not follow her prescribed regimen of therapy. And there is Sarah's mother, who refuses to get treatment because she now heals herself with herbs. Routines, best practices, approved protocols for acting in certain ways – all are useful, *except when they are not!* And that is the problem with those who wish to see more standardization in teaching and in educational

Cambridge University Press

978-0-521-76251-9 - Structure and Improvisation in Creative Teaching

Edited by R. Keith Sawyer

Frontmatter

[More information](#)

outcomes. Like clinical medicine, teaching is highly unpredictable. And if it were not, it would need to be made so to develop in our students skills for dealing with uncertainty and to provide the nation with variation in the outcomes of schooling.

By failing to build and honor the improvisational repertoires of teachers so they can respond in educative ways to the unique opportunities afforded during interaction with students and curriculum, we chip away at their love of teaching. And we also restrain student growth in creative responding. Neither of these outcomes is desirable for a nation that must compete with its wits, and through its schools, in the knowledge age.

Not the teachers' mastery and love for the curriculum they teach, nor the students' desire (and right) to communicate what they think and feel in each subject, nor the nation's need for a creative citizenry is served if all that is taught is what is needed to answer test items on high-stakes examinations tapping relatively low cognitive levels of knowledge. Of course, in teaching as in any professional practice, there is a necessary balance between structure and creativity. Doctors follow repeatable scripts and protocols throughout much of their day, and health care is improved as a result. That is why there will always be a tension as a teacher enacts the required curriculum. This book reminds us, indeed implores us, to remember that whatever else classrooms have to be, they should also always be places for lively, often spontaneous interactions. This book convincingly argues that spontaneity and improvisation in classrooms may be no less exhilarating, and certainly requires no less skill than improvisation does in jazz, dance, and theater.

In this brief foreword, I've acknowledged the potential value of scripts and routines to improve medical care and aspects of business, and in teaching some parts of the desired curriculum. And yet, I've argued that schools today are excessively reliant on structuring techniques. If we want our students to learn higher-level skills, including creativity and critical thinking, structures and scripts cannot get us there. So are you confused? Wondering what is the best balance between structure, improvisation, and creativity? That is why this book should be widely read and discussed! These chapters speak directly to that confusion: They give us the clarity we need to negotiate the necessary tensions of teaching in an age that must pay more attention to creativity.