Opportunities and Obstacles to Making Innovation a Priority in Education

Robert W. Smith & Kayce Anne Smith, UNC Wilmington

Abstract

For many years, the main approach to educational improvement has consisted of high-stakes testing and accountability. While this approach has achieved some success, it has also created negative outcomes including a narrowing of the curriculum, and an over-testing of students. Against this backdrop, there are examples of teachers that have introduced new and innovative approaches to teaching and learning. This study explores teachers' perceptions of innovative approaches and the supports and obstacles to innovation.

Keywords: *Innovation, Accountability, School Improvement, Collaboration, School Change*

Introduction

For many years, the main approach to educational improvement in the United States, England and Australia has consisted of high stakes testing and accountability. The assumption has been that if high standards are set and measurable goals implemented then student achievement would improve. This approach, which still prevails today, relies on rewards and punishments to incentivize competition between teachers, schools and districts. Rewards include bonuses for teachers and principals and positive recognition for higher test scores, and punishments include designation as a failing school, a loss of funding and the school being taken over by the state (Sheninger & Murray, 2017). In the United States, Federal government policies of No Child Left Behind and Race to the Top, have played a major role in shaping this agenda. While high stakes testing and accountability have achieved some success, e.g. improved graduation rates in the United States, they have also created many negative outcomes. These include: a narrowing of the curriculum, a focus on low level skills, teaching to the test, an over-testing of students and some schools and districts falsely misrepresenting their numbers (Darling-Hammond, Bae, Cook-Harvey, Lam, Mercer, Podolsky & Stosich, 2016). But against this backdrop, which Couros (2015) describes as a culture of compliance, there are examples of teachers and schools that have introduced new and innovative approaches to teaching and learning. Through surveying teachers in North Carolina, this study sought to explore teachers' perceptions of innovative approaches in their classrooms, schools and districts, and to understand the supports and obstacles to innovation.

One of the main concerns with high stakes testing and accountability is the negative effects on student learning, specifically the failure to "foster learning and growth or promote curiosity and a drive to succeed" (Brown & Berger, 2014, p. 55). The overreliance on testing encourages rote memorization whereby students forget what they have learned after the test is over. Not only does this waste time and resources, but it also leads to an engagement crisis as students see little value in what they are doing (Sheninger & Murray, 2017). Beyond consideration of students' individual

development are many questions about students' preparation to participate in a changing society and for the world of work. Brown and Berger (2014) state, we need to "ensure that our schools are adequately preparing students for the ever-changing global society in which we live" (p. xix). With new challenges constantly arising, "students must be taught to think critically, they must learn to collaborate with others from around the world to develop solutions to problems and they must learn how to ask the right questions- questions that will challenge old systems and inspire growth" (Couros, 2015, p. 5).

Views on Innovation and Educational Change

We live in a world with rapid changes in technology, new products and new ways of doing business and where innovation is viewed as critical to business success (Sattell, 2017). However, in education, many of our schools and their approaches to teaching and learning have not changed significantly in years and innovation remains largely unexplored. Where innovation is included in discussions of educational change, ideas about innovation reflect larger viewpoints on education. In the chapter, "Organizing for success," Darling Hammond (2010) contrasts two models for school improvement: bureaucratic accountability and professional accountability. The former model, which is the basis of the current high stakes testing and accountability, is a hierarchical system based on enforcing procedures, managing compliance and doing what's right. The latter is knowledge based, recognizes teaching as a profession, supports teachers to do the right thing and values collaboration and the sharing of best practices (Darling-Hammond, 2010).

The current approach to school improvement of high stakes testing and accountability has also been critiqued as being part of neo-liberal education, prioritizing market mechanisms of competition and choice (Blakely, 2017). Traditional public schools are viewed as part of the problem, constrained by bureaucracy. Savage (2017) provides a more detailed statement of this view: "public schooling is inefficient, overly unionized, unresponsive to user-demand, lacks accountability, and does not effectively nourish the growth of human capital. Market practices are positioned as 'solutions' to these perceived problems" (p. 153). Innovation from a neo-liberal perspective is viewed as processes or initiatives—charter schools, vouchers and choice—which support market mechanisms and challenge the public school's monopoly.

In the *Global Fourth Way,* Hargreaves and Shirley (2012) illustrate a fourth way of educational change, describing six high performing school systems and schools across the world. They contrast the fourth way of change with three earlier approaches to educational change, comparing their different positions on thirteen factors including purpose of education, the roles of students and teachers and corporate influence. In their model, the second and third ways describe educational change based on markets, choice, performance targets, competitive networks and deprofessionalized teacher associations, many of the characteristics associated with neoliberal education. In the fourth way, rather than teachers delivering a pre-determined curriculum and leadership being viewed as vertical accountability, teachers are instead viewed as engaged in developing curriculum within and across schools and leadership is described as a collective responsibility.

While noting that innovation in education faces a steep uphill climb, Hargreaves and Shirley (2012) state "without continual innovation from within, what chances do schools have not only to survive but also to prosper in a world where student's lives and everyday experiences are undergoing profound transformations?" (p. 26). They describe five characteristics of Global Fourth Way teachers: teach less, learn more; transform your professional association; promote collective autonomy; become a mindful teacher with technology and be a dynamo. In relation to the last characteristic, they state, "teachers are, or should always be, the real dynamos of educational

change" (p. 200). The potential for educators to contribute to change is supported by Baker-Doyle (2017). She states,

> When they are allowed space and support to develop their professional voices, when they are seen as leaders in the relational sense and encouraged to collaborate for change, and when they have the agency to take risks in their learning and work, then their grounded expertise and understanding can support the positive change sought by them and their advocates. (p. 211)

Darling Hammond's view of professional accountability for school improvement and Hargreaves and Shirley's (2012) Global Fourth Way of educational change both see teachers as having a central role in change and innovation. Couros (2015) defines innovation as a way of thinking that creates something new and better. He states that this can either be something totally new such as with invention or it can refer to a change of something that already exists, such as with iteration. In a study of the reasons why teachers introduce innovations into their teaching, Emo (2015) found that the 30 self-identified teacher innovators did so out of a desire to improve students' learning, professional development experiences and to avoid personal boredom. However, innovation has at various points been viewed as synonymous with technology and charter schools (Couros, 2015). The Innovative Schools Network, which supports the establishment and growth of high quality, research-based innovative schools, instead identifies seven areas in which innovation can occur: pedagogy, curriculum, assessment, school design, governance, scheduling and relationships. Although providing a specific definition of innovation is challenging because of its complexity, our work was guided by three main ideas around innovation.

> 1) creating new ways to engage students in self-directed learning based on interests, advocacy and problem solving
> 2) new ways of organizing school, including time, physical design, teacher work and student learning and
> 3) established infrastructure for schools, districts and states to collaborate, develop and share innovative programs and practices.

Our Study

A pilot study was conducted with teachers in Southeastern North Carolina to learn about their involvement with innovation in education. The specific goals of the study were to describe 1) the programs and practices identified by teachers as innovative 2) the process of innovation and 3) teachers' perceptions of the support for and obstacles to innovation. The study asked the following information of the respondents: if they were involved with innovative practices; their understanding of innovation; support by their school and district for innovation; and what obstacles they saw to the creation and sharing of innovative practices. A link to our survey was sent to contacts in the twelve school districts which partner with our college of education. Contacts were asked if they would forward the request to school principals to distribute to teachers. The survey link was also sent to a small number of charter schools in these counties.

In addition to surveying teachers, interviews were conducted with four participants. Sixty-four participants volunteered through the survey to engage in a follow-up conversation. This number was further narrowed down to 23 participants who were involved in self-identified teacher-initiated innovation and four participants were randomly selected from this pool. The participants

were asked a series of questions via phone interviews lasting approximately thirty minutes each. The interviews included many of the same questions from the survey. In addition to providing detailed descriptions of their specific innovations, the interviewees offered insights regarding the process of innovation. The interviews were transcribed, and the transcripts were read with the method of open coding (Corbin & Strauss, 2008). After the data was coded, the transcripts were reread for the purpose of identifying themes. Each theme was then considered in relation to each interviewee's reported experience.

Survey Responses

The 397 teachers who responded to the survey were from seven districts and represented an approximate 22% response rate. Elementary teachers were 40% of responses, high school teachers 34%, middle school teachers 18% and Pre-K 2%. Respondents were asked about their number of years of teaching experience, if they held a master's degree and if they were National Board certified.

In response to whether they were involved in implementing an innovative practice or program in their classroom or school, 43% indicated they were involved and 56.6% said they were not involved. To clarify whether this was an individual teacher or broader initiative, respondents were asked to indicate who was involved in this initiative. Responses included 24% at the individual classroom, 23% at the school level and 14% as a district level initiative. Other levels or groups were also included (See Table 1).

Table 1

Persons Involved in the Initiative (N=113)

Individual classroom	24.2%
School level	22.9%
District level	14.4%
Other	13.7%
Specific content area teachers	10.5%
Across grades	9.8%
Grade level	4.6%

As the study sought to explore what teachers' perceptions were of innovation, the definition of innovation was left open. One hundred and thirteen respondents indicated that they were involved with an innovative program or practice and provided a brief description. Examples included: middle school robotics team; Handwriting without Tears (multi-sensory handwriting instruction for K-5 students); integration of social and emotional learning; creation of STEAM center; basketball poets' program; and flipped classroom. Analysis of the 113 innovative programs or practices identified 52 specific programs and 21 individual teacher initiatives. The remaining 39 responses either provided insufficient information or else their responses overlapped with both categories. Of the 52 programs, STEM or STEAM was mentioned 20 times across schools.

When asked if collaboration is important to creating innovative practices, 91% of respondents agreed it is essential, and only 3.9% of respondents disagreed. Respondents were asked to indicate the significance of the change to teaching and learning. For student learning, 57% reported a significant change, and for teaching, 51% reported a significant change (See Table 2).

Table 2

The Significance of this Innovation to Changes in Teaching and Learning

	Small Change	Moderate Change	Significant Change
Teaching (N=158)	7.6%	41.1%	51.3%
Student Learning (N=155)	8.4%	34.2%	57.4%

Respondents were asked about the source of the innovation, i.e., where the idea for this innovative practice or program originated. The top three sources were district school person (29%), face-to-face colleague (22%) and self (13%). Blogs, books and podcasts; North Carolina Department of Public Instruction; online education network; and professional organization (e.g. National Council of Teachers of English) each received about 7% of responses. Social Media (Facebook, Twitter, Pinterest) and Advanced Study (Graduate degree or National Boards) each received about 4% of responses.

In response to the question of whether their *school* is involved in implementing any practices or programs that they would see as being innovative, 42% replied Yes, and 58% said No. The next three questions asked about their school administration's support for innovative classroom practices and programs. As can be seen in Table 3, approximately 74% of respondents agreed or strongly agreed that their administration was supportive of innovation. However, when asked if the school provides money to teachers to develop and implement innovative practices, only 24% agreed or strongly agreed and 46% disagreed or strongly disagreed. In relation to whether teachers were provided time to develop innovative practices, 33% agreed or strongly agreed and 35% disagreed or strongly disagreed.

Table 3

School Administration's Role and Innovative Classroom Practices and School Programs

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Supports innovation (N=240)	3.3%	7.1%	15.8%	48.1%	25.7%
Provides money to teachers to develop and implement … (N=241)	14.5%	31.5%	29.9%	21.2%	2.9%
Provides time to teachers to develop	11.7%	23.0%	32.2%	25.5%	7.5%

and implement … (N=239)					

Respondents were asked whether their **s**chool *district* places a priority on innovation for improving schools. Responses included 41% who agreed that their district places a priority on innovation for improving schools with 26% who disagreed (See Table 4). In addition, 31% agreed that their district provides resources (time and/or money) to support innovation with 36% who disagreed.

Table 4

School District's Role on Innovation for Improving Schools

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Places a priority on innovation (N=240)	7.1%	19.5%	32.4%	34.9%	6.2%
Provides resources (money and/or time) (N=238)	9.7%	26.9%	32.8%	28.2%	2.5%

In response to whether their district has systems in place for teachers and administrators to share innovative classroom practices and programs across schools, e.g., web sharing, 41% of respondents agreed and 23% disagreed. In response to whether neighboring school districts collaborate in sharing innovative classroom practices and programs, only 12% of teachers agreed and 40% disagreed. From a list of five factors, respondents were asked to indicate if each acted as a barrier to innovation, and if so, to what degree each acted as a barrier (See Table 5).

Table 5

Barriers to Innovation

	No Barrier	Small Barrier	Moderate Barrier	Significant Barrier
Teacher interest (N=238)	23.5%	41.6%	25.2%	9.7%
School/administration priorities (N=238)	17.7%	34.5%	31.5%	16.4%
District priorities (N=238)	12.6%	32.4%	29.8%	25.2%
State priorities (N=238)	6.7%	19.8%	29.0%	44.5%
Lack of infrastructure to support the sharing of best practices and innovation (N=238)	10.1%	28.2%	29.8%	31.9%

Teacher interest was the smallest number with 34% indicating it was a moderate or significant barrier, and state priorities was the highest number with 73% indicating it was a moderate or significant barrier. A lack of infrastructure to support the sharing of best practices was noted by 62% of respondents as a moderate or significant barrier.

Participant Interviews

Interviews were conducted with four participants, John, Rachel, Nina and Brenda. Pseudonyms are used to maintain confidentiality.

John is an instructional technology specialist at an elementary school in a rural school district where he has taught for two years. He stated that he received several grants to create and implement a program where students grow their own fruits and vegetables indoors using lights and hydroponics. Rachel is a science teacher in her tenth year of teaching. She previously taught science at the middle school level but moved last year to teach biology at a high school in the same district. She described her innovation as project-based learning for a school wide biology program. Nina is a STEM facilitator who has been working at an urban elementary school for the last eight years. She has a total of 33 years of teaching experience. Her innovation relates to her work as a STEM specialist. Brenda is an elementary teacher who currently teaches first grade in a fairly rural school district. She has been teaching for 19 years. Her innovation involved removing the student desks from her classroom to encourage free thinking.

The following six themes were identified from the participant interviews:

1. Importance of risk taking
2. Testing culture promotes fear which limits innovation.
3. Desire to increase student engagement and create authentic learning experiences.
4. Innovation springs from need and reflection.
5. Innovation is an ongoing practice that requires teacher commitment.
6. Networking and collaboration are essential to innovation.

Importance of Risk Taking

Brenda, John and Nina mentioned this theme. Innovation is experimentation and involves risk. Experiments center around uncertainty and they carry the potential to produce varying results, including undesirable ones. Two excerpts are included from the interviews.

John	Part of being innovative is taking chances and taking risks and doing things that are outside of the box. In my position I was free to be innovative, I was encouraged to do that. We learned that when we do tomatoes, we're going to have to do them in a different style of hydroponics. Instead of rails we have to do them in buckets or something.
Nina	Not everything works the same way for every teacher. Teachers are individuals and you have to let them be creative so they can gauge their students. They have to…find the things that work best for them.

Testing Culture Promotes Fear Which Limits Innovation

Brenda, John and Nina mentioned this theme. When school reputation and funding are on the line, fear of failure often outweighs the desire to be innovative. Threatened by loss, whether of job, reputation, or social approval, teachers are more likely to adhere to traditional practice rather than innovate. Three excerpts are included from the interviews.

John	Our whole system needs to change. I mean, innovation is squandered just because of the tests that our students are taking and how high stakes they are. Teachers aren't going to be innovative if they fear for their job in doing so. Part of being innovative is taking chances and taking risks.
Nina	They've got to let the kids test less. Teachers are individuals and you have to let them be creative.
Brenda	I'm happy and relieved that the county allowed us to implement flexible classroom seating. They're very traditional in the way they think and very guarded about their [test] scores. Innovation is not always completely supported.

Desire to Increase Student Engagement and Create Authentic Learning Experience

All four participants mentioned this theme. Teachers are constantly considering ways to improve student learning. However, innovation involves significant changes to create more powerful learning experiences that ignite student curiosity and teacher-student engagement. Such changes are often prompted by the recognition of student boredom with traditional "sit and get" learning approaches. Three excerpts are included.

Rachel	We were challenged with the fact that our school is not doing well in the biology state test, and we wanted to find a way that the kids would be interested in it and do much better because they do need to have that interest and that engagement, versus just coming in and taking notes.
Brenda	And so, I started thinking about what are some other ways I can engage students other than putting a Chromebook in front of them all the time.
Nina	I give them problems to solve, and they're building their inquiry skills. So, we're focused on building those skills instead of just how to take multiple choice tests.

Innovation Springs from Need and Reflection

All four participants mentioned this theme. The feeling that something is not working or could be improved upon stimulates questioning and problem-solving. Discomfort illuminates a need, and if this need is met with the necessary reflection, the situation can give rise to innovation. Three excerpts are included.

Brenda	My test scores were good. And I really…started thinking about the teacher evaluation tool. And on that teacher evaluation tool it constantly asks you, Do you allow your children opportunities to problem solve? And I started thinking to myself, I really don't do that. So, my initiative kind of drew from a need.

John	We're a big agricultural county… Everybody has a garden. So, it's very integral to our county, but I wanted it to be – what's next in farming? Where could it be heading? Our county was ranked last in the state on health outcomes and health risks.
Nina	When you looked at what was starting to happen [in public education], it was like we were killing the joy of learning. We had a lot of low-performing students, the "at-risk" level. And they'd never had a chance to do things I just thought all kids did.

Innovation is an Ongoing Practice that Requires Teacher Commitment

All four participants mentioned this theme. Innovation is deeper and more complex than a mere *good idea* or one-size-fits-all program, no matter how interesting. Innovation is a sustained practice of need-identification, reflection and iteration, inside and outside the classroom. Three excerpts are included.

John	[The #1 obstacle to implementation was] I didn't know anything about it. I had to do a lot of research, watched many YouTube videos. So, I invested a lot of my time to do this.
Brenda	Honestly, I think the first thing that has to change is mindset. And from there you need to start thinking, well, you know, am I in it for the long run or am I in it just for a little while?
Rachel	A big thing is going to be teacher buy-in. And I say that because it's time-consuming. Putting it together, making it geared to the individual students that you have. It's not just you can show up at 7:30 and you can leave at 3:30, and you're done for the day. Like I said, it's taken us weekends and nights.

Networking and Collaboration are Essential to Innovation

All four participants mentioned this theme. Innovation occurs through engagement with other educators either face-to-face or via online mediums. Engagement may involve the sharing of a developed curriculum or an established program, or it may simply provide the spark of an idea that awaits development. While there are some systems in place to support the sharing of innovations, these are mostly sustained by individual teacher commitment. Excerpts are included from all four participants.

Rachel	I actually got a whole unit for project-based learning from one of the teachers in another county. We have not shared this innovation with other teachers at other schools in the district. We have just gone with what we've got here.
Nina	I share ideas, learn, and communicate with STEM colleagues usually through email. Sometimes we'll text or tweet. Some sort of electronic touching of base.
John	We have comments from teachers or the admin of other Facebook pages from other schools and they're commenting on our pictures like, "Wow, that's so awesome! We should do that here!"
Brenda	No, my school/district does not have any systems/networks in place for sharing practices or innovations.

	I have shared this practice/program with other educators. I wrote the article for Medium, and that has been re-published in three other publications.

Discussion

One of the main ideas proposed in the beginning of the paper was that support for innovation provided an alternative approach to school improvement. This is especially important when we consider that school improvement is always tied to student learning outcomes. In this study, 91% of respondents who reported that they were involved with an innovative program or practice stated that it resulted in a moderate to significant improvement in student learning. In terms of the impetus for change, individual teachers were identified as accounting for 24% of innovations. Interviews with the four participants involved in teacher-initiated innovation provided a more detailed understanding of the process of innovation. The six themes that emerged from the interviews overlap with the eight characteristics of an innovator's mindset identified by Couros (2015). The eight factors include: empathetic, problem finders/solvers, risk takers, networked, observant, creators, resilient and reflective. In relation to school and district led initiatives (37%), in the open comments section of the survey, several respondents indicated support for a more grassroots "bottom-up" approach vs. a top-down approach in which a district or school person from outside the classroom introduces an approach they describe as innovative.

The 43% of teachers who indicated being involved with innovation might seem high given that North Carolina has, for a long time, embraced high stakes testing and accountability, a context that Couros (2015) refers to as a culture of compliance. However, it is possible that educators who were involved in innovative practices or programs were more likely to complete the survey and further, as the study did not include a definition of innovative, the number may be overstated.

In comparing the respondents' understandings of innovation to the three ideas of innovation informing this study, creating new ways to engage students in learning was the most frequently referenced. Respondents provided few examples of innovation in relation to teacher roles or to teacher involvement with school level innovation. For the third idea, participants were directly asked whether there was an infrastructure in place to support the sharing of best practices and innovative practices.

In terms of support for innovation from the school and district level, the study provides mixed results. While 74% of respondents agreed that their administration is supportive of innovation, the availability of financial support (24%) and the provision of time (33%) for teachers to develop and implement innovative practices were both much lower. Innovation is not just about the challenge of creating new ideas or practices but, equally significant, how ideas or practices are noticed and shared. In this study, 41% of respondents agreed that their district has systems in place for sharing innovative classroom practices and programs across schools. However, when asked whether neighboring school districts collaborate in sharing innovative classroom practices and programs, only 12% of teachers agreed and 40% disagreed. Burkus (2013) notes, "In most organizations, innovation isn't hampered by a lack of ideas, but rather a lack of noticing the good ideas already there" (p. 1). The lack of support in resources and time for innovation, the minimal collaboration across districts, and the 73% of respondents who indicated that state priorities were moderate or significant barriers to innovation suggest that innovation is not seen as a priority in advancing education in North Carolina.

Despite the prominence of high stakes testing and accountability and the general low priority placed on innovation, the study provides some evidence of teachers and districts willing to take risks in implementing innovative practices and programs. However, to go from pockets of innovation to the creation of a shared culture of innovation requires significant changes in policy (Couros, 2015). Robinson and Aronica (2015) contend that "we need a radical change in how we think and do school—a shift from the old industrial model to one based on entirely different principles and practices" (p. 25).

The passage of Every Student Succeeds Act (ESSA) in 2015 has opened options, providing states with greater flexibility in how they define student and school success. Even prior to the passage of ESSA, several states have been working to redesign or create bold new educational policies to implement student-centered approaches to learning (Stosich & Bae, 2018) through membership in the Innovation Lab Network, a working group of the council of Chief State School Officers. While ESSA has opened the door to state creativity and innovation (Weiss & McGuinn, 2016), Ferguson (2018) cautions that "autonomy is valuable only to the extent that you have the capacity and resources to do something productive with it" (p. 72). In other words, the lifting of federal mandates may lead to an easing of high stakes testing and accountability, but the switch to embracing innovative approaches to teaching and learning may still be a long way off. As Fullan (2016) states in the chapter titled, *The Elusive Nature of Whole System Improvement in Education*, "success turns out to depend on changing the culture of schools and their relationship to the infrastructure of policies and regulation" (p. 539).

This study gives some hope that even within a state that has embraced high stakes testing and accountability, there are examples of innovative practices and programs. The primary change required is shifting from a compliance culture, in which the expectations for teacher and student performance are clearly defined, to a more professional culture in which teacher expertise and risk taking are valued. The challenge is whether innovative thinking in and about education can become the norm and not the exception.

References

Baker-Doyle, K. (2017). *Transformative teachers.* Cambridge, MA. Harvard Education Press

Blakely, J. (2017, April). How school choice turns education into a commodity. *The Atlantic.* Retrieved from https://www.theatlantic.com/education/archive/2017/04/is-school-choice-really-a-form-of-freedom/523089/

Brown, M., & Berger, A. (2014). *How to innovate: The essential guide for fearless school leaders*. New York, NY: Teachers College Press.

Burkus, D. (2013). Innovation isn't an idea problem. *Harvard Business Review.* Retrieved from https://hbr.org/2013/07/innovation-isnt-an-idea-problem.

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research 3e: Techniques and procedures for developing grounded theory.* Thousand Oaks, CA: SAGE Publications.

Couros, G. (2015). *The innovator's mindset*. San Diego, CA: Dave Burgess Consulting Inc.

Darling-Hammond, L. (2010). *The flat world and education.* New York, NY: Teachers College Press.

Darling-Hammond, L., Bae, S., Cook-Harvey, C., Lam, L., Mercer, C., Podolsky, A., & Stosich, L. (2016). *Pathways to new accountability through the every student succeeds act*. Palo Alto: Learning Policy Institute. Retrieved from https://learningpolicyinstitute.org/sites/default/files/product-files/Pathways_New-Accountability_Through_Every_Student_Succeeds_Act_04202016.pdf

Emo, W. (2015). Teachers' motivations for initiating innovations. *The Journal of Educational Change, 16*, 171–195.

Ferguson, M. (2018). What's on the horizon? *Phi Delta Kappan, 99*(6), 72-73.

Fullan, W. (2016). The elusive nature of whole system improvement in education. *Journal of Educational Change, 17*(4), 539-544.

Hargreaves, A., Shirley, D. (2012). The g*lobal fourth way*. Thousand Oaks, CA: Corwin Press.

Robinson, K., & Aronica, L. (2015). *Creative schools.* New York, NY: Viking.

Satell, G. (2017). *Mapping innovation: A playbook for navigating a disruptive age.* New York, NY: McGraw Hill.

Savage, G. (2017). Neoliberalism, education and curriculum. In B. Gobby & R. Walker (Eds.). *Powers of curriculum. Sociological perspectives on education* (pp. 143-165). South Melbourne, Victoria: Oxford University Press.

Sheninger, E., & Murray, T. (2017). *Learning transformed. Eight keys to designing tomorrow's schools, today.* Alexandria, VA: ASCD.

Stosich, E., & Bae, S. (2018). Engaging diverse stakeholders to strengthen policy. *Phi Delta Kappan, 99*(8), 8-12.

Weiss, J., & McGuinn, P. (2016). States as change agents under ESSA. *Phi Delta Kappan, 97*(8), 28-33.

Robert W. Smith is a faculty member in the Watson College of Education, UNCW, preparing high school teachers. For the last three years, he has served as the Wendy and Dell Murphy Distinguished Professor supporting innovation in PK-12 schools.

Kayce Smith is a coordinator and coach for multi-tiered systems of academic and behavior supports at the best middle school in southeastern North Carolina and a doctoral student in educational leadership within curriculum and instruction at UNC-Wilmington.