

Innovative Instruction: Cooperative Debate as Regimented Improvisation

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Abstract

There are numerous ways in which improvisation has proved beneficial to music and art. Not only does it enhance the artist's experience, the audience also benefits from the virtues of spontaneity. But what about pedagogy? Does this creative, performative skill not require some form of extemporization? My research will show that improvisation is not only absent from today's classrooms, but it is essential to the growth and development of students in all areas of academia. However, since scripted learning does also have its own benefits, I arrive at the conclusion that improvisation is best suited for the academy in a disciplined, regimented form, allowing the students to improvise freely in a controlled setting within the limits of the class session. Seeing schooling as improvisation highlights the two-way and developing character of successful classroom procedure, makes comprehending how syllabus material relates to classroom procedure easier, and displays why teaching in itself is a creative ability.

Introduction

The process of teaching students at various levels throughout academia has habitually been considered an imaginative and creative routine. Though links to performance were initially proposed to highlight instructor originality, they have turned out to be linked instead to modern improvement endeavors headed for scripted education that stifle the creative talent of teachers. Prepared, scripted teaching is highly resistant to constructivist, inquest-based, and dialogic education methods that stress classroom cooperation. To offer insight into these systems, the "instruction as an improvisational performance" allegory described by creative writing professor Shady Cosgrove in his article "Teaching and Learning as Improvisational Performance in the Creative Writing Classroom" in the *Journal of Pedagogy* (*Pedagogy* - Volume 5, Issue 3, 2005, 471-479) must be customized: Education is improvisational performance. Envisioning schooling as improvisation emphasizes the cooperative and evolving character of successful classroom procedure, facilitates comprehending how syllabus material relates to classroom procedure, and demonstrates why educating is a resourceful art.

The Shortcomings of Current Educational Systems

While the instructor-proof educational developments of the post-World War II era have been considered a letdown for some time, novel editions of instructor proofing have acquired supporters into the new millennium, as rising numbers of academic institutions continue to employ written curricula that mold instructors into document readers. These programs frequently supply word-for-word documents that professors are strongly

advised to follow, and encompass Robert E. Slavin and Nancy A. Madden's "Success for All" (2001), Kurt Engelmann's "Direct Instruction" (1980), and Eric Donald Hirsch's "Core Knowledge" (1987). Written instruction is predominantly popular in inner-city districts; for instance, starting in 1997 the New York City Board of Education authorized "Success for All" reading instruction in poorly performing academic institutions (Goodnough 21). Written instructor-proof programs depend neither on educators' innovative potential nor their knowledge of the topic; the point of these curricula appears to be that if one can execute well from a scripted document, one can teach. However, critics of such curricula stress that the most valuable instructors use colossal creativity and insightful knowledge of content to do their jobs, both during preparation and from time to time while teaching in class. For instance, Kathy Simon's "Coalition for Essential Schools" (Simon 1999) has condemned prepared teaching, arguing that successful instruction demands of teachers to identify with their students and react to them separately. Despite the fact that scripted methodologies have resulted in improvements in exam grades, critics dispute that scripted teaching highlights lower order dexterities that are principally simple to gauge with standardized exams. Supporters of creative instruction argue that "[it] leads to more insightful comprehension among students, a way of learning that is harder to assess in a quantitative fashion" (Bereiter 22). Therefore, underachieving schools are faced with two extremely dissimilar revelations for improvement. Scripted teaching methods try to teacher-proof the program by firmly denoting instructor actions, and fundamentally eliminating all creativity and qualified decision-making from the class. Inventive instruction proposes an extremely special idea: instructors are well-informed and skilled experts, and are given creative sovereignty in their classes.

The economy in our nation is progressively more based on data workers and on a "creative class," and these trends in our economy look as if they necessitate creative instruction that stresses learning for more insightful comprehension, instead of perfecting lower-order specifics and talents (Bereiter 20). Prepared instruction is compatible with a long custom of associating education with performance. A supporter of "direct instruction" said, "It's like actors in a play; we don't ask the actor to write the play, but he interprets the play and presents it" (Viadero 189). The vast majority of prepared teaching is unmistakably performative: instructors stand "on stage" before a student

“audience”; the talks and peer interactions are “scripts” for the presentation; educators must “rehearse” their performances; and the instructor/performer should work hard in order to grasp the concentration of the spectators, with punctuality, presence on stage, good timing, and fervor. "The education as performance allegory pushes professors to view themselves as performers on stage, acting out a routine for their students" (Timpson & Tobin 98). This image highlights significant talents for instructors, namely timing, arrangement, delivery, tone, motion, and punctuality. Yet the image of education as performance is challenging, since it suggests a single recitalist reading from a document, with the students as the inert, submissive sideline spectators. These uses of the presentation image shrink teaching to an idiosyncratic concentration on the instructor as a performer or actor. Similar to scripted teaching, the presentation image proposes that an effectual actor could be an exceptional instructor even devoid of comprehending anything. This extreme is embodied by the renowned “Dr. Fox” speech, during which learners gave superior ratings to a skilled actor who "devotedly delivered a talk, although the speech contained deliberately pointless material—inspiring and impressive phrases and terminology pieced together from magazine articles" (Naftulin, Ware, & Donnelly 73).

In this paper I dispute that creative instruction is better perceived as improvisational presentation. Envisioning instruction as improvisation underscores the communicational and reactive originality of an instructor functioning mutually with a distinctive set of students. Specifically, valuable classroom debate is inventive and improvisational, as the course of the classroom discussion is capricious and transpires from the engagement of all contributors, both instructors and apprentices. Numerous reports have established that as instructors gain experience, they extemporize more (Borko & Livingston 89; Moore 43). For instance, Robert Yinger depicted a brilliant mathematics instructor who did not prepare ahead much at all, since every single day’s lecture and class answered to his pupils’ performance on the previous day in an improvisational way.

A New Allegory: Instruction As Improvisation

Creative education is regimented improvisation since it transpires within expansive formations and agendas. Professional teachers utilize schedules and activity arrangements more than greenhorn educators; however, "they are capable of invoking and applying these arrangements in an inventive, improvisational style" (Berliner 19). Numerous

researchers have documented that the most efficient interaction in academia maintains organization and writing in equilibrium with suppleness and inventiveness (Borko & Livingston 98; Simon 55; Yinger 37). I employ the improvisation allegory to attend to two troubles pertaining to previous employments of the presentation metaphor. First, prior presentation metaphors are inclined to suggesting an overly scripted and premeditated perception, with the instructor teaching from a draft—the lecture preparation or talk. Next, "they propose an emphasis on the educator rather than a cooperative emphasis on the whole class" (Smith 33). Both of these issues are challenging, knowing that countless modern pedagogical methods highlight the significance of the dynamic contribution of students—with inquest-based education, constructivism, assignment-based education, and cooperative learning. The National Research Council's (1996) *National Science Education* draws on these tactics in stressing conciliation and cooperation in examination. For instance, in classes stimulated by communal constructivism, kids work jointly to together build their own database of facts and information—as we see in neo-Piagetian styles (Perret-Clermont 80) and in Vygotskian methods (Palincsar 198). Professors who cling to productive values are the ones most probable to be disapproving of premeditated instruction; and backers of scripted teaching are frequently hypercritical of constructivist speculation and application. In proper debate, the theme and the course of the session materialize from instructor and students collectively; the product is capricious, just as in music and on-stage improvisations. The improvisation allegory proposes a novel perception on how program configurations have much to do with classroom performance.

In improvisational performance, an assembly of performers produces a presentation without resorting to the use of a written draft or script. Certain parties focus on diminutive presentations simply a few minutes long, and others concentrate on completely unprepared recitals of an hour or more. These presentations surface from an erratic and unwritten exchange of ideas, live and before an assembly of spectators and/or listeners. Similarly, an efficient class debate surfaces from classroom discussion, and is not written by the lecture arrangement or by the instructor's predetermined program. In an analysis of extemporized theater dialogues, R. Keith Sawyer (2003) referred to this sort of dialogue as collaborative emergence. Both class dialogue and theater improvisations are emergent since the result cannot be foretold beforehand, and they are

collaborative since no sole contributor can direct what materializes; the result is jointly decided by each and every member.

Improvisation in Classroom Conversation

When it comes to improvisation in class debates, the fundamental perception of constructivism is that scholarship is an innovative and improvisational practice. Modern effort that stretches constructivist supposition to student teamwork envisions education as co-creation. Socio-cultural research has established the significance of social interface in groups, and has revealed that a micro-genetic concentration on extemporized communicational procedure can expose numerous insights into how education occurs. A vital topic in the socio-cultural ritual is the concentration on the collective entity before the solo self. Socio-culturalists examine the complete group as their component of investigation; cognition is “an aspect of human socio-cultural activity” instead of “a property of individuals” (Rogoff 68). Consequently, these intellectuals inspect how units cooperatively gain knowledge and build up information; in Kenneth Rogoff’s language, erudition is re-conceptualized as a “transformation of participation in socio-cultural activity” (687). Socio-culturalists embrace that units can be assumed to “learn” as groups, and that information can be an ownership or possession of a set of individuals, not simply of the individual contributors within the assembly (Rogoff 698). For instance, Edwin Hutchins (1995) acknowledged measures taken by a crew of a vessel to get into a marina, but with a wrecked navigational system that required the collective improvisation of the team. A record of their communications revealed that no single team member comprehended the entire arrangement that they had improvised or precisely why it was working at the time; therefore, the gang’s answer to the predicament they jointly faced materialized from group improvisation, and this surfacing solution could be considered a type of communal education.

In socio-cultural and societal constructivist conjecture, successful instruction ought to be improvisational, since if the class work is previously written and dictated by the educator, the students cannot collaboratively piece together their own bits of data (Erickson 282; Rogoff 568; Sawyer 27). As Frederick Erickson documented, “talk among teachers and students in lessons [...] can be seen as the collective improvisation of meaning and social organization from moment to moment” (153). Such discussion is open-ended, is not previously composed, and represents “[...] a communication among

colleagues, where each contributor can participate evenly to form the course of the interface" (Cazden 201). Classes are less improvisational when the educator dictates the course of the session, sternly regulating when learners can speak and how much of an influence their ideas or thoughts may have on the course of the lecture (akin to the case in the initiation-response-evaluation sequences studied by UCSD Professor of Sociology Hugh Mehan in his book entitled "Learning Leassons" in 1979). Courtney Cazden (2001) related this second category of classroom discussion to the conventional classroom, to distinguish it from the additionally improvisational, two-way class sessions tied to constructivist and inquest-based systems.

The socio-cultural viewpoint entails that the whole classroom is extemporizing mutually; and this perspective maintains that the greatest, most efficient and most helpful learning occurs when the class session ensues in an original, improvisational approach, as kids are permitted to test, combine forces, and contribute to the reciprocal assembly of their personal body of information. "During improvisational education, scholarship is a collective public activity, communally controlled by every participant, not simply the instructor" (Baker-Sennett & Matusov 204). During the session's improvisation, the professor gets a dialogue going with the students, providing each the liberty to imaginatively build their individual set of data, whilst supplying the necessary essentials of organization that successfully scaffold that collaborative course of action.

In order to craft a classroom that supports more improvisation, the professor should have an adequately high quantity of pedagogical content knowledge—to react productively and originally to unanticipated student questions, an instructor ought to possess a more insightful comprehension of the information than when the professor is plainly delivering a premeditated speech or lecture (Shulman 77). An unanticipated student question frequently forces the instructor to reflect rapidly and resourcefully, calling upon and retrieving facts that might not have been considered the previous evening while preparing for this specific class; and it compels instructors to promptly and, by way of improvisation, be capable of translating their own familiarity to the issue into a figure that will speak to that individual apprentice's degree of comprehension. Besides the topic of pedagogical content knowledge, it is not as broadly acknowledged that classroom cooperation commands the educator to competently handle collaborative improvisation. Improvisational talent is necessary in order to properly direct the

contributory facets of collective communication—taking turns, measuring and sequencing turns, evaluating the roles of participants and relationships, and measuring concurrence of both contribution and the degree of freedom of members to speak. It proves compulsory at the pedagogical material level as well—to detect and interpret links among peers and connections to the information. A superior comprehension of improvisational presentation is capable of helping us apprehend the creative and original methods that are related directly to collaborative education.

Improvisational Colleague Cooperation

Other than lecture sessions, IRE presentations, and introverted effort put on working out problems, several instructors utilize the method of grouping individuals, where an assembly of two to five classmates is positioned in a circular, interactive setting and assigned a problem to decipher together. In numerous situations, the group's members are given grades based on the presentation of the whole group in addition to each member's individual routine, granting them motivation to add to the students' overall knowledge. "Social constructivists think these classroom collaborations are useful since they offer a chance for the emergence of collaborative improvisation that brings about greater understanding" (Palincsar 398). In Baker-Sennett and Matusov's (1997) account of elementary students' joint production of a play, they became conscious of the fact that when students' groups were managed by students, with no adult supervising nearby, the children regularly and instinctively improvised, forming their strategies on the fly by testing original ideas for procedures or discussion. Whenever an appealing plan materialized from improvisation, these elementary students acknowledged it and subsequently moved to a more inclusive, meta-communicative stage to discover how to incorporate the recently developing proposal into their budding joint creation. Nevertheless, once grownups contributed to the play-crafting gathering, the children never participated in the improvisational preparation and explanation. "Rather, they usually offered their convenient play scripts and drafts to their students, who then merely carried out the grownup's screenplay" (Baker-Sennett & Matusov 201–203). Studies of this fashion propose that students "impulsively improvise collectively," but that it is not easy for instructors to discover how to run a joint improvisation in the classroom (Sawyer 34).

Regimented improvisation concedes the call for a program of study—there has to be some sort of organization to the class's routine. "Even supple, resourceful instructors have procedures and objectives for each period, and they create material for students that is set within a pedagogical structure" (Simon 95). Regimented improvisation offers us a means to conceptualize innovative educating within course syllabus-like configurations. The improvisation image or metaphor lets us ask more complicated questions; instead of simply "score or no score?" the metaphor directs us toward asking questions such as: What types of guideline formations are suitable in what sorts of situations and matters? How might instructors be trained to improvise successfully within configurations, when must educators stick with the script, and when must they extemporize resourcefully?

Regimented improvisation proves to be "a dynamic process involving a combination of planning and improvisation" (Brown & Edelson 4). Frederick Erickson's (1982) study of creative and improvisational discourse in the classroom exposed that two-way talks are halfway between casual and the severe spontaneity of daily small talk. As Erickson puts it, sessions are "structured conversations," during which discourse is principally improvisational, yet surrounded by overall assignment and contribution structures. Robert J. Yinger (1987) also said that "communicative instructing is best envisioned as composition-improvisation united" (36). During disciplined or regimented improvisation, professors narrowly improvise within a general overall arrangement. Expert theatrical improvisation always transpires within some organization. Jazz bands extemporize using the structure of a recognizable song; improvisational theater ensembles utilize extensive outlines to help present their lengthy improvisations with a general plot arrangement. "Besides these wide general formations, improvisation is successful since all contributors have internalized several collective conventions" (Sawyer 21). Improvisation groups have advanced a broad selection of structures to support their jointly evolving performances. The significant medieval routines performed by the *commedia dell'arte* were extemporizations within a general scheme structure identified as a scenario. The conversation was not written down in advance; no documents have ever been recovered. On the other hand, various pieces were scripted and have been upheld; these detail the succession of scenes, which actors are to appear in each act, what occurs in that act and how it connects to the general course of the plot. In contemporary theater, general structures are fairly frequent in long-form improvisation, when groups carry out a

completely extemporized, approximately hour-long play. Though discourse and characters are not established in advance, the performers commonly select an overall agenda for the plot arrangement.

The Structures of Regimented Improvisation

The improvisation allegory suggests an overall outline within which prepared, rehearsed instructing and teaching for more insightful understanding can be acquiescent. Even when instructors are sticking to a rather rigid course outline, there is constantly some lingering requisite to improvise answers to students' questions in the classroom. Hugh Mehan (1979) discovered that even when instructors pursued conventionalized schedules in class they naturally and subconsciously improvised alternatives to the schedule in response to the exclusive demands of each unique class. When a student's reply is unforeseen, the professor must improvise in a manner that responds to the question and subsequently return to their own outline for the class. When instructors arrange collaborating sets of students, they encounter a tension well-known to improvising groups: between the requirement for pre-existing organization and the requirement to leave suppleness for collective surfacing to take place. Studies have shown that the most successful cooperating groups are the ones that are partly prearranged, in cautious ways, by the instructor (Azmitia 96). Largely successful collaborations entail some construction, but not much, and are of a nature that proves fitting to the mission of learning (Palincsar 299). For instance, the professor may constrict the group effort by teaching students within detailed conversational strategies or compelling them to pursue a specific series of actions; or "the professor may allot precise purposeful roles, like that of "facilitator," to single students" (Cohen 17–22). "Should teachers do nothing to develop a cooperative set of students, the students may promptly become uneasy as they grow to be beset by the challenges of the chore" (Azmitia 139). However, if the teamwork is excessively structured, the apprentices are barred from co-constructing their individual knowledge, therefore barring the advantages that collaboration was planned to achieve. Regimented improvisation appears to be most appropriate for formless tasks with no explicit measures or responses, when efficient communication banks on "a mutual exchange process in which ideas, hypotheses, strategies, and speculations are shared" (Cohen 4).

Educators must handle the balance involving composition and improvisation in a different way than a music or theater assembly. Instructors cannot afford to fall short for long since students' education is at stake; teachers will perhaps always be required to have more structural organization than improvisational performances. Academics concerned with education have put forth an assortment of terms for the formations utilized during regimented improvisation: pedagogical outlines, scaffolds, activity layouts, interactional practices. "Assessments of improvisational theater games and layouts could assist us to better comprehend the association among syllabus structures, class processes, and scholarship" (Sawyer 13). "The most valuable instructors are those that can successfully utilize a vast variety of degrees of organization, balancing drafts, support methods, and activity layouts that the subject matter and the students alike seem to need" (Borko & Livingston 83). These balanced answers in themselves are improvisational replies to the exceptional needs of that class. When instructors partake in course development, they take part in the formation of these guiding bodies. Due to the instructor's dynamic involvement, the structures that are produced as a result are more likely to lend themselves to restricted or regimented improvisation. During original approaches, like that of Lehrer and Schauble's web of inquiry in their Modeling in Mathematics and Science study, "course development is a highly creative process of improvisation, led by the instructor in cooperative reaction to the students" (Lehrer & Schauble 42). "Instead of being mere performers of curricula, instructors become innovative creators and engineers of curricula" (Brown & Edelson 159). Academic instruction has always involved the creative positioning of programs of study within the sited performance of a given class. The course program is a cultural apparatus, and similar to all tools of such nature, it incorporates limitations and affordances that constantly permit creative improvisation in their utilization. However, "we must better comprehend the connection between curriculum and classroom productivity" (Brown & Edelson 107). Analyzing how extemporization occurs within the structures of presentation can help us better posit this connection between academic curricula and student performance.

Conclusion

Innovative instruction is improvisational, and class discussions that encourage participation develop their value from their improvisational, two-way environment.

Didactic investigation on cooperating sets of students has begun to highlight the characteristics that they have in common with extemporizing groups: their communicational dynamics, their reciprocal nature, and the fact that successful education stems from student actions and interactions, entailing an alteration in focal point from the psychological examination of individual contributors to a joint, group stage of examination. These edification investigators have exposed that the benefits of teamwork accumulate from the intricate procedures of improvisation in-group settings.

The improvisation allegory incorporates and coalesces numerous general current descriptions of instruction, like that of the instructor as a performer, the instructor as a decision maker, and the instructor as a facilitator. Improvisational education entails invariable decision making as schedules and activity configurations are customized spontaneously to suit specific student requirements. And extemporization in education calls for an instructor who can smooth the progress of prearranged debate among peers in the classroom. Once we recognize that innovative education is improvisational, we distinguish that professors are inspired experts, calling not only on pedagogical content understanding but also on imaginative presentation skills—the aptitude to successfully ease into a collective extemporization with students.

Resourceful instruction proposes a very disparate image—instructors are well-informed and skilled experts and are given creative sovereignty to extemporize in their lectures. Individuals usually decide to become professors with this image in mind. Inventive instruction creates more insightful understanding among apprentices, a type of scholarship that is harder to quantitatively evaluate; however, meticulous pragmatic studies of the conversational procedures of cooperative discussion have the capacity to record these benefits. Putting creative instruction into practice will necessitate staid, long-standing investment in expert development and expansion for instructors and administrators, and fundamental advancements in pre-service instructor education. However, this inventive form of teaching has the potential to produce more intelligent, more motivated, and more efficient educators, and to result in students with more insightful comprehension and superior, quick-witted, and communal expertise.

The instruction as improvisational performance allegory must be extended to distinguish the joint and evolving character of analytical classroom debate. Otherwise, the image could become just another variety of prepared teaching, refusing instructors the

imaginative freedom that the allegory was originally planned to stir up. Improvisation is a genus of staged presentation, but one in which cooperation among performers is essential. In staged extemporization, a scene surfaces from the mutual discussion among the actors. Likewise, in two-way classroom lectures, new information and insights materialize from investigative debate among students. Learners and educators are mutually creative, and peers learn how to contribute in joint innovative assemblies, an indispensable dexterity in the data economy. The numerous parallels propose that the improvisation allegory can assist us in understanding the vital function of creativity in educating and learning.

Bibliography

- Azmitia, M. (1996). Peer interactive minds: Developmental, theoretical, and methodological issues. In P. B. Baltes & U. M. Staudinger (Eds.), *Interactive minds: Life-span perspectives on the social foundation of cognition* (pp. 133–162). New York: Cambridge.
- Baker-Sennett, J., & Matusov, E. (1997). School “performance”: Improvisational processes in development and education. In R. K. Bereiter, C. (2002). *Education and mind in the knowledge age*. Mahwah, NJ: Erlbaum.
- 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.
- Cazden, C. B. (2001). *Classroom discourse: The language of teaching and learning* (2nd ed.). Portsmouth, NH: Heinemann.
- Center for Artistry in Teaching. (2001). Workshop in the art of teaching 2000–2001, program results. Center for Artistry in Teaching. Retrieved March 14, 2011, from <http://www.artistryinteaching.org/wat00-01results.pdf>
- Cohen, E. G. (1994). Restructuring the classroom: Conditions for productive small groups. *Review of Educational Research*, 64(1), 1–35.
- Cosgrove, S. (2005). *Teaching and Learning as Improvisational Performance in the Creative Writing Classroom Pedagogy - Volume 5, Issue 3*, 471–479. Duke University Press.
- Engelmann, S. (1980). *Direct instruction*. Englewood Cliffs, NJ: Educational Technology Publications.

- 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.
- Wertsch, J.V. (Ed.), *Culture, communication, and cognition: Vygotskian perspectives* (pp. 323–347). New York: Cambridge University Press.
- Goodnough, A. (2001, May 23). Teaching by the book, no asides allowed. *New York Times*, pp. A1, B7.
- Goodnough, A. (2003, January 19). Fearing a class system in the classroom: A strict curriculum, but only for failing schools, mostly in poor areas of New York. *New York Times*, pp. A25, A27.
- Hirsch, E. D. (1987). *Cultural Literacy: What every American needs to know*. New York: Vintage Books.
- Hirsch, E. D. (1996). *The schools we need and why we don't have them*. New York: Doubleday.
- Hutchins, E. (1995). *Cognition in the wild*. Cambridge, MA: MIT Press.
- Lehrer, R., & Schauble, L. (2000). Modeling in mathematics and science. In R. Glaser (Ed.), *Educational design and cognitive science* (pp. 101–159). Mahwah, NJ: Erlbaum.
- Mehan, H. (1979). *Learning lessons*. Cambridge, MA: Harvard.
- Moore, M. T. (1993). Implications of problem finding on teaching and learning. In S. G. Isaksen, M. C. Murdock, R. L. Firestien, & D. J. Naftulin, D. H., Ware, J. E., & Donnelly, F. A. (1973). *The Doctor Fox lecture: A paradigm of educational seduction*. *Journal of Medical Education*, 48, 630–635.
- National Research Council. (1996). *National science education standards*. Washington, DC: National Academy Press.
- Palincsar, A. S. (1998). Social constructivist perspectives on teaching and learning. In J. T. Spence, J. M. Darley, & D. J. Foss (Eds.), *Annual Review of Psychology* (Vol. 49, pp. 345–375). Palo Alto, CA: Annual Reviews.
- Perret-Clermont, A. N. (1980). *Social interaction and cognitive development in children*. New York: Academic Press.
- Rogoff, B. (1998). Cognition as a collaborative process. In D. Kuhn & Sawyer, R. K. (1997a, March). *Learning how to improvise*. Paper presented at The Annual Meeting of the American Educational Research Association, Chicago, IL.

- Sawyer, R. K. (1997). *Pretend play as improvisation: Conversation in the preschool classroom*. Mahwah, NJ: Erlbaum.
- Sawyer, R. K. (2001). *Creating conversations: Improvisation in everyday discourse*. Cresskill, NJ: Hampton Press.
- Sawyer, R. K. (2003). *Improvised dialogues: Emergence and creativity in conversation*. Westport, CT: Greenwood.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1–22.
- Simon, K. (1999, updated June 7, 2002). Four essential elements of school design. Coalition for Essential Schools. Retrieved March 12, 2011, from http://www.essentialschools.org/cs/resources/view/ces_res/1
- Simon, M. A. (1995). Reconstructing mathematics pedagogy from a constructivist perspective. *Journal for Research in Mathematics Education*, 26(2), 114–145.
- Slavin, R. E., & Madden, N. A. (Eds.). (2001). *Success for all: Research and reform in elementary education*. Mahwah, NJ: Erlbaum.
- 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.
- Viadero, D. (1999). Scripting success. *Teacher Magazine*, 11, 20–22.
- Webb, N. M., & Palincsar, A. S. (1996). Group processes in the classroom. In D. C. Berliner &
- 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.