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).
Structure and Improvisation in Creative Teaching

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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
Foreword

reflect, and change the course of this giant American company. The man-
gers could not, or would not, respond to changing conditions. The crea-
tivity 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 stan-
dardized, adherence to those same routines can be ineffectual, if not dan-
gerous. 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 teach-
ers do in classrooms. But another reason for this increase in demand for
uniformity and routines in our schools arises from the increasing domi-
nance 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 poli-
cies thought to improve test performance are implemented with greater fer-
vor. 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
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
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.