Innovation, Research, and Policy: Evolutions in Classroom Teaching

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“Cutting the deficit by gutting our investments in innovation and education is like lightening an overloaded airplane by removing its engine. It may make you feel like you’re flying high at first, but it won’t take long before you feel the impact.”

(Barack Obama, State of the Union Address, 2011)

What is innovation? In the short term, it is the process through which new ideas are generated and put into productive practice—“new” meaning new to this situation or this location or this community. In this sense, innovation can involve developing a new tool or a new use for an existing tool or a new solution to a problem. Innovation often occurs at a local level, within the tools, materials, and expertise available in the local context. People innovate by modifying existing practice or tools, with each innovation creating a new context that makes previously unimaginable innovations possible. In this article, we describe a) how innovation occurs through small-scale “tinkering”; b) the conditions for innovation; c) methods for distributing and developing innovation; d) the complex relationship between policy and innovation; e) how to evaluate the consequences of innovation; and (f) how to develop capacity for innovation.

Innovation Occurs through Small-Scale Tinkering

Katie Wood Ray and Lisa Cleaveland (2004) developed a powerful innovation when they shifted their attention from teaching kindergarten children to write to inviting them to make books. The innovation began when Katie watched two students in Lisa’s class making a series of books featuring themselves as characters. Recognizing that rather than writing per se, the girls were making books, with all the identity and intentionality that implied, these educators took the concept and ran with it. Their practice involved introducing a bunch of children’s books as interesting and engaging items that people make, encouraging the children to think of themselves as just the sort of people who make books, and then inviting them to make some.

Shifting from “writing” to “making books” is a small innovation, but once implemented, it changes enormously the learning possibilities and what will make sense in terms of teaching decisions. It changes the teaching focus to composition, including both why and how children write and how they engage as writers. A few years later, Katie and colleague Matt Glover (2008) implemented this innovation in a preschool and found the same powerful engagement in which children viewed themselves as authors and illustrators. When children enter classrooms already possessing these identities, intentions, and competencies, kindergarten and first-grade teachers can contemplate innovations that were previously unimaginable. This sequence of innovations creates an evolutionary shift in literacy teaching.

Indeed, in his book Where Good Ideas Come From: A Natural History of Innovation, Steven Johnson (2010) links innovation with evolution. He personifies evolution as a “tinkerer” rather than as an engineer. The idea is that innovation starts with what is available (ideas, tools, practices, materials) and moves them to the “adjacent possible.” To explain the “adjacent possible,” he uses the metaphor of a house. You go through one door into a room, and that room offers a new set of doors into rooms that were not accessible from the first room. In other words, although innovation is made up of innovative ideas or events, it is better viewed in
the long term as evolution. Innovation, like evolution, does not normally begin with a “big vision,” but rather with a succession of small realizations—a continuous process of local transformation and knowledge building over time.

Ivey and Johnston (2013) provided one example when they conducted a study with four eighth-grade English teachers who believed that many of their students were not engaged in literacy, especially reading books. The teachers decided to focus their efforts solely on solving the engagement problem. Using research on the importance of choice and relevance as well as their own collaborative ideas, they stopped assigning books for their students to read. Instead, they introduced the students to a wide array of edgy and personally relevant young adult fiction they could choose to read with no strings attached (no book reports, comprehension questions, etc.), and they provided only one to three copies of any particular book. Their plan was simply to improve engagement.

The result was something much more powerful. Not only did the students become more engaged, they became personally involved with the characters, and then with each other since they had to talk about the unsettling decisions, dilemmas, and feelings of the characters. They had to know what their classmates thought. Because only a few copies were available for any given book, these conversations could only occur when students either persuaded someone to read the book, kept track of who was reading the book and talked to them, or participated in conversations about books with shared themes. This often involved talking with students outside of their regular “clique” (cheerleader, skater, jock, Goth) or social group. Thus, students wound up chatting with peers with whom they otherwise appeared to have nothing in common.

This process transformed the relational properties of the classroom communities, increasing the level of trust, sense of belonging, and positive relationships, along with tolerance for and interest in difference (Ivey & Johnston, 2013). It also transformed the students, increasing their academic, social, and moral agency, their self-regulation, and (though least interesting) their test scores.

Not incidentally, this process also transformed the teachers as they got to know their students better and to understand how literacy engagement might be possible. Ultimately, it energized the teachers by increasing their own engagement and sense of agency. Students moved the innovation forward, demanding that silent reading become not silent so that they could talk about the books inside and outside of the classroom, further transforming social and academic life. These transformations were not part of the original “vision” because initially they could not easily have been imagined. Once they had occurred, however, engagement alone became an insufficient goal (Johnston & Ivey, 2012). The game had been changed; new rules applied. Innovations previously impossible to imagine became the adjacent possible.

This is how teaching evolves—primarily through local tinkering (not engineering) and through steady shifts into the adjacent possible.

Conditions for Innovation

Innovations happen more frequently in some circumstances than in others. In the world of industry, where the rule is innovate or die, considerable energy is committed to examining the conditions that produce or inhibit innovation. Innovation is fostered by contexts that favor “serendipitous collisions” among situations, hunches (particularly “slow hunches” that develop over long periods), and adaptations from different domains (Johnson, 2010). These contexts are “open platforms” that invite difference and collaborative tinkering. This is just as true in education as in industry. Indeed,
arguments for charter schools often invoke the need for relaxed constraints in order to allow innovation.

The sparks that stimulate innovation in schools are diverse. Sometimes innovation occurs because circumstances make business as usual unthinkable. For example, when Hurricane Irene bore down on upstate New York and Vermont in 2011, it triggered flooding and damage to roads, homes, libraries, and schools in small rural communities. In the Gilboa-Conesville school district, educators started a chain of innovations when they encouraged the children and young adults to express their experiences and feelings about the traumatic events through artwork. They added written narratives and poems to further describe their experiences. These educators transformed this artwork and writing into a published book titled *The Eyes of the Storm: Hurricane Irene in Images and Words* (Rogers & Kliza, 2012), then further engaged the students in the world of artists and writers via art exhibits, book readings, and book signings (Eklund, 2012). These educators recognized an adverse situation as an opportunity to focus on the needs of students and instruction leading not only to learning, but to healing.

Innovations also happen when people recognize the opportunities presented by new tools and technology. The Vail school district in Arizona has abandoned publishers’ textbooks and moved to collecting and curating its own set of digital media and sharing it with other interested school districts (Davis, 2013). The Vail superintendent points out that this means they are no longer beholden to, or constrained by, big textbook companies. The district did not need policy to liberate itself from the textbook companies and open new possibilities for teaching. At the same time, Florida has legislated that by 2015–2016, districts will spend half of their instructional materials budget on digital content, while Secretary of Education Arne Duncan consistently calls for moving from paper textbooks to digital texts within a few years. It remains to be seen how policy can support technological innovation in...

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The article highlights the practice of teachers who adapted their teaching style, method, or delivery based on student feedback and response. The following resources from ReadWriteThink.org also show innovation.

- After reading a text, provide students with options and choices as to how they respond to that text. ReadWriteThink.org offers numerous “book report alternatives” where instead of simply writing a summary, students create a new book cover, imagine a childhood for an adult character, produce a book trailer, or craft a comic strip. Students and teachers are both innovative here!
  
  http://www.readwritethink.org/search/?sort_order=relevance&q=%22book+report+alternative%22&srchgo.x=0&srchgo.y=0&old_q=book+report&srchwhere=full-site

- The article shares how some teachers engaged their students in reading by only making available a few copies of each title. For more reading ideas, listen to the podcast series, Text Messages.
  

- Using technology with students can be innovative. Visit the strategy guide series “Teaching with Technology” to learn more about using software like Animoto and Voki, teaching reading online, or learning about online safety.
  
  http://www.readwritethink.org/search/?strategy-guide-series=30098

—Lisa Fink

www.readwritethink.org

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these scenarios, especially in districts with limited resources.

In open learning communities, there are multiple sources of innovative practices. For example, over a ten-year period of conversation, teacher Kathy Champeau and her teaching colleagues brought together ideas and tools from a range of sources including: a) Wiggins and McTighe’s (1998) “Understanding by Design” framework; b) Short’s WowLit website (www.wowlit.org) along with conference presentations involving text sets and critical literacy; c) critical literacy work by Cowhey (2006) using transcribed instructional conversations (these written versions of conversations among young students demonstrate for teachers how topics evolve and meanings are relevant to the individuals engaged in the discussion; see http://www.unm.edu/~devalenz/handouts/instructconv.html for more information); and d) ideas linking teacher talk with democracy and agency (Johnston, 2004).

This cross-career learning community adapted and blended research and practitioner ideas as they tried to put imagined possibilities into practice to solve a constantly changing set of shared problems and to capitalize on possible tools. During this process, they initially found discussion of transcribed instructional conversations a productive spur for innovation, so they adapted the practice to engage students in the conversations as a way to capitalize on and optimize their thinking together. The teachers also documented their changing thinking, recognizing that the history of change provides a strong sense of agency. Though different combinations of teachers have been involved over time, the group’s practices continue to produce innovations that use common themes and common tools but take different forms in different classrooms. In this community, beginning teachers rapidly build classroom communities that not only produce more responsible, agentive children, but incidentally produce better test scores and fewer children “at risk.”

The development and distribution of perpetually innovative communities are strongly affected by the conditions and policies put in place by administrators. Such communities can be diminished or eliminated by lack of support for sources of new ideas, fears that innovative ideas are associated with too much risk, and reduced opportunities for productive dialogue among teachers. For example, administrators may limit instruction to practices that enforce a status quo by imposing identical practices across classrooms and by imposing scripted instructional packages in schools.

**Distributing and Developing Innovation**

Innovations, commonly and perhaps most productively, start with small-scale practices of creative classroom teachers. They are often spread initially by conversations within immediate teaching communities, but teaching communities now have the potential to extend well beyond their immediate geography. The Internet has also made the transmission of innovative practices and ideas more rapid and more concrete through audio and video recording (e.g., Annenberg Foundation Learner, www.learner.org). Similarly, teachers have access to online resources such as ReadWriteThink, which offers detailed teaching ideas, and Edutopia, which reaches a very broad audience and invites curated contributions from educators. Some websites, such as Vivian Vasquez’s (http://vivianmvasquez.blogspot.com/), offer powerful ideas in short audio and written formats that create communities of users who are also linked to other Web resources.

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On a larger scale, The National Center for Literacy Education (NCLE), spearheaded by funding from the Ball Foundation and leadership from the National Council of Teachers of English, is a new initiative bringing educational stakeholders together with the goal of transforming literacy education. One major focus of the Center is to recognize successful teaching practices in literacy learning in order to inform policymakers and policy. To support such school change, the Center developed a National Literacy Learning Exchange website where collaborative
teams of educators share ideas, resources, and inquiry to inform classroom practice (see http://www.literacyinlearningexchange.org). Although professional learning teams of educators have existed for a long time, NCLE is innovative in that it prioritizes this practice by creating an online platform specifically for local teams to share, and by spurring innovation through the production of disjuncture and/or by enabling the imagination of the adjacent possible.

Innovations that begin as modest, local practices can, over time, produce extensive change. In the mid-seventies, a group of excellent, committed teachers working with a university lecturer in New Zealand set out to research the most effective teaching strategies for preventing early reading difficulties. The strategies and principles they developed through observing each other teach and their system for documenting strategies as less or more productive resulted in a set of powerful teaching practices and innovative professional development practices whose effectiveness could be experimentally tested. Evidence of the effectiveness of the program, called Reading Recovery, led to its increased adoption even beyond its country of origin, including in the United States. To ensure that the program continued to produce evidence of effectiveness, the researchers made two assumptions: first, that evidence needed to be collected on an ongoing basis, and second, that even though trained initially, teachers needed ongoing professional development.

Started as a local innovation championed by Marie Clay, the innovation grew, both through the systematic gathering of evidence of effectiveness, which enabled funding, and through steadily building networks of professionals. This program has further evolved through the work of Linda Dorn, who is using the principles of commitment to teacher knowledge and professional development as well as the principles of literacy teaching and learning to make innovative systemic change in schools (Dorn & Schubert, 2008).

**The Complex Relationship between Policy and Innovation**

Elsewhere in this issue of Language Arts, contributors have noted not only examples of innovation but also examples of the ways in which policies have limited or problematized innovation. There is no question that policies can crush innovation, though they do not always have this effect. The relationship between innovation and policy is complex. Policies are tools for modifying society’s behavior and asserting social values; some policies have produced innovations that some people think are good (e.g., greater equality, more fuel-efficient cars) and some think are bad (e.g., greater equality, more fuel-efficient cars). The democratic arm wrestling that produces policies is a political process with many perspectives and interests at stake. Sometimes a movie like Lincoln (Spielberg & Kennedy, 2012) makes us aware of the ugly behind-the-scenes processes through which policies are produced—and the dreadful and wonderful consequences.

For example, the Individuals with Disabilities Education Act (IDEA; http://nichcy.org/laws/idea), the public law that produced Response to Intervention (RTI), began with Marie Clay’s innovative demonstrations that a large proportion of children classified as having permanent learning disabilities instead have preventable instructional disabilities. These and subsequent demonstrations (e.g., Vellutino, Fletcher, Snowling, & Scanlon, 2004) raised problems for existing special education practices, interests, and resources. Money would be diverted for prevention, fewer children would be classified as learning disabled, classification would require attending not to IQ, but to the qualities of instruction—a knowledge base not present in the existing assessment personnel.

The potential federal law was debated in the context of persuasive comments from individuals and organizations affected by the law—all documented in the Federal Register—and dominated by those with a stake in the status quo. The law that was ultimately passed provides resources and rules, but leaves room for and encourages certain kinds of innovation, so the arm wrestling has shifted to
the state level and the school district level. We point this out not only as a context for discussing innovation’s relationship to policy, but to remind ourselves that the struggle for policy is a struggle for possible futures and that we have to commit a good deal of energy to that struggle.

Sometimes, policies cause friction and debate about which instruction is in the best interest of students. The initial Common Core State Standards (CCSS) document (National Governors Association & Council of Chief State School Officers, 2010) offers invitations to innovation, noting, “Teachers are . . . free to provide students with whatever tools and knowledge their professional judgment and experience identify as most helpful for meeting the goals set out in the Standards” (p. 4). The Standards also stipulate, “The aim of the Standards is to articulate the fundamentals, not to set out an exhaustive list or a set of restrictions that limits what can be taught beyond what is specified herein” (p. 6). However, as the Standards were moved from policy to implementation, their potentially innovative aspects often took a backseat to attempts to standardize curriculum and instruction, such as the highly controversial Publisher’s criteria (Coleman & Pimental, 2012). Race to the Top requirements for high-stakes teacher evaluation further compounded the friction by requiring teachers to be accountable for student test scores, even though the assessments producing those test scores are neither available nor likely to represent the complexity of children’s development.

In spite of the policy problems, the CCSS have stimulated conversations about the range and priorities in writing instruction, including a critical literacy component all but forgotten in Reading First classrooms. At the elementary level, the CCSS have generated professional conversations about informational texts, text complexity, and the nature of comprehension instruction. These conversations have produced deeper thinking about the issues. For example, in the Text Project website (textproject.org), Hiebert reviews the research base on text difficulty, clarifying the nature of text complexity at the youngest grade levels and offering webinars and theme units to build student, teacher, and professional development resources, all intended to help educators navigate the nature of literacy instruction for young readers (Hiebert, 2013; Hiebert & Mesmer, 2013). The Text Project has been a vehicle for further innovation by providing examples of innovative instructional units developed by teachers and researchers in order to capitalize on the range of challenging texts young students might read. In evaluating text difficulty and in areas of comprehension raised in the CCSS, Hiebert (2013) points out that responsive instruction is the order of the day and requires constant innovation by a knowledgeable teacher who knows his or her students.

Policies affect not only the direction of innovation, but also the resources available for it. For example, federal funding agencies such as the Institute for Education Sciences (IES) and the Investing in Innovations Fund (i3) have provided educators with funds to support the development of innovative practices. For instance, three recent IES grants funded the creation of professional development and teacher education course materials for both novice and experienced teachers, giving them the opportunity to view and reflect on extensive video collections of effective classroom practices. Carlisle (2012) collaborated with teacher educators across the country to develop a Web-based program where teacher candidates could review and analyze case studies of practicing teachers. Working with a group of nine teacher educators, Kucan and Palincsar created modules focused on comprehension of informational text, building on teaching reading strategies, and text-based discussions (Kucan & Palincsar, 2013; Kucan, et al., 2011). Similarly, Scanlon, Anderson, and colleagues transitioned the Interactive Strategies Approach (Scanlon, Anderson, & Sweeney, 2010) into modules for use with teacher preparation coursework targeting early literacy.

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Evaluating the Consequences of Innovations

There is no question that there have been some bad innovations in education. How do we decide whether our innovative practice serves the interests of children and the society they will negotiate and inhabit? Most innovations, good or not so good, have provided some sort of evidence of their value in order to get traction, but broad evidence is needed to know whether an innovation is useful. For example, in reflecting on innovations in early intervention and RTI, Al Otaiba and Torgeson (2007) point out that the tests used to evaluate the consequences of phonics-based early interventions are too limited. They observe, “given that [state tests] require a much broader range of knowledge and skill than the word-level tests used to estimate success rates [in these interventions]. . . it is likely that poor and minority students, in particular, will not achieve the same success rates on them as for the simpler tests that assess only word reading accuracy” (p. 220).

In other words, these word-level tests that are commonly used in research (and now in practice) to distinguish between more and less productive innovations in early literacy instruction are of limited value. They do not capture the complexity of early literacy learning, and they direct attention away from important dimensions of learning—a point made by critics of the NELP report on effective early literacy practices (e.g., Dickenson et al., 2010). Because literacy is fundamentally social, the implications of instructional innovations in language arts can be extensive, including social, intellectual, emotional, and moral dimensions of development (e.g., Ivey & Johnston, 2013). Ignoring these broader effects can result in building upon problematic innovations.

Better evaluations of outcomes are, in fact, possible. Consider an item from a more innovative assessment system that has been in place for 18 years—the National Educational Monitoring Project (NEMP) from New Zealand. The test administrator asked four fourth graders to act as a library committee to decide, individually and collectively, on a set of books the library should purchase.
Their decision-making process was videotaped and scored on a rubric, providing information about (and valuing) competencies in reading, argumentation, listening, and collaborative action. Such complex evaluations of outcomes are clearly possible and economical (Crooks, 2002), and failure to use them limits our ability to evaluate the outcomes of innovations. Yet, in the US, many millions of dollars recently spent to develop new assessments have so far resulted in only minor change (see the PARCC [http://www.parcconline.org/] and SMARTER Balanced [http://www.smarterbalanced.org/] assessments). This failure to produce innovative assessments results from a failure to consider alternative assumptions, such as those on which the NEMP is based (Crooks, 2002; Crooks, 2007):

1. The assessment must be sufficiently broad and detailed to detect the incidental effects of curricular innovations.
2. Testing only a relatively small sample of students provides reliable information and saves considerable money and instructional time.
3. Evaluating program outcomes does not require comparing individual students. Small groups of students can each take a different set of items, thus providing time for them to engage in more complex tasks and for teachers to more thoroughly evaluate their performance. Collectively, the small groups will have taken a larger set of more complex items and provide a more nuanced (and valid) representation of outcomes.
4. Assessment must engage teachers and children in interesting work as a model and process for change.
5. Reducing the complexity of literacy, science, art, or music to a four-point scale is not informative and leads to unhelpful conversations.
6. Using high-stakes tests will limit instruction to what is present on a narrow test.
7. If you only test a couple of subjects, it shows that only those subjects are valued.

These assumptions allow a nuanced evaluation of programmatic outcomes, including all subject areas on a four-year rotating basis. A four-year cycle is sufficient because changing school practices/cultures takes time. The public is informed about performance by publishing about 50% of the actual items with a record of student performance on those items—making public and policy conversations about changes in instruction concrete.

Given that we need to examine the consequences of innovations to determine which are evolutionarily useful, the point of this example is twofold. First, it is possible to use more innovative and nuanced evaluation of consequences that will be less likely to stifle instructional innovation. Second, our unexamined assumptions can be the biggest roadblock to innovation.

Building Capacity for Innovation

Teaching is an increasingly complex job in an increasingly complex, changing society. For that reason alone, innovation is central to teaching. We have given examples of a conceptual innovation (making books), an innovation that capitalizes on new digital tools (Vail eliminating textbooks), one that turned a traumatic experience into an agentic healing opportunity (Eyes of the Storm), and another in which teachers took up and solved a problem with student engagement. Each example began with collaborative local tinkering and evolved into something more. We have also shown examples of innovation from classroom, school, and teacher learning communities, a school system, a professional organization, and national efforts. In a culture of constant change, we are never in the position of solving a problem and being done. New problems and opportunities constantly call for innovation, so we must build our capacity for innovation.

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innovation requires persuasive evidence in multiple forms. Some people are persuaded by numbers, while others are better persuaded by visual information, such as a parent seeing the expressions on their child’s face when engaged in innovative practices.

Policy production and revision is a negotiation among unequal participants, with the biggest policy problems often arising locally rather than nationally—which is where we more easily can be involved (not to suggest that the work is ever easy or without cost). Indeed, local policy decisions are also locations for students to become engaged in informing policy. For example, Barbara Comber (2013) points to innovative teaching practices in which Marg Wells and Ruth Trimboli involved their elementary school students as investigators, journalists, researchers, and designers working directly with their local city council and urban planners to influence the enactment of urban renewal policies. Their students researched indigenous flora and fauna and the health and number of trees in their urban neighborhood, and then engaged with and submitted reports to the appropriate authorities. From this innovative work, we see that building capacity also requires building a new generation of citizens with the identities and competencies necessary to take up engagement with policymakers and see it as normal to do so.

Building capacity for innovation also requires examining our goals—what we think we are doing. One thing we can be sure of: when innovation occurs, it occurs in the direction of people’s goals. Children whose goal is to avoid reading will be innovative in accomplishing that goal, more innovative in fact than they are when actually reading. Similarly, teachers and administrators whose goal is solely an increase in test scores will be innovative in trying to accomplish that goal, as we have seen with the extensive test prep and cheating scandals. As we have also seen, both in this article and persistently in Language Arts, there are much more significant goals and possibilities available. We have to consider: what will bring bigger, more meaningful ends into the adjacent possible for increasing numbers of citizens?

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Note
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References


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