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Comprehensive Platform Networks for School Reform: A Leapfrog Strategy for Struggling State Systems

Justin Bathon

University of Kentucky, Lexington, KY, USA

Jean W. van Rooyan and Rika Jobert

University of Pretoria, Hatfield, Pretoria, South Africa

Abstract

This article presents a review of the development of platform network models that rely on partnership contracts to implement comprehensive school reform. The literature from the previous three decades of development of school networks, emerging largely from the United States of America, is reviewed. The recent development of similar network models in South Africa is then presented for comparison. Through the addition of technology-based platforms, emerging models of platform networks are presented through a review of minimal contractual requirements for partnering school boards. Finally, implications for educational leaders, particularly in struggling, low-income school contexts in South Africa and the United States, are presented as the impetus for considering partnerships with existing platform networks and the development of additional public models.

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Introduction

In a small town in a neglected loop of the Ohio River in Kentucky, a big change is underway in schooling: The schools in Trimble County are engaged in a platform-network driven upgrade of their learning systems. To a local reporter, an eighth-grade student reflects, "It feels like I'm learning more. Before, I thought I wasn't really that smart because my grades were always bad" (Harp, 2018.) By the end of the school year, the student was engaging in coursework at the ninth-grade level. Where two years previously the middle school in Trimble County was nearly indistinguishable from any other rural middle school, now the learning experience is personalized, project based, digitally engaging, and heavily infused with mentoring. The percentage grading system, which punished struggling learners into disengagement, has been replaced with a mastery model that encourages iterative failure in the process of learning. These advances were all linked to district's partnership with Summit Learning, but they did not come easily, and everyone—from local teachers to parents and community members—is still coping with this new version of schooling.

The research on such network-driven changes in education continues to emerge (Peurach, Glazer, & Lenhoff, 2016; Summit Public Schools, 2017; Zeiser, Taylor, Rickles, Garet, & Segeritz, 2014). While the changes have been stressful, the collective sense within Trimble County is that children are, as the middle school boy noted, learning

more. Similar changes using the same platform network, though, are proving difficult in other communities as parents have revolted over the amount of change (Melia, 2017). While the research picture continues to emerge slowly, the Summit Learning network model is growing exponentially from its initial launch in 2014 to today's 380 schools serving 72,000 learners, including those in Trimble County (Summit Learning, 2018).

This article explores the development and potential of platform network school-reform models, particularly within the context of struggling school systems and choices that local school leaders face to encourage reform. Reforming schools has long been a struggle, particularly in challenging school contexts where the diverse implications of poverty depress learner experiences. Sustainable and scalable changes toward progressive, constructivist learning models within local school contexts have frequently been met with a variety of challenges that frustrate and ultimately derail those efforts. As such, traditional models of school largely persist in the developed regions of the world, while nascent structures of school are still developing elsewhere.

Against this backdrop, a new iteration of education reform, dubbed a *platform network*, is emerging that largely combines existing concepts of networking with new digital iterations of learning platforms. Vander Ark and Dobyns (2018) help to define the concept of platform networks by articulating the three core characteristics: "a shared approach to learning implemented through a school model, common tools and systems implemented through a learning platform, and a shared adult-focused professional learning community" (p. 97). Underlying and enforcing these shared characteristics is a legally binding contract between the platform-network provider and a local

school board or charter-school authorizer that links access to the platform network to minimal compliance with the shared attributes. Summit Learning, used in the opening context and whose contact provisions are reviewed within, is just one amongst an emerging group of platform networks that are using similar models to influence school reform broadly across the United States of America and may offer a new strategy for other struggling contexts.

This review examines the historical literature around school networks, particularly networking approaches that take comprehensive approaches to school change. First, it includes a brief review of school improvement networks, charter management organizations, and other network iterations that have provided groundwork to modern platform-network iterations. Second, the continuing technological development underlying these modern platforms is presented. Third, two educational contexts, first South Africa's newly forming network models and then the United States' deeper learning platform-network models, are introduced and compared. Finally, a review of both opportunities and threats inherent in the platform-network model is provided as a potential tool for school leaders seeking to engage such approaches.

School Networks

School networks have a long and rich history. While networks within the world of education are nothing new, novel approaches to such networks are showing promise and gaining momentum as a renewal strategy, particularly among funding organizations and governmental entities worldwide (Barletta et al., 2018). Such networks build on a long history as favored school-reform drivers, although supporting evidence for such networks over time is mixed.

The foundations for today's comprehensive reform models emerged during the 1980s in the United States as reformers sought to develop collaboration models that influenced classroom practice within network members (Desimone, 2002). Datnow, Hubbard and Mehan (2007) coalesced many of the studies of characteristics and impacts into their book, *Extending Educational Reform: From One School to Many*. Also, the edited book by Murphy and Datnow (2002) provided a leadership lens within which to review ten different school network contexts operating throughout the United States in the early 2000s. The student-achievement impact of these comprehensive reform networks was harder to estimate. A meta-analysis of 29 models, as reviewed through 232 studies, revealed a mixed review of impacts on achievement (Borman, Hewes, Overman, & Brown, 2003) with two notable results. Some reviewed networks did manage to show strong effects on students learning. Further, the network commitment over time proved powerful as schools that had been committed to networks for 5 years or more demonstrated higher achievement in both high-income and low-income schools. But, when these ideas were attempted to be scaled by the U. S. Department of Education (USDE) in 2001, the results were mixed. After a demonstration pilot launched in 1998, the approach was scaled up in 2002 when $300 million was allocated to support implementation of research-based comprehensive school reform strategies (Borman, 2009). The third-year evaluation of the program, though, found no impact on student achievement and only limited implementation of recommended comprehensive models or research-based practices (Orland et al., 2008). Concerns about sustainability were reinforced further by Datnow (2005) who found that in 6 of 13 comprehensive school reform sites studied, schools had withdrawn from implementation of the networked, comprehensive model within only a few years. Due to these poor reviews and

struggles with implementation and sustainability, the USDE terminated program funding in 2007 (Borman, 2009).

While the comprehensive school improvement network momentum was waning, momentum around charter-school models was strengthening. Charter schools provided new energy and momentum for school networks. Since their start in 1991, charter schools have proliferated across the United States, often with single organizations authorized to operate multiple schools within their own network. Research on the overall impact of charter schools evidences wide variations in levels of effectiveness but no conclusive determination that charter schools achieve higher levels of student achievement (Silvernail & Johnson, 2014). However, research conducted by Stanford University's Center for Research on Education Outcomes (Woodworth et al., 2017) found that charter schools that were part of non-profit charter management organizations performed stronger than independent charter schools on reading and mathematics assessments. In many ways, the emerging research on charter schools published by Woodworth and colleagues (2017) reflects similar results from Borman and colleagues' (2003) meta-analysis: Both research teams found student achievement impacts of some specific networks to be strong. Scholars continue to find promise globally in various iterations of networks and argue for further evidence about which networks actually work (Chapman & Hadfield, 2010). Thus, as Peurach and colleagues (2016) assert, "this research suggests that *success depends on understanding and improving networks themselves*, and the ways in which they function as new types of 'learning systems' that produce, use, and refine the practical knowledge needed to realize intended outcomes" (p. 4).

While focus has shifted somewhat over the years, the thread of networks as critical tools for implementing school reform has persisted. Characteristics of these networks continue to refine as "over the past twenty years . . . billions of dollars in public and philanthropic investments" (Peurach et al., 2016, p. 607) have supported network development and research.

Extensive investments in networks as mechanisms for large-scale school reform continue to this day. For example, the Bill & Melinda Gates Foundation (Gates Foundation) launched a new Networks for School Improvement initiative with an initial outlay of $ 92 million for 19 projects (Gates Foundation, 2018). Network distribution of best practices now forms the core of the substantial Gates Foundation K12 investments going forward. Further, considerable recent research on school-improvement networks has been led by Peurach, Glazer, and colleagues. This team of researchers has provided new insights about core features of modern school-improvement networks (Glazer & Peurach, 2013) and integrated ideas from broader industry successes with networking on educational approaches (Peurach & Glazer, 2012). Throughout these investigations into school-improvement networks, implications for educational leadership are prevalent. For instance, much recent attention has been given to the task of evaluating investments in school-improvement networks while identifying and capturing the breadth and complexity of impacts of these networks. Peurach and colleagues (2016) identified four different school improvement network approaches to organizational change. A *shell enterprise* is when a school subscribes to a brand and is provided a set of core concepts but does not receive much centralized support from the hub organization. A *diffusion enterprise* promotes a set of classroom practices but lacks feedback mechanisms to support local implementation and exploration. An *incubation* enterprise subscribes

to core principles but not specific practices, choosing instead to heavily support the local creation of implementation. And, fourth, an *evolutionary enterprise* seeks both to incubate local iterations and support strong diffusion from a robust central network hub. These evolutionary enterprises, however, require large investments in time, money, and effort to maintain.

Educational leaders at the network level struggle to develop the necessary capabilities of the network without extensive support (Peurach et al., 2016), while local school leaders struggle to make choices around network alignment, embrace network principles, adapt network practices to local contexts, and evaluate the impact of these partnerships. Nonetheless, despite the abundant leadership and implementation challenges, school networks in their various forms still offer the glimmer of hope that efforts at reforming schools can be *better together* (Vander Ark & Dobyns, 2018).

Learning Platforms

While networks continue to develop through major monetary investments, a similar story has been emerging in the technology of learning platforms. At least three different technological developments have coalesced to provide a current infrastructure for the development of modern platform networks. Student devices continue to drop in price, thus allowing public schools in the United States to provide a learning device to each attending student. Second, what used to be costly productivity software (e.g., word processors, presentation software, spreadsheets) have been made freely available. And, third, software that is specifically designed to support learning deployment within schools and universities has continued to advance. Following are reviews of the development of these digital tools that serve as critical infrastructure for platform networks and associated schools.

Google's slimmed down Chrome Operating System has become the dominant K12 operating platform in the United States. Hardware companies, such as Dell, HP and others, can make devices using the Chrome OS that are cheap, reliable, and possess day-long battery life. Despite an Internet-only application format, the combination of features has brought Chromebooks to the forefront and allowed many public schools to deploy 1:1 computing environments where each student has a school-purchased, individual laptop that they take home at night. In 2016, Chromebooks represented nearly 60% of all new device shipments to schools in the United States, while in the rest of the world devices based on Microsoft Windows still dominate at 65% of new devices shipped (Nagel, 2017). Because Chromebooks permit mass distribution of devices, it is likely that most learning systems within the United States are transitioning to 1:1 learning environments. Globally, however, there is still a substantial technological and financial hurdle to overcome.

With a device in hand, students still need to complete their work. During the 1990s and 2000s, Microsoft Office dominated productivity software. From documents to presentations, such software is vital to the workflow within schools. Installing the Microsoft Office suite on a computer's hard drive could cost over $100 per device, substantially raising the cost of any device purchase. Around 2012, a shift in school productivity emerged with the widespread adoption of the Google Drive productivity suite. Google "took over the classroom" (Singer, 2017) by providing free or low-cost productivity and storage software to accompany its low-cost devices. In exchange, critics worry that Google is not only capturing student data and student loyalty but also promoting a shift in student learning from academic content mastery to more project-based active learning. This shift corresponds and

supports a broader shift toward development of knowledge workers rather than factory or service workers (Singer, 2017).

The third major shift critical to expansion of platform networks is the development of various iterations of learning management systems (LMS). The market for LMS providers globally is likely over $ 1 billion (Kim, 2017). These platforms are deeply rooted to higher education because LMS options such as Blackboard, Canvas, Brightspace, and Moodle are ubiquitous. All of these LMS platforms also provide specific K12 iterations of their platforms (e.g., Schoolgy, Haiku, Agilix Brainhoney, Pearson Successnet). Many LMS options are also developing outside the United States, such as Decebo in Canada and Europe, xuetangX in China, and Teamie in Singapore. Beyond formal LMS options, streamlined learning platforms such as Google Classroom and Edmodo all provide the ability to help teachers manage learning processes within classrooms.

While much progress has happened in the digital development of learning platforms, devices, and productivity software, Vander Ark and Dobyns (2018) contend that K12 learning platforms are still in the early stages and mostly "the tools are just not very good yet" (p. 40). They predict the next generation of learning platforms will (a) provide better learning feedback, (b) be interoperable and portable, (c) link into motivational and social-emotional supports, (d) permit scheduling for both onsite and online learning, and (e) continue to improve user interfaces, particularly for early learners and students with special needs.

Emerging School Networks in South Africa

Across Gauteng and the Western Cape in South Africa, a school network launched in 2012 is impacting thousands of learners with the goal of addressing an identified crisis in education. Today, SPARK

schools operate 15 primary schools educating over 7,000 students in Gauteng around Johannesburg and Pretoria with one additional school in Stellenbosch in the Western Cape. SPARK schools are independent, non-governmental, low-fee schools that provide a combination of personalized learning, blended learning, and core-value development. In a profile at the Clayton Christensen Institute submitted by SPARK schools founders, even early elementary students spend approximately 25% of their day utilizing digital tools to support their learning (Brewer & Harrison, 2013). The school founders noted the uniqueness and challenges of their approach in the South African context.

> *Blended learning and technology-based education is so foreign to the people of South Africa that school administrators had a difficult time convincing cautious parents that blended learning could be effective in a school environment. Also, the school has struggled to find high-quality online content providers willing to work with a South African school. (p. 4)*

Early results for SPARK Schools have shown significant success, and both enrollments and the school network are growing rapidly. These results led to the network being featured in *The Economist* (2017) as a reason for optimism in the otherwise gloomy picture of South African education.

The co-founders of SPARK Schools met Bailey Thompson Blake through an existing American-based platform network, Rocketship Schools. At the time, she was teaching through the Teach for America program when the two South African entrepreneurs who ultimately created SPARK Schools connected with her during a leadership-development session. During those first conversations, a vision emerged to develop "a network of schools that would leverage

blended learning" (Smith & Thompson Blake, 2016) as a way to revolutionize the South African education landscape.

SPARK Schools is not unique as a private network within South Africa as fee-paying schools have been part of networks since the adoption of the new national constitution in 1990. South Africa has even permitted models akin to for-profit education management organizations in the United States. For instance, the larger Curro network, a hybrid of a traditional Christian-based private school network and corporate for-profit school operator, presently operates over 100 schools across South Africa serving over 40,000 children. The expansion has not been all smooth for the corporate school network, however, as recent allegations of racism have been linked to multiple schools within the network (Pather, 2018).

Criticism of these supposedly low-fee schools has emerged with claims that SPARK Schools are unaffordable for most South African families (Din, 2017). A professor at the University of Johannesburg contends that such low-fee schools "allows one to frame a privatization expansion project in social justice terms" (Languille, 2016, p. 536). She further contends that these schools are not targeting the bottom of the social pyramid because low-income families cannot afford the low fees charged by SPARK Schools. Instead, the schools are operated primarily for the benefit of the middle class, which another scholar at the University of Johannesburg's Centre for Education Rights and Transformation argues only "perpetuates inequalities . . . along social class lines" (Din, 2017). Srivastava (2016), a scholar on low-fee private schooling based in Canada, asserts that SPARK Schools' low-fee tuition represents 62% of the total wages of low-skilled workers in South Africa.

While SPARK presently owns and operates schools within its network, the opportunity to develop the model further into an extensible platform-network exists. During a TEDx Johannesburg talk, a SPARK co-developer stated, "I wish I could tell you that what we do is exclusive or expensive or exceptional in some way that prevents others from doing the same. That's not the case" (Thompson Blake, 2017). Later in the talk, she posits that other schools struggle to do the same thing because integration of core values "is hard." This difficulty, particularly for no-fee schools, might be ameliorated through the distribution of a version of the SPARK model through a platform-network distribution. The strength of the founders' core values might be leveraged as a tool to help other school communities upgrade the experience of learners. It has been reported that 200 million rand (over $13 million) has been invested in the SPARK model for South Africa (Todd, 2018). Perhaps, as has been seen with Summit Learning and other models based in the United States, some of those funds could be used to develop a no-fee, adoptable platform-network model.

This question is particularly relevant in South Africa because its tradition of independent local school governance. After apartheid, the South Africa Schools Act of 1996 instituted a model whereby each school is governed by a locally constituted independent governing body (Joubert, 2017). This massive decentralization of school governance was studied by Naidoo (2005) who found that the structures between the national officials, provincial officials, and local governing boards "were often very ambiguous" (p. 91) and that relationships through networks were limited mostly to top-down directives and a focus on local compliance. Hence, within this governance structure, there is no formal way for schools to network together at a governance level.

Perhaps partly in response to this limitation, elements of the government in South Africa have sought to advance school networking in other ways. For instance, Gauteng Province has advanced the idea of *twinning* schools together to intentionally link higher income schools, which are frequently fee-paying, with lower income schools, which are mostly no-fee schools. In practice, this means twinning a township school with a suburban school. The process of twinning the schools links both under guidance from a single governing body tasked with operating both schools in the new network. Section 17 of the South Africa School Act (2018) gives members of the executive council, in the best interest of education, the authority to link two or more schools together under a single governing body. Media reports have suggested that although the strategy was met with resistance by some schools and communities (Monama, 2015), a few schools did join together under this twinning concept, and thus, the leader of the Gauteng Department of Education continues to advance the idea (Tshetlo, 2017).

Comprehensive Platform Networks in the United States

While schools in South Africa struggle to take advantage of network strengths, those in the United States are increasingly choosing to network on their own at the local level. The Trimble County School Board, mentioned in the opening, made an intentional choice to join a national platform network to enhance student-learning opportunities. The details of this network are expressed most clearly in the contract in which both the network and the school district "agree to work together in good faith to implement personalized learning." Although there is no cost for participation in the network, member schools are selected based on their application for inclusion.

Under the contract, the Summit Learning network agrees to provide access to its base curricula and assessments as well as ongoing support and professional development for teachers. The base curricula includes full-course builds for Grade 4 through Grade 12 that are aligned to the Common Core standards for English, mathematics, science, and social studies. These curricula are delivered through access to the custom-built Summit Learning Platform, a digital learning management system that permits high levels of personalization. The ongoing support includes a direct mentor for the partnering school leadership team as well as access to pre-built resources (e.g., parent night templates, assessments). Finally, professional development is provided over three years through both summer trainings and regional convenings.

In exchange, the school district agrees to "follow the general program requirements" of the Summit Learning framework. These include (a) changing the academic calendar and class schedule to incorporate the Summit model, (b) mentoring students through 1:1 check-ins at least 10 minutes per week, (c) embedding the Summit Cognitive Skills Rubric into projects and assessments, (d) teaching mathematics in the specific way recommended in the platform, (e) adjusting grading policies to fit the platform approach and specifically not include homework in grading, (f) administering a prescribed standardized assessment at least twice a year, (g) providing each student with a computer with a keyboard, (h) using the Google Chrome browser, (i) syncing the district's student information system software with Summit's platform, and (j) providing robust Internet access in every classroom. By committing to these changes within their school, the participating teachers set a new minimum expectation for teaching that includes assigning projects, providing personalized learning time, mentoring and coaching, changing grading processes,

and integrating technology. These commitments form the core of the reform within the classroom level. Meanwhile, at the school level, leaders are tasked with changing school structures, such as the school schedule and technology purchasing.

Outside of the specific network hub itself, responsibility for student performance tracking is not clear due to limited published research. Studies are presently underway to explore the impact of this specific platform network approach on student learning. A similar platform network, The New Tech Network, has been operating far longer than Summit Learning. Research on this long-standing network has revealed a variety of formats that helps to provide insight into the impacts of a platform network approach.

The New Tech Network, operated by the KnowledgeWorks Foundation, has over 200 schools across all school levels in the United States and Australia serving over 80,000 students. Participation in this platform network is also a whole-school reform approach in which a school district agrees to implement components of a progressive learning model that includes project-based learning, performance assessments aligned to a broader profile of student skills, establishment of external partners, shared professional development, onsite and virtual coaching for staff members, and a shared, digital learning-management platform that contains exemplar projects, assessments, and gradebook (Vander Ark & Dobyns, 2018). As opposed to the Summit Learning's free cost of entry, the cost of entry to the initial 4.5-year contract with New Tech Network can reach $500,000 with a $20,000 sustaining access fee beyond the initial contract term.

A developmental evaluation of the New Tech Network using an exploratory case study of the hub organization and three school-

implementation sites was conducted by Peruach and colleagues (2016) during the 2010-2011 school year. The researchers deemed at that time that the Network was an *incubation enterprise* that allowed for high variability within local contexts. At the school level, the network platform, Echo, was reported as the source of routines and guidance; all participants interviewed during the study acknowledged that the content in the platform was useful only as a model and that not all project examples were rigorous. Success within the New Tech model at that time depended on schools embracing the task of designing their own implementation of the ideas, supported both by the platform and by the network. At the hub organization level, a robust community supported innovation, communication, and a culture of learning but lacked formal processes around data collection, analysis, and sharing. Thus, the network lacked a way to assure student learning. After the researchers presented their report to the network hub, several changes were implemented that help to shape the modern iteration of the network today.

Further, the New Tech Network was part of one of the most rigorous examinations of progressive school network impacts conducted to date. The American Institutes for Research examined 20 model schools within 10 comprehensive school-improvement networks that were all committed to deeper learning models, including two New Tech schools (Huberman, Bitter, Anthony, & O'Day, 2014). These schools were matched to comparison schools outside of the networks. Analyses were conducted across a wide variety of assessments. These included the strategies, structure, and cultures within deeper-learning network schools (Huberman et al., 2014), access and opportunity to experience deeper learning (Bitter, Taylor, Zeiser, & Rickles, 2014), evidence of deeper-learning model outcomes on students' high school graduation and college enrollment

(Zeiser et al., 2014), relationships between deeper learning competencies and high school graduation rates (Rickles, Zeiser, Mason Garet & Wulach, , 2016), and impacts of school features, including leadership, on providing student access to deeper learning (Huberman, Duffy, Mason, Zeiser & O'Day, 2016). In short, though, students in the network schools scored higher on the PISA examination, reported more positive interpersonal and intrapersonal outcomes, were more likely to graduate from high school and enroll in four-year institutions rather than two-year institutions; further, low-performing students were more likely to enroll in college (Zeiser et al., 2014). This extensive research also indicated direct leadership implications through teacher surveys reporting higher levels of instructional leadership and coherence (Huberman et al., 2016).

Discussion: Potential Leapfrog Strategy for Leaders

According to Vander Ark and Dobyns (2018), "while a few schools with heroic leadership can function in the long term on their own, most schools should join a network or operate within a network—or a district that operates like a network" (p. 130). While this broad pronouncement is perhaps too forward leaning for most educators, school leaders should consider the potential benefits of joining comprehensive school-improvement networks and, in particular if feasible, networks that are coupled with electronic platforms. Schools have struggled, globally, for decades with a variety of challenges. As in both Kentucky within the United States and South Africa, school governance laws place much of the responsibility for critical choices about school models and supports at the local district level or even at the school level itself. While these approaches may positively increase democratic participation among parents, teachers, and students, it likewise places enormous burdens on school leaders

to provide a structural model, curriculum guidance, pedagogical supports, assessment development, data analysis, and evaluation of both programs and personnel. These responsibilities are only compounded by the complexity of changing learning support technologies. These tasks can be onerous and lonely for school leaders. The research on school networks, while not proven effective in all cases, evidences enough positive impact that leaders should consider the costs and benefits of these additional supports.

For developing countries, particularly those invested in site-based governance such as South Africa, school networks represent a promising, non-governmental alternative to supporting school reform. Even without electronic devices and Internet-access requirements to support modern learning management platforms, lessons can be drawn in how local networks can be developed, deployed, and evaluated. It is estimated that billions of dollars over decades have been invested in the United States in the slow development of effective comprehensive school-reform networks (Peurach et al., 2016). These investments, hopefully, do not need to be replicated within each context. Clear lessons are emerging about the impacts of school networks, particularly those paired with platforms that can be replicated more efficiently. For instance, the usage of clear network participation criteria in the contracts that are signed by local governing councils can help to set minimum teaching and classroom expectations as well as help to change stubborn school structures.

One large outstanding issue is how such networks are funded. The New Tech Network helps to establish a price for initial implementation of large-scale, network-based reforms at nearly $500,000 over five years. Summit Learning is rapidly showing, however, how philanthropists can offset funding of the central hub

activities to permit local schools to join networks at low or no direct cost. Further, as all countries continue to invest in networks, consideration of the development of publicly owned networks should be a critical issue as intellectual property and other benefits remain mostly in private hands. Local school districts and, in particular, public universities may have both the strength and the interest to support public platform networks.

Alternatively, while clear opportunities are inherent in the networks, threats are present as well. First, a large amount of capital has been invested in networks over the past few decades, but the results are still mixed. It is hard to build, scale, and sustain robust learning environments across a wide variety of contexts. Operating great schools is hard, and networks are not a magic bullet. When network implementation is dependent on distributed leadership models that have the risk of being disconnected from the ideas and energy of the central hub, the potential for low-quality execution and thus disruption is high.

Second, existing networks are largely private in nature. Most are not-for-profit organizations, but even within this context the ideas are copyrighted and reside behind various walls that limit usefulness beyond the networks. The private nature of these enterprises also opens the door to risks such as unauthorized data sharing. Further, as a private enterprise, a network could close and, with it, access to the learning platform and constituent data.

Third, as Means (2018) articulates more broadly, a socio-technology platform approach to learning carries with it potential risks such as the ability to extract value from the public learning systems, potential for easily-measured low quality implementation that lead to a lack of robust student skills, expansion of socio-emotional health

concerns and digital dementia, and risk of exacerbating inequality. Algorithmic-driven learning, in particular, risks lacking the nuance and relationships that underlie a more personalized approach to learning.

As with any new innovation in learning systems, school leaders must be cautious. Disruptive technologies have great potential to help with generational challenges, but they also have the potential to disrupt children, the very lives we hold most sacred (Lehmann & Chase, 2015). It is not a surprise that communities struggle with such large-scale reform. The confusion and difficult conversations in the rural loop of the Ohio River in Trimble County, Kentucky, reflect hard conversations and new learning that need to unfold in every community. For countries such as South Africa where networks are beginning to take hold, the potential for disruption is even greater. Still, society largely acknowledges the existing limitations inherent in our industrial systems of schooling. Thus, schools are facing new pressures to personalize learning, integrate technology, conduct robust performance assessments, use competency and mastery advancement models, and equip students with a broader range of skills on top of the vast existing challenges of operating the buildings and providing care to children and families on a daily basis. As is a tradition for education in much of the world, schools are being asked to do more while being provided less. Creative exploration of the collective strength of networks coupled with the amplification power of platforms may permit schools and school leaders to not only to meet the expectations of society but, more importantly, provide a better education to every child.

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About the Authors.

Justin Bathon, PhD, JD, is Associate Professor of Educational Leadership Studies and Co-Director of the Next Generation Leadership Academy at the University of Kentucky. His research focuses on the underlying code of education and changes necessitated by the digital, global era. Email: justin.bathon@uky.edu

Jean W. van Rooyen, PhD, is Chief Executive Officer of Quality Management Consultants and Executive Manager of the Interuniversity Centre for Education Law in South at the University of Pretoria, South Africa. Email: jeanwvrooyen@gmail.com

Rika Jobert, PhD, is Professor Emeritus of Education Management and Policy Studies at the University of Pretoria, South Africa. Email: hendrickajoubert@gmail.com