Professional Learning in Appalachia

Microcredentials show promise in overcoming the challenges of offering rural educators high-quality opportunities.

Melissa Tooley and Sabia Prescott

All teachers need high-quality, relevant, ongoing professional development, but it is particularly hard to come by in rural areas.[1] The Kentucky Valley Educational Cooperative (KVEC), an educational service agency serving some of the most economically distressed rural counties in America, has been leading one promising model for delivering professional learning to educators in the region. Microcredentials are an important component.

Established by eight small school districts in rural eastern Kentucky in

1969, KVEC now serves 23 districts, 140 schools, and over 50,000 students in a part of Appalachia roughly the size of Connecticut.[2] Compared with the nation as a whole, Appalachia's population is largely rural: 42 percent, compared with 20 percent nationally.[3] And rural Appalachian residents face greater challenges than rural residents in other parts of the United States. Overall, they have lower levels of education, employment, income, and access to the internet, and higher levels of poverty and disability.

Access and Quality

This rural context affects K-12 teachers' jobs in myriad ways. Students' families may face more daily stressors than other families, and they may also fear that academic success will draw their children out of the area to attend postsecondary education or training or to find good jobs.[4]

Because school budgets are largely tied to the local tax base, rural schools may have limited funds to provide the resources teachers need to do their jobs well. A study of professional development offered in Oklahoma in the 2015–16 school year, for example, found that a lower percentage of rural schools offered professional learning opportunities of every type than nonrural schools (figure 1). Most concerning, the greatest inequities were in sustained formal and informal collaborative learning, including coaching, in areas relevant to district, school, teacher, or student data and/or goals—that is, the very types of experiences shown to be most effective in improving teacher practice.[5]

The study found scheduling conflicts with other school or professional activities to be the biggest barrier to teachers attending professional development generally, and for teachers in rural schools in particular. This barrier is magnified because schools must pay substitutes to cover any instructional hours teachers must miss, assuming that schools can find substitute teachers at all.[6] And because of small staff sizes in rural schools, teachers often have to take on additional roles—as athletic coaches, counselors, even bus drivers—making finding time even more difficult.

Rural principals also take on more roles than their peers, including ones that would usually be delegated to a vice principal or support staff in bigger schools.[7] A principal may even manage multiple schools in a district. So while the principal may technically be the instructional leader in a school, she may lack the capacity to provide direct coaching and support to teachers.[8]

It is also possible that a teacher may be the only one in their school—or even their district—teaching a subject or grade level. This absence of peers affects teachers' ability to engage in meaningful professional collaboration and learning, and it also has implications for social-emotional well-being. Coupled with the geographic distance to attend learning opportunities, professional isolation can push teachers to move to larger, less-isolated, more well-resourced districts.[9]

Role for Microcredentials

Even before the pandemic hit, some rural districts and the organizations that support them, including in Appalachia, were changing their approaches to teacher professional learning. When Kentucky eliminated educator professional learning from its budget in 2014 and districts struggled to support teacher development, KVEC sought to build professional connections between educators and to ground its professional learning in research on how adults learn best—by doing, not by watching or listening. It developed a suite of digital tools in conjunction with in-person professional learning to serve rural educators.

One such tool is microcredentials. A microcredential is not professional development in and of itself, neither is it a course. Like credentials such as degrees or diplomas, it recognizes knowledge and skills acquired, and it typically takes the form of a digital badge that teachers can display in social media accounts like LinkedIn, email signatures, or even in "digital backpacks" designed specifically for collecting and displaying digital badges (figure 2).[10]

Unlike many other credentials, a teaching microcredential verifies that a teacher possesses a discrete skill or competency, which the teacher demonstrates by submitting evidence. Currently, the granularity of the teaching skills that microcredentials cover varies widely—from small and specific ("using wait time effectively") to big and broad (e.g., "culturally responsive pedagogy").[11] Demonstration of skills may be via videos,

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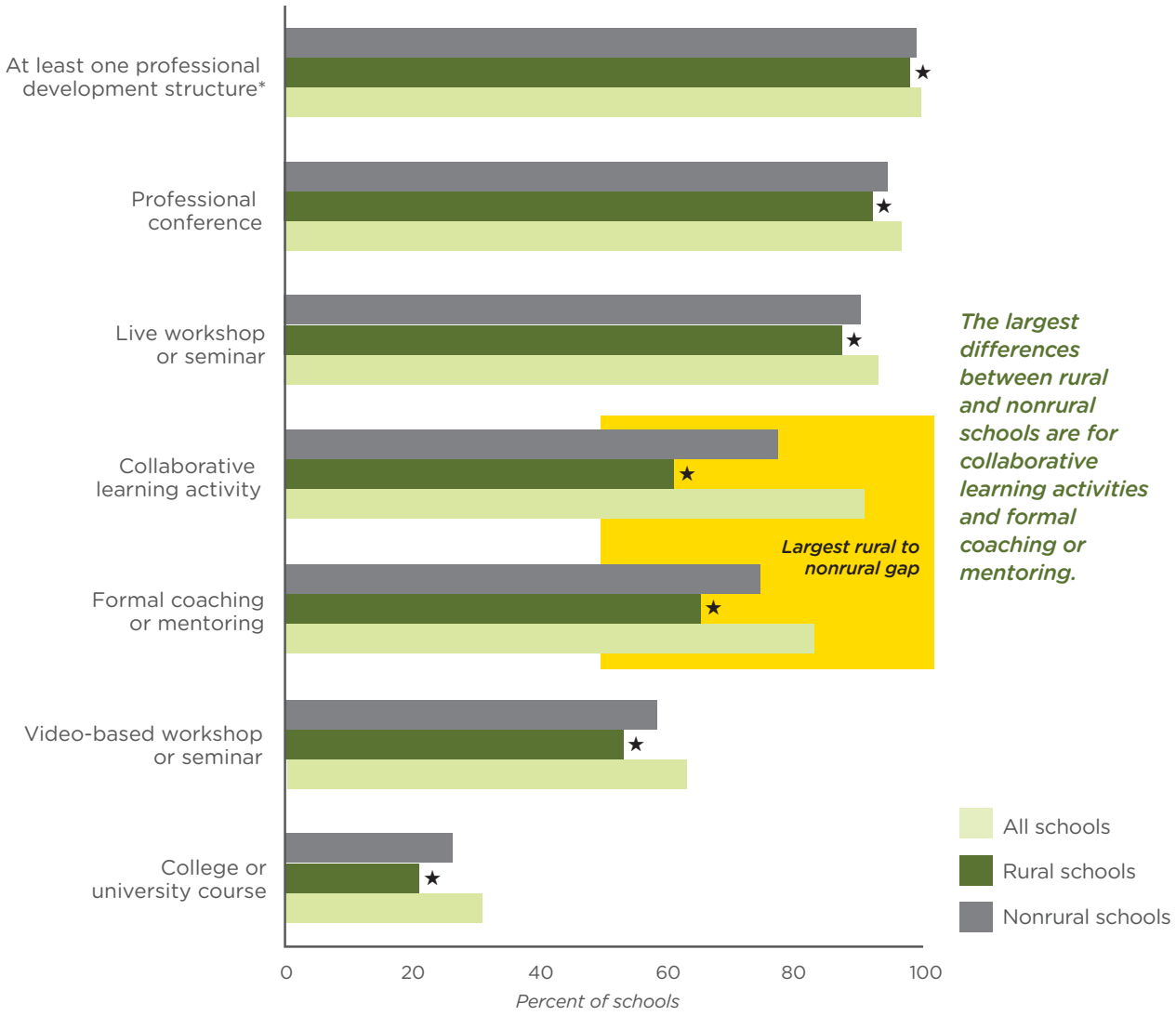
Figure 1. A lower percentage of rural schools than of nonrural schools in Oklahoma offer each professional development structure for teachers, 2015–16



★The difference between rural and nonrural schools is significant at p<.05.

a. Indicates that a school or district offered any of the following: professional conference, live workshop or seminar, collaborative learning activity, formal coaching or mentoring, video-based workshop or seminar, or college or university course.

Source: Pia Peltola et al., "Opportunities for Teacher Professional Development in Oklahoma Rural and Nonrural Schools," REL 2017–273 (Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest).

student work, lesson plans, written reflection, or any other evidence of professional practice or student outcomes.

And while the microcredential itself is not professional development, earning a high-quality microcredential requires engaging in the kind of professional learning that research supports. Typically, earning a microcredential requires teachers to engage in "action research" by identifying a professional learning need, engaging in study to address that need, trying to implement the designated skill as part of their practice, and reflecting on the outcomes. KVEC supports this process by helping teachers identify professional learning needs and finding microcredentials and other professional development resources to support those needs. And if a microcredential is not available, KVEC develops it.

"Rather than asking educators to spend their limited time and money traveling great distances for professional learning, we chose to use technology as a tool for overcoming distance,"

wrote Jennifer Carroll and Robert Brown, who lead this work. "We began developing our own personalized, competency-based microcredentials to connect our educators with new opportunities to improve their teaching and advance in their careers."

KVEC's microcredential efforts address other challenges rural teachers face as well. The microcredentials on Digital Promise's microcredential platform, including many that KVEC developed, are either free or low cost—$25 to $50—versus the hundreds or thousands of dollars it costs to attend a conference or enroll in a graduate-level course. Many of the supporting resources are provided online as well, so teachers can choose convenient times to engage with them.

Teachers must apply their learning to their work and reflect on outcomes, and this is where microcredentials hold the biggest promise. But to do this efficiently and effectively, teachers need guidance and support. KVEC hosts an online community, "The Holler," for educators to share ideas and questions as they learn and experiment.[13]

KVEC also helps principals develop their capacity to provide instructional leadership through its Activating Catalytic Transformation (ACT) initiative. Teachers, principals, and central office staff collaborate to identify problems of practice that student data points toward and create theories of action and logic models to address those problems. The ACT work sessions often uncover professional learning needs. While some can be met through mentoring, coaching, or networking, some are best suited to what Carroll refers to as "clinical professional learning," including microcredentials.[14] Because finding time for more work is a challenge in selling things to teachers, it is important that selected microcredentials have "meaning for their context and are focused on things that they would need to be doing anyway," one principal said.[15] In several districts, principals have encouraged teachers in their school to earn the same microcredential to address a particular problem of practice; in others the approach is more individualized.

Outcomes

KVEC has influenced teacher professional learning beyond its member districts. In 2019, Kentucky's Education Professional Standards Board added an option for achieving the second tier of teacher licensure: a district-developed professional learning plan that is informed by data on professional and student needs and incorporates some form of assessment of teachers' success in achieving the plan. The regulations explicitly allow microcredentials to be part of these plans.[16]

While KVEC's approach does not address every professional learning challenge, some evidence suggests it may promote rural education equity. For her doctoral research, Carroll examined two groups of rural Kentucky teachers: 50 who pursued microcredentials and 50 who did not.[17] Students of teachers who engaged in microcredentialing scored significantly higher on a nationally normed academic progress exam in spring 2019 than did students of teachers who engaged in other forms of professional learning.[18] The study also showed a statistically significant relationship between educators' positive perceptions of professional learning, as measured by the Learning Forward Standards Assessment Inventory, and their engagement in microcredentialing as compared with teachers who engaged in other forms of professional learning.[19]

As with similar studies of National Board certified teachers,[20] it is difficult to tell whether these outcomes are only or primarily measuring selection bias (i.e., teachers who are already more effective or motivated are more likely to pursue microcredentials), whether other factors are at play (more instructional-leader or peer support) or whether there is something about KVEC's microcredentialing process itself that is contributing to student outcomes. Nonetheless, it is the case that teachers saw value in the process that they did not see in more traditional development opportunities.

Ongoing Challenges

As Jennifer Carroll said, "Microcredentials should be one tool in the teacher professional learning toolkit, not the entire toolkit." Microcredentials can provide an impactful learning experience because they encourage educators to curate and reflect on evidence of practice. However, most microcredentials are not now designed primarily to provide intensive

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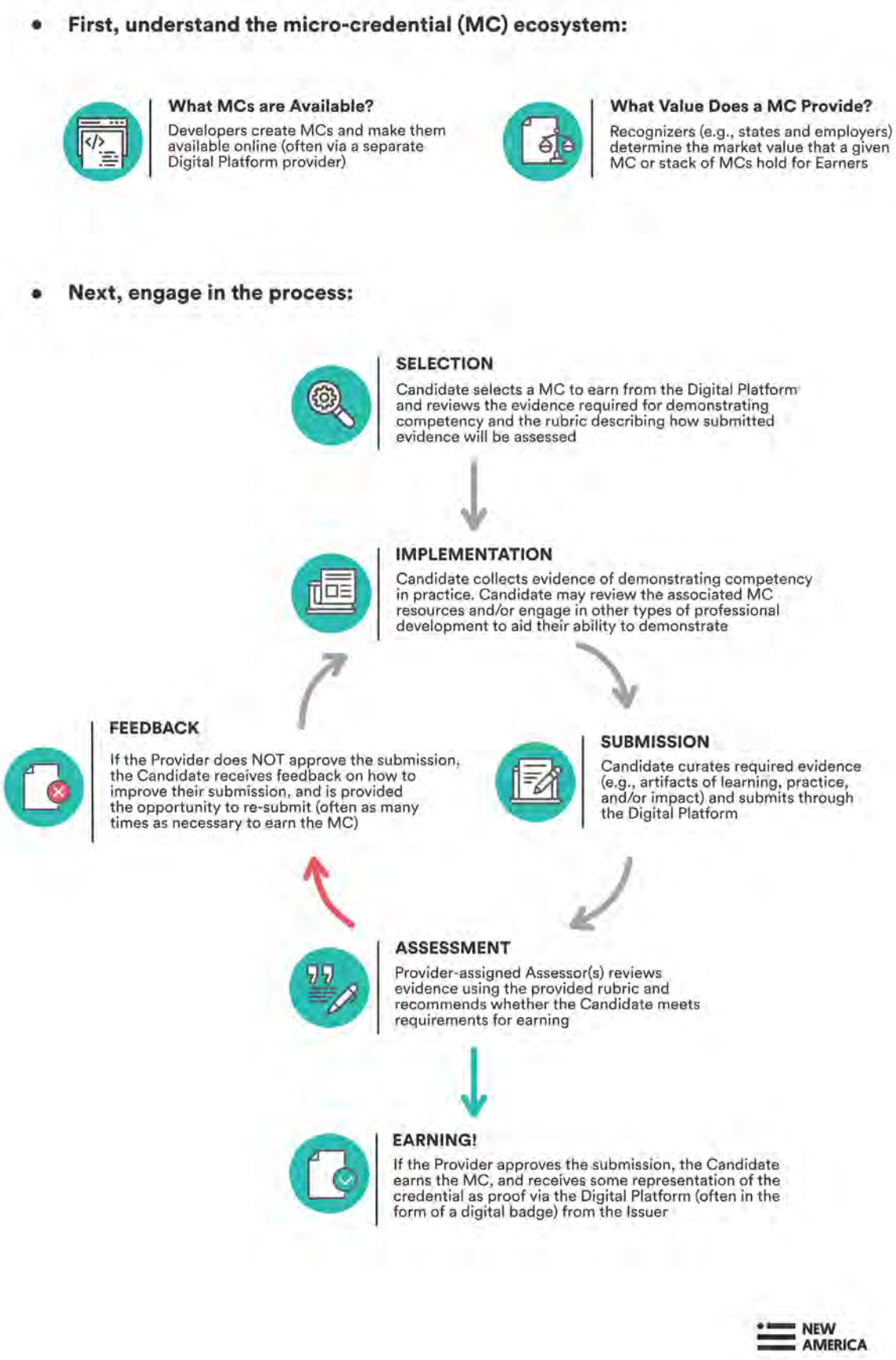
Figure 2. The Process To Earn a Micro-Credential



training in a particular competency. As such, districts and even individual teachers often still need other supports.[21]

With COVID-19 squeezing school finances everywhere, funding for high-quality professional learning will likely remain an issue for some time. While access to microcredentials is generally free or affordable now, it is unclear whether the philanthropic and competitive grant funding that make that affordability possible will continue. Anecdotal evidence from microcredentials' implementation, combined with prior research on the characteristics of impactful professional development, underscore teachers' need for feedback and coaching throughout the microcredential process. Such coaching can be scarce, particularly in rural schools. A few microcredential providers include virtual coaching either as a standard or add-on feature, but that raises its cost.[22]

While online professional learning may address barriers to physical access that many teachers across Appalachia and other rural areas face, it presents a new set of challenges around digital equity. Appalachia as a whole is less connected to the internet than the general U.S. population. In 2018, the Appalachian Regional Commission reported 75.1 percent of residents in the region had broadband at home, compared with 80.4 percent nationally and 67 percent in the least connected areas of the region, primarily in central Appalachia.[23]

A national Pew Research Center survey conducted the same year found that roughly six in ten rural residents see internet speeds in their community as a problem.[24] Speed and reliability may be particularly salient challenges for teachers who rely on the internet at community centers or public libraries, which often have slower speeds to accommodate multiple users, or for those at home needing to stream video or access large files as professional learning resources while accommodating family members who are online simultaneously—an increasing challenge in the age of COVID-19.

Internet connection is not the only challenge. Device access and digital literacy are key factors in rural residents' ability to take full advantage of online professional learning. In fact, having devices available and the ability to use them matter just as much as the speed and quality of connection.[25] The gap between those with and without the skills to maneuver online programs, platforms, and software—commonly called the "new digital divide"—includes disproportionately high percentages of rural and low-income residents.

Additionally, having reliable access to a personal computer—not just a smart phone or a tablet and not a device shared with others—makes it much easier to meet the demands of online professional learning. Yet rural users are more likely to have access to the internet only via a mobile device.[26]

KVEC and other providers are cleareyed that microcredentials will not produce results different from "sit-and-get" professional development just by virtue of being asynchronous and virtual. Carroll emphasizes the importance of microcredentials not becoming "the tail wagging the dog."[27] For this reason, KVEC describes its work as helping to "create systems of personalized, competency-based professional learning, which include microcredentials," rather than as a set of microcredentials that sum to personalized, competency-based professional learning. Thus the biggest challenge may be in communicating the value of tools like microcredentials without overselling them as a silver bullet.

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Considerations for State Boards

KVEC recognizes that rural districts and schools need professional learning to serve their students well, and they need educators to feel connected and supported in order to attract and retain them. KVEC is not alone in this work. Improving Curriculum serves a primarily Iowan constituency, and Center for Teaching Quality helps districts across the country think differently about professional learning—not as a box to check but an opportunity to transform school culture. Ultimately, high-functioning systems ensure that teachers can practice new skills and receive feedback, using technology and tools that have become more cost-effective and efficient.

To promote high-quality, technology-supported professional learning for educators in rural districts, state boards of education can take on these tasks:

- Work with regional educational service agencies (RESAs) and other local education organizations to promote and support the

Ensure that state board guidance and policies cite microcredentials as an acceptable use of professional learning funds.

development of virtual professional learning communities that include affinity groups for specific specializations, such as special education, to minimize professional isolation.

- Share information with RESAs, districts, and schools on what high-quality professional learning entails and how they can affect teacher satisfaction and retention, as well as student engagement and other outcomes.
- Encourage RESAs, districts, and schools to revisit the use of in-service professional development days to reflect best practices in professional learning, and provide resources to help them experiment with creating more consistent opportunities for teachers, independently and collaboratively.[28]
- Ensure that state board guidance and policies explicitly cite the submission and earning of high-quality microcredentials as an acceptable use of district and state professional learning funds when they are part of a comprehensive professional learning plan, and ensure that state funds are made available for these purposes.
- Revisit state license renewal policies to allow completion of high-quality microcredentials aligned with individual needs for professional growth, to count them toward professional learning requirements, and to give them greater weight than professional development with less potential for effectiveness.
- Turn to state broadband commissions, regional networks, community-based groups, and school leaders to identify the unique infrastructure, connectivity, and device needs in schools, and help districts identify available resources to meet those needs.
- While federal programs such as E-Rate have not yet been extended to better serve students and teachers off campus, states might consider reallocating funds that were previously used for in-person activities to provide broadband and devices to educators in need, such as through the distribution of wireless hotspots or personal device rentals. ■

[1]Hayes Mizell, "Why Professional Development Matters" (Oxford, OH: Learning Forward, 2010); Anna Toropova, Eva Myrbert, and Stefan Johansson, "Teacher Job Satisfaction: The Importance of School Working Conditions and Teacher Characteristics," *Educational Review* (January 8, 2020), https://www.tandfonline.com/doi/full/10.1080/00131911.2019.1705247; Pia Peltola et al., "Opportunities for Teacher Professional Development in Oklahoma Rural and Nonrural Schools," REL 2017-273 (Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest, 2017).

[2]The Appalachian Region as a whole includes all of West Virginia and parts of 12 other states.

[3]Kevin Pollard and Linda A. Jacobsen, "The Appalachian Region: A Data Overview from the 2014–2018 American Community Survey: Chartbook" (Appalachian Regional Commission, June 2020), https://www.arc.gov/wp-content/uploads/2020/08/DataOverviewfrom2014to2018ACS.pdf.

[4]Phone conversation with James Beeler, senior director, College Access Partnerships, Appalachian State University, August 20, 2020.

[5]Peltola et al., "Teacher Professional Development in Oklahoma"; Melissa Tooley, "What Does High-Quality Research Say about Developing Teacher Practice?" blog (Washington, DC: New America, March 16, 2017).

[6]Madeline Will, "Low Pay and High Risk: Being a Substitute Teacher during COVID-19," *Education Week*, August 10, 2020.

[7]Melissa Tooley, "From Frenzied to Focused: How School Staffing Models Can Support Principals as Instructional Leaders" (Washington, DC: New America, June 2017).

[8]Megan Lavalley, "Out of the Loop" (Alexandria, VA: Center for Public Education, National School Boards Association, January 2018).

[9]Aimee Howley and Craig B. Howley, "High-Quality Teaching: Providing for Rural Teachers' Professional Development," *Rural Educator* 26, no. 2 (Winter 2005).

[10]Michael B. Horn, "Taming the Wild West of Digital Badges and Credentials," *Forbes*¸ October 12, 2017.

[11]Melissa Tooley, "Teacher Microcredentials: State Considerations for Professional Development and License Renewal," blog (Washington, DC: New America, June 11, 2019).

[12]Jennifer Carroll and Robert Brown, "This District Uses Microcredentials to Boost PL," *eSchool News*, January 23, 2020.

[13]For example, see https://www.theholler.org/hollers/act-activating-catalytic-transformation/.

[14]Phone interview with Jennifer Carroll and Robert Brown, Kentucky Valley Education Cooperative, April 17, 2019.

[15]Conversation with Anna Prince, principal, Louisa East Elementary, Lawrence County Schools, Kentucky, June 18, 2019.

[16]Education Professional Standards Board, Continuing Education Option, Plan II Guidelines, approved August 20, 2019, http://www.epsb.ky.gov/pluginfile.php/618/mod_page/content/6/CEO%20Plan%20II%20Guidelines.pdf.

[17]Because teachers generally elected to participate in microcredentials, this study was not a randomized control trial.

[18]The Northwest Evaluation Association's Measures of Academic Progress interim assessment was used.

[19]There was not a statistically significant relationship between microcredentialing for professional learning and educator professional practice ratings on the Kentucky Framework for Teaching (2017).

[20]Dan Goldhaber and Emily Anthony, "Can Teacher Quality Be Effectively Assessed? National Board Certification as a Signal of Effective Teaching" (Washington, DC: The Urban Institute, 2005); James Cowan and Dan Goldhaber, "National Board Certification and Teacher Effectiveness: Evidence from Washington State," *Journal of Research on Educational*

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increase access to services and decrease risks to rural children when they work together. Additionally, state boards should be asking how state organizations can effectively support rural populations in equitable, respectful ways. In particular, outside entities should not adopt a savior mentality when working with rural children and families. Instead, collaborative efforts should recognize and capitalize on the strengths of rural places. It will take collaborative, equity-focused practices to effectively address the challenges that rural children and their families face due to the pandemic. ■

[1]Tim Murphy and Tim Marema, "New Cases Put 80% of Rural Counties in the Red Zone," *The Daily Yonder*, November 2020.

[2]Rasheed Malik and Katie Hamm, "Mapping America's Child Care Deserts" (Washington, DC: Center for American Progress, August 2017).

[3]Linda Smith, Suzann Morris, and Manami Suenaga, "Family Child Care: A Critical Resource to Rural Communities during COVID-19" (Washington, DC: Bipartisan Policy Center, July 16, 2020).

[4]Judith Cohen et al., "Helping Children with Traumatic Separation or Traumatic Grief Related to COVID-19," tip sheet (Los Angeles, CA, and Durham, NC: National Child Traumatic Stress Network, 2020).

[5]Leila Schochet, "5 Facts to Know about Child Care in Rural America" (Washington, DC Center for American Progress, June 4, 2019).

[6]Chloe Teboe, "Families in Rural Maine Struggle to Find Child Care during COVID-19 Pandemic," News Center Maine, August 31, 2020.

[7]Digital Bridge K-12, "The Connectivity Challenges Schools Face with Implementing Distance Learning during COVID-19," web page, 2020, https://digitalbridgek12.org/toolkit/the-challenge/school-connectivity-challenges/.

[8]Javeria Salman, "Hotspots No Silver Bullet for Rural Remote Learning," *The Hechinger Report*, September 9, 2020.

[9]Naaz Modan, "Wi-Fi and Hotspots 'Still Won't Work' for Rural Districts Lacking Connectivity," *Education Dive*, March 27, 2020.

[10]Katie Peikes, "How Rural Schools Are Feeding Kids during the Pandemic," *Harvest Public Media*, April 13, 2020.

[11]Caroline Danielson and Niu Gao, "Tackling Food Insecurity among K-12 Students during COVID-19" (Public Policy Institute of California, May 28, 2020).

[12]U.S. Centers for Disease Control and Prevention, "Operating Schools during COVID-19," web page (updated September 1, 2020), https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/schools.html.

[13]U.S. Centers for Disease Control and Prevention, "Guidance for K-12 School Administrators on the Use of Masks in Schools," (updated August 11, 2020), https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/cloth-face-cover.html.

[14]Kirk Siegler, "Why Parts of Rural America Are Pushing Back on Coronavirus Restrictions," National Public Radio, May 27, 2020.

[15]Ohio Valley Museum of Discovery, STEAM Packs for Students, web page (updated November 29, 2020), http://www.ovmod.org/steampacks/.

[16]Jesse Higgins, "COVID Has Made Rural Schools Suddenly Responsible for Getting Internet to Kids in Remote, Underserved Areas," *Charlottesville Tomorrow*, August 27, 2020.

[17]George M. Holmes, Brystana G. Kaufman, and George H. Pink, "Predicting Financial Distress and Closure in Rural Hospitals," *Journal of Rural Health* 33 (2017): 239–49, https://doi.org/10.1111/jrh.12187.

[18]Sara Heath, "Urban-Rural Divide Opens for COVID-19 Test Sites, Access to Care," Patient Engagement Hit (May 21, 2020).

[19]Elizabeth York Thomas et al., "Spotlight on Child Abuse and Neglect Response in the Time of COVID-19," *The Lancet: Public Health* 5, no. 7 (July 2020), https://doi.org/10.1016/S2468-2667(20)30143-2.

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[22]Temple, "Mitigating COVID-19's Rural Impact."

[23]Radcliffe and Pollack, "Rural Child Social Workers."

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[22]Phone interview with Evan O'Donnell, director of Analytics and Innovation at Teaching Matters, September 9, 2020.

[23]"Data Snapshot: Computer and Broadband Access in Appalachia," infographic, July 2020, https://www.arc.gov/wp-content/uploads/2020/07/DataSnapshot-ComputerAndBroadbandAccessInAppalachia.pdf.

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