

The improvisational creativity of expert teachers

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The best teachers are expert improvisers. In this essay, I argue that the improvisation metaphor can help us to better understand the nature of teacher expertise, and can provide us with new approaches to teacher preparation and continuing professional development. I summarize three research traditions that study teacher expertise, and I argue that the improvisation metaphor allows us to bring these three research traditions together into a powerful new conception of teacher expertise.

There is a common misconception that improvisation means anything goes; for example, that jazz musicians simply play from instinct and intuition, without conscious analysis or understanding. In fact, jazz requires a great deal of training, practice, and expertise—it requires many years simply to play at a novice level (Berliner, 1994). Jazz requires of the performer a deep knowledge of complex harmonic structures, and a profound familiarity with the large body of *standards*—pieces that have been played by jazz bands for decades. Standards are typically based on the 32-bar pop song, with four subsections of 8 bars each. Usually one or two of the 8-bar sections is repeated, resulting in song forms such as “*aba*”, a song where the first 8 bars are the same as the second and fourth 8 bars. A standard is outlined on a *lead sheet*, a shorthand version of the song, with only the melody and the chord changes written.

In addition to these shared understandings, most jazz performers also develop their own personal structuring elements. In private rehearsals, they develop *licks*, melodic motifs that can be inserted into a solo for a wide range of different songs. Still, the choice of when to use one of these motifs, and how to weave these fragments with completely original melodic lines, is made on the spot. In group rehearsals, jazz groups often work out ensemble parts that can be played by the entire band at the end of a solo.

Great teaching is like jazz improvisation in that it occurs at the tension between structure and creativity. This is why I have proposed that we think of teaching as *disciplined* improvisation

(Sawyer, 2004). Education researchers have demonstrated that experienced teachers have a greater repertoire of *scripts* than novice teachers—standard sequences of activities, or responses to students, that work in specific situations. But experienced teachers are better at *improvising* in response to each class's unique flow; in fact, they tend to spend less advance time planning than novice teachers (Berliner & Tikunoff, 1976; Borko & Livingston, 1989; Yinger, 1987). Expert teachers use routines and activity structures more than novice teachers; but they are able to invoke and apply these routines in a creative, improvisational fashion (Berliner, 1987; Leinhardt & Greeno, 1986). Several researchers have noted that the most effective classroom interaction balances structure and script with flexibility and improvisation (Borko & Livingston, 1989; Brown & Edelson, 2001; Erickson, 1982; Mehan, 1979; Yinger, 1987).

The challenge facing every teacher and every school is to find the balance of improvisation and structure that will optimize student learning. Great teaching involves many structuring elements, and at the same time requires improvisational brilliance.

Three Research Traditions

Viewing skilled teaching as improvisational extends three existing traditions of scholarship: teaching as performance, teacher expertise, and creativity in teaching. Ultimately, the improvisation metaphor provides a way to combine and extend these three traditions.

Teaching as performance

Beginning in the 1980s, several educators explored the implications of the “teaching as performance” metaphor (McLaren, 1986; Rubin, 1985; Pineau, 1994; Sarason, 1999; Timpson & Tobin, 1982). These scholars noted many obvious similarities between theater and teaching. Teachers stand at the front of the classroom, “on stage,” and they perform for their “audience,” the students. Effective teachers master many skills that actors must also master. If a teacher is entertaining and animated, students will be more attentive. If a teacher speaks clearly and projects the voice, students are more likely to hear and understand. Effective teaching, like theater acting, involves rehearsal, scripting, timing, and stage presence.

One of the first uses of the “teaching as performance” metaphor was to emphasize the artistry of teaching (Barrell, 1991; Dawe, 1984; Eisner, 1979; Hill, 1985; Rubin, 1985). These writers argued that, like improvising stage actors, teachers are artists who operate on intuition and creativity. Barrell (1991) emphasized the improvisational elements of classroom artistry: expert teachers “forego the insistence upon clear-cut behavioral objectives and predictable learning outcomes for the freedom to adjust and to explore new avenues with unpredictable outcomes” (p. 338).

These writers make the important point that good teaching has an undeniably aesthetic dimension. Unfortunately, the problem with many of these “performance artistry” metaphors is that, in their desire to oppose an aesthetic conception of teaching to an instrumental conception, they tend to emphasize what Pineau (1994) called an “instinctive, nebulous” creativity. For example, Hill (1985) argued that artistic teachers are guided by instinct and intuition as they use an “unconscious competence” (p. 184). This conception of teaching neglects the large body of structures that underlie teacher expertise, and makes teaching seem like an innate, intuitive ability that resists analysis.

A second problem with the teaching as performance metaphor is its emphasis on performance as a set of techniques that can enhance instructional communication. This results in two problems. First, it is dangerously close to a view of teaching as a form of public speaking, rather than a view of teaching as the scaffolding of students’ learning improvisations. Second, it leads to a conception of the teacher as a reader of scripts—highly detailed curricula developed by others. Smith (1979) pointed out that “if the acting analogy were carried to its logical extreme, a teacher who took it seriously would never have to understand anything” (p. 33).

I believe we can address these problems, if we shift to the view that teaching is *improvisational* performance. Of course, expert teachers have deep intuition and are talented performers, but their performance is rooted in structures and skills.

Teacher expertise

In the 1970s and 1980s, a distinct and parallel group of researchers began to analyze the knowledge structures that underlie expert teaching. These researchers took an opposite approach from the performance artistry tradition; instead of conceptualizing teaching as an intuitive, inexplicable art, these researchers analyzed expert teachers to better understand exactly what they know that makes them good teachers.

From the 1970s onward, cognitive scientists have been particularly interested in expert performance (e.g., Chi, Glaser, & Farr, 1988; Ericsson, Charness, Feltovich, & Hoffman, 2006). Continuing in this tradition, developing the “knowledge base” of teacher expertise has been the focus of teacher expertise research (see, e.g., Berliner, 1986, 1987; Leinhardt & Greeno, 1986; Shulman, 1987). To take one example, Shavelson (1986) described three types of “schemata” that characterize teacher expertise: scripts (with temporal event sequences), scenes (common classroom events; the relationships in these schemata are spatial), and propositional structures (factual knowledge). In a second example, Leinhardt and Greeno (1986) argued that expertise is based on operational plans they call “agendas” which are specific versions of their schemata. Experts’ cognitive schemata are more elaborate, more complex, more interconnected, and more accessible than those of novices.

Like cognitive science more generally, the focus on teacher expertise tended to emphasize the fixed structures—plans, routines, and scripts—that supported expert performance. And in exchange, this tradition of research on teacher expertise largely downplayed teacher improvisation and decision making in the classroom. For example, Shulman’s (1987) list of the teacher knowledge base did not include improvisational practice (p. 8). The focus on the fixed structures of teacher expertise was valuable, given the tendency in the broader culture to devalue the teaching profession. Shulman (1987) argued that “This emphasis is justified by the resoluteness with which research and policy have so blatantly ignored those aspects of teaching in the past” (p. 13). Berliner (1987) noted that his research argued against granting teaching certificates on the basis of content knowledge alone, because this policy “denies that there is any

sophisticate knowledge base needed for classroom teaching” (p. 77). The research of Shulman, Berliner, and others, showing that teaching depends on a knowledge base of expertise, was used to argue that teaching was not just an art based on intuition.

Yet, the structuralist and cognitivist background of this research had the unintended effect of downplaying the improvisational artistry of teaching—even though these early scholars of teaching expertise realized that fixed cognitive structures had to be implemented in practice, and that this practice would involve some sense of improvisation. Schon’s (1983) concept of *reflective practice* is essentially improvisational—and his notion of what it means to be a “professional” is, essentially, the ability to improvise effectively within structures. Eisner (1979) emphasized the uncertainty of classrooms and the need for teachers to develop an “educational imagination” that would enable them to balance structure and spontaneity. Shulman (1987) noted that the “wisdom of practice” was poorly understood; he said its study should be a “major portion of the research agenda for the next decade” (p. 12).

In the mid and late 1980s, several studies began to analyze improvisational, opportunistic action by teachers in the moment. One of the first studies was of physical education teachers; it found that experienced teachers are more opportunistic than novices; and that experts planned for adaptation twice as often as the novices (Housner & Griffey, 1985). The first scholar to use the term “improvisation” in describing teachers’ classroom practice was Yinger (1987); in this influential article, Yinger explicitly noted the parallels between classroom instruction and live jazz improvisation. Borko and Livingston (1989), building on both the teacher expertise tradition and on Yinger’s improvisational metaphor, were the first to note the improvisational tension in great teaching: expert teachers use more fixed routines and plans, and at the same time are more likely to improvise in practice.

Creative teaching and learning

A third relevant tradition of scholarship is the study of creative teaching and learning. In the 1990s, an important group of scholars in the United Kingdom began to study creative teaching and learning, based on the broader societal recognition that creativity is an important

ability to succeed in the modern world (see the papers collected in Craft, Jeffrey, & Leibling, 2001). First, these scholars emphasized that creativity was not limited to arts classes, but that creativity was important to all subjects, including mathematics and sciences. Second, these scholars argued that creativity was not limited to gifted and talented students, but that creative potential should be nurtured in all students.

These scholars studied two distinct, but related, elements of creativity in education: the creativity of teachers, or “creative teaching,” and the types of learning environments that foster creativity in students, or “teaching for creativity”. Both of these were emphasized in the U.K. NACCCE report (Joubert, 2001; NACCCE, 1999). According to this report, teaching for creativity involves encouraging beliefs and attitudes, motivation and risk taking; persistence; identifying across subjects; and fostering the experiential and experimental. Creative teaching involves using imagination; fashioning processes; pursuing processes; being original; and judging value.

Cremin, Burnard, and Craft (2006) defined creativity as *possibility thinking*, which includes seven habits of mind: posing questions; play; immersion; innovation; risk-taking; being imaginative; self determination. The creativity movement in the U.K. is closely related to a parallel “thinking skills” movement in the U.K., and also to the “twenty-first century skills” movement in the U.S. Twenty-first century skills are thought to include learning and innovation skills (critical thinking and problem solving, creativity and innovation, communication and collaboration); information, media, and technology skills; and life and career skills (flexibility and adaptability, initiative and self direction, social and cross-cultural skills, productivity and accountability, leadership and responsibility) (Partnership for 21st Century Skills, 2007).

Differences between teaching and staged improvisation

The main similarity between staged improvisation and expert teaching is that both are characterized by an unavoidable tension between structure and freedom. But of course, there are many differences between staged improvisation and classroom teaching. An exploration of these

differences can actually help us generate practical recommendations from the improvisation metaphor.

(1) Staged improvisation is only about the process; there is no product that results. In teaching, the improvisation has a desired outcome: the student's learning. This outcome will be assessed. In contrast, staged improvisers do not have the responsibility of causing some mental state change in their audience (beyond some broad hope that the audience will be entertained). The teacher as performer has a more explicitly articulated responsibility to the students: they must learn the required material. Stage improvisers do not have this sort of responsibility.

This leads to a very different balance of structure and improvisation in classrooms than in performance genres like jazz. The balance shifts towards a greater degree of structure, and a lesser degree of improvisation.

The improvisation metaphor suggests that too many classrooms are overly structured and scripted. In these classrooms, the need for teacher creativity is removed altogether—by choosing the extreme of complete structure, predictability, standardization, and regularity. Yet when teachers become skilled at improvisational practice, their students learn more effectively.

(2) The relation between the performer and the audience is different in a classroom. In staged improvisation, the audience does not participate actively in the performance; they are relatively passive. In contrast, decades of research have shown that learning is more effective when students participate actively, and all experienced teachers involve students in some way. A key aspect of good teaching is the teacher knowing exactly what structures, and what degree of structuring, are appropriate at each moment in the classroom's learning trajectory.

The improvisation metaphor suggests a vision of classrooms in which students participate actively, and not just in a rote manner—one in which students are given opportunities to improvisationally construct their own knowledge. And yet, research shows that these classroom improvisations result in more effective learning when they are carefully guided by structures provided by the teacher.

(3) Teachers occupy a position within an elaborated institution, and the structures of the classroom are often developed and then imposed by an administrative structure. In staged improv, in contrast, the structures are the collective and emergent property of the community of performers; they can optionally be adopted or rejected by performers.

The improvisation metaphor suggests a radically different conception: teachers are skilled, creative professionals. Some institutional constraints and structures are necessary, but in too many schools, these structures are overly constraining and prevent creative teaching and learning from occurring.

(4) The students have to be there, whereas a theater audience has chosen to be there. This results in fundamental power and authority differences. In a theater, in some sense the performers and the audience members are peers. Part of the reason that audiences enjoy improv theater is that they identify with the performers, they recognize themselves in the performance. This is less likely to happen in a classroom, due to age, status, and expertise differences.

The improvisation metaphor suggests that creative learning is more likely to occur when the rigid division between teacher and student is relaxed, creating an environment where teacher and students jointly construct the improvisational flow of the classroom.

While remaining cognizant of these very real differences, an exploration of the improvisation metaphor can help teachers to more effectively balance creativity and constraint. If teachers learned a bit about how improvisation works in jazz and theater, they might gain insight into how to balance improvisation and structure. For example, I believe that teachers would benefit if they were taught how to participate in theater improvisations themselves. Most major U.S. cities have at least one improv acting coach, and these coaches are often experienced at working with non-professional actors as a way of helping them develop communication or teamwork skills. Several teacher educators are now using improvisational theater exercises in teacher preparation programs (see the chapters in Sawyer, in press).

The improvisation metaphor leads to a new conception of professional expertise. It's mastery of a corpus of knowledge, ready made, cookbook solutions to standard problems; but in a special way that supports improvisational practice. Teachers are talented improvisers—balancing the structures of curricula and their own plans and routines, with the constant need to improvisationally apply those structures. And they create improvisational learning experiences for their students, by implementing scaffolds that are appropriate to both the content knowledge and to the students' current level of understanding.

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References

- Barrell, B. (1991). Classroom artistry. *The Educational Forum*, 55, 333-342.
- Berliner, D. C. (1986). In pursuit of the expert pedagogue. *Educational Researcher*, 15(7), 5-13.
- Berliner, D. C. (1987). Ways of thinking about students and classrooms by more and less experienced teachers. In J. Calderhead (Ed.), *Exploring teachers' thinking* (pp. 60-83). London: Cassell Education Limited.
- Berliner, D. C., & Tikunoff, W. J. (1976). The California beginning teacher study. *Journal of Teacher Education*, 27(1), 24-30.
- Berliner, P. (1994). *Thinking in jazz: The infinite art of improvisation*. Chicago: University of Chicago Press.
- Borko, H., & Livingston, C. (1989). Cognition and improvisation: Differences in mathematics instruction by expert and novice teachers. *American Educational Research Journal*, 26(4), 473-498.
- Brown, M., & Edelson, D. C. (2001, April). *Teaching by design: Curriculum design as a lens on instructional practice*. Paper presented at the Annual meeting of the American Educational Research Association, Seattle, WA.

Chi, M. T. H., Glaser, R., & Farr, M. J. (1988). *The nature of expertise*. Hillsdale, NJ: Erlbaum.

Craft, A., Jeffrey, B., & Leibling, M. (Eds.). (2001). *Creativity in education*. London: Continuum.

Cremin, T., Burnard, P., & Craft, A. (2006). Pedagogy and possibility thinking in the early years. *Thinking Skills and Creativity, 1*, 108-119.

Dawe, H. A. (1984). Teaching: A performing art. *Phi Delta Kappan*, 548-552.

Eisner, E. W. (1979). *The educational imagination: On the design and evaluation of school programs*. New York: Macmillan.

Erickson, F. (1982). Classroom discourse as improvisation: Relationships between academic task structure and social participation structure in lessons. In L. C. Wilkinson (Ed.), *Communicating in the classroom* (pp. 153-181). New York: Academic Press.

Ericsson, K. A., Charness, N., Feltovich, P. J., & Hoffman, R. R. (Eds.). (2006). *The Cambridge handbook of expertise and expert performance*. New York: Cambridge University Press.

Hill, J. C. (1985). The teacher as artist: A case for peripheral supervision. *The Educational Forum, 49*(2), 183-187.

Housner, L. D., & Griffey, D. C. (1985). Teacher cognition: Differences in planning and interactive decision making between experienced and inexperienced teachers. *Research Quarterly for Exercise and Sport, 56*(1), 45-53.

Joubert, M. M. (2001). The art of creative teaching: NACCCE and beyond. In A. Craft, B. Jeffrey & M. Leibling (Eds.), *Creativity in education* (pp. 17-34). London: Continuum.

Leinhardt, G., & Greeno, J. G. (1986). The cognitive skill of teaching. *Journal of Educational Psychology, 78*(2), 75-95.

McLaren, P. (1986). *Schooling as a ritual performance: Towards a political economy of educational symbols and gestures*. London: Routledge & Kegan Paul.

Mehan, H. (1979). *Learning lessons*. Cambridge: Harvard.

- National Advisory Committee on Creative and Cultural Education (NACCCE). (1999). *All our futures: Creativity, culture and education*. London, UK: DFEE.
- Partnership for 21st Century Skills. (2007). *The intellectual and policy foundations of the 21st century skills framework*. Tucson, AZ: Partnership for 21st Century Skills.
- Pineau, E. L. (1994). Teaching is performance: Reconceptualizing a problematic metaphor. *American Educational Research Journal*, 31(1), 3-25.
- Rubin, L. J. (1985). *Artistry in teaching*. New York: Random House.
- Sarason, S. B. (1999). *Teaching as a performing art*. New York: Teachers College Press.
- Sawyer, R. K. (2004). Creative teaching: Collaborative discussion as disciplined improvisation. *Educational Researcher*, 33(2), 12-20.
- Schön, D. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Shavelson, R. J. (1986, June). *Interactive decision making: Some thoughts on teacher cognition*. Invited address, I Congreso Internacional, "Pensamientos de los Profesores y Toma de Decisiones," Seville, Spain.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-22.
- Smith, R. A. (1979). Is teaching really a performing art? *Contemporary Education*, 51(1), 31-35.
- Timpson, W. M., & Tobin, D. N. (1982). *Teaching as performing: A guide to energizing your public presentation*. Englewood Cliffs, NJ: Prentice-Hall.
- Yinger, R. J. (1987, April). *By the seat of your pants: An inquiry into improvisation and teaching*. Paper presented at the Annual Meeting of the American Educational Research Association, Washington, DC.