Educator's Guide to Digital Equity: Removing Barriers to Systemic Inclusion

By Robert McLaughlin and Paul Resta

About This Guide

This Guide is meant for current and future classroom educators and educational leaders, as well as educator preparation faculty, to identify students who are facing digital divide challenges at home and don't know where to turn for resources and allies to overcome these challenges.

The Covid-19 pandemic, nearly universal closing of schools and colleges, and the movement toward "hybrid" and purely online learning have greatly intensified the need to rapidly locate digital equity resources and allies, as well as to *build community capacity to permanently narrow local digital divides.*

In Chapter One, we'll provide a framework delineating all of the essential dimensions of a systemic approach to digital equity and point to free and deeply discounted resources to address each dimension, along with allies and sources who make them available.

In Chapter Two, "Building Community Capacity for Digital Equity: Allies and Strategies", we'll consider how many school systems, especially in low- and moderate-income ("LMI") communities, are almost surely going to face persistent digital divide challenges. We will identify allies and explore strategies used by many communities to build local digital equity capacity. In a small but growing number of instances, local digital equity champions have succeeded in opening up new sources of sustained funding for affordable broadband, devices and additional learning tech essentials by coupling digital equity with other key social goods such as affordable housing, job creation, workforce development or telemedicine.

At the **National Collaborative for Digital Equity** (NCDE), we've specialized in developing sustained initiatives that foster statewide networks of local leaders from education, banking, philanthropy and workforce development, to design local efforts to remove digital divide barriers to educational and economic opportunity. There are other expert networks as well —e.g., Next Century Cities, the **Schools, Health and Libraries Broadband Coalition** (SHLB), and the National Digital Inclusion Alliance (NDIA)—many of whose members have undertaken similarly noteworthy approaches to developing local digital equity capacity. The aim we all share is to permanently remove digital divide barriers, especially for those living in LMI communities. You'll find much to learn and draw upon from these expert networks' efforts.

About the Authors

Dr. Robert McLaughlin, co-founder and executive director of the National Collaborative for Digital Equity, conceived the effort to persuade federal policy makers to give federally insured banks credit toward meeting their Community Reinvestment Act requirement to invest in economic opportunity in low- and moderate-income communities. He brings to this work several decades of experience in education as a K–8 teacher, principal, and education dean. He also has experience in STEM educational reform, educational policy analysis and innovation, and designing and leading large-scale technical assistance initiatives. He also led a nine-state consortium of state and local educational leaders undertaking STEM educational reform and educational technology integration at school and preparation program levels.

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Key Dimensions of the Digital Divide

Low-and moderate-income (LMI) learners of all ages need equitable access to each of the following dimensions:

1. Broadband
2. Computing devices (with keyboards, wherever possible—i.e., not just smartphones)
3. Apps/software for learning and productivity
4. Tech support
5. Digital learning content for educational opportunity and economic inclusion
6. Librarian support
7. Headsets to facilitate online learning
8. Support for e-learning pedagogy and a safe online learning climate

BROADBAND

The best compilation on deeply discounted broadband nationwide is DecisionData.org's stellar **Low-Income Internet Options** and **NDIA's Free and Low-cost Internet Plan** tracker.

Of special note, this guide prominently features Comcast's **Internet Essentials** program, which was and remains the first, largest and, in our view, best private sector initiative to spur affordable broadband access across Comcast's geographic footprint nationwide.

The only significant affordable-broadband initiative at scale to predate the Internet Essentials program was the national commitment made by the American Library Association in the mid-1990s to mobilize as many of its public libraries as possible nationwide to offer walk-in access for patrons to free broadband, computer access and, very often, free training and user support. Notably, **over 96% of the US population is served by a local library**, according to the Institute of Museum and Library Services.

Another useful resource is this free Wi-Fi hotspot finder. Using crowdsourcing and mobile apps, this website enables users to find the most current available information on the location of free hotpots where one can gain free Internet access: **https://www.wifimap.io/**. For those seeking deeply discounted

educational broadband, the industry leader is **Kajeet**, which bundles affordably priced mobile hotspot devices with

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a co-op approach to purchasing data plans in bulk, and filtering users' access to exclude all but educational purposes (e.g., no user access to Netflix, because this would go through participants' shared pool of available broadband data too quickly). Kajeet offers its educational broadband service nearly everywhere where there is fair to excellent cell phone data coverage, by purchasing data "blocks" from all the major telcos. Their hotspots and data plans have been used very effectively for affordable home broadband access as well as for broadband on and near school buses (e.g., adjacent to an affordable housing complex).

Educators serving students who are experiencing housing insecurity— e.g., homelessness—will find mobile hotspots especially relevant to their students' need for broadband they can bring with them.

HUD and EveryoneOn have a longstanding partnership with several dozen public housing authorities, under their **ConnectHome USA** initiative, that combines free broadband, computers and training for low-income public housing residents.

Additionally, as more low-income families get connected to the Internet at home, Comcast is reaffirming its commitment to continuously enhance the features included in its Internet Essentials program. Comcast has created a new program, the Internet Essentials Partnership Program for cities, school districts, and community-based organizations, to rapidly connect large numbers of low-income students and families to the Internet at home. The Internet Essentials Partnership Program enables participating organizations to sponsor or pay for service on behalf of eligible families. Sponsored families have access to all the benefits Internet Essentials has to offer—a highspeed Internet connection at home, the option to purchase a low-cost computer, and access to free digital skills training in person (if safe), online, and in print during critical times.

Finally, with regard to affordable broadband solutions for lower-income students, a resource that individual educators are likely not able to leverage, but may want to bring to the attention of their school administrators, school board and other educational system leaders is "single-payer agreements" than enable a community or coalition of communities to pool their buying power to negotiate sometimes deeply discounted broadband programs. See NDIA's **resource about this strategy**.

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COMPUTERS

A growing number of the aforementioned providers of discounted Internet access—e.g., Internet Essentials—offer new and refurbished computers at deep discounts. The **DecisionData** link points to a number of these.

In addition, the **Alliance for Technology Refurbishing & Reuse** (AFTRR) offers a **national locator** for providers of free and deeply discounted computers (including information on local, state and regional programs that accept donations of used computers for refurbishment and subsequent resale or donation to LMI families).

Quite a few members of the **National Digital Inclusion Alliance** (more on NDIA in the next chapter) offer programs providing free or deeply discounted computers, often with free training. For example, Boston-based **Tech Goes Home** has for years offered free training, broadband and computer access and now is expanding to several other cities.

NDIA provides an unrivalled, **free listserv** that enables one to ask several hundred digital equity advocates and experts where to find resources and get a dozen or more relevant responses in hours. We highly recommend availing yourself of this online community should you have a pressing need for digital equity resources.

PCs for People provides discounted, refurbished laptop and desktop computers for **low-income** individuals and households, as well as in bulk for nonprofit organizations. They also pick up and fully refurbish used computers.

Internet Essentials from Comcast offers its customers an option to purchase at a subsidized, low-cost computer for $149.99 + tax. These refurbished desktops and laptops are equipped with Windows 10, Microsoft Office, and have a 90-day warranty.

Plan-IT-ROI is a socially responsible computer refurbishment company which, in partnership with NCDE, can arrange with a school, college, business or other organization to

pick up used computers for refurbishment, then make them available at very low-cost as fully refurbished devices, for LMI learners the organization designates. This an environmentally responsible, low-cost strategy for providing fully warrantied multimedia and video-streaming-capable computers.

TECH SUPPORT

Several members of the National Digital Inclusion Alliance offer free tech support and training—often in conjunction with free or deeply discounted broadband access and computers. A quick way to locate any tech support providers in your community, region or state (where they exist) is to subscribe to NDIA's **free listserv**, and post a query seeking information.

Well-established nonprofit approaches to building the tech support capacity of a community or school district include GenYes, CyberSeniors, and Tech Goes Home.

APPS/SOFTWARE

Those with Chrome, Windows, and Mac-based devices (smartphones, tablets, laptops, desktops, etc.) are likely to be familiar with the app store that typically comes with these devices. These are an excellent source of inexpensive and often free apps. We urge you, however, to read user reviews before downloading a given app and, as best as your patience and legal reading skills can tolerate, read the "fine print" that often accompanies downloading an app, in order to protect your privacy. Here is a useful **summary of steps you can take** to help ensure an app you are considering downloading is safe.

In addition, there are many "open source" software applications developed by often global communities of software developers and users committed to ongoing improvement of their community's tool(s). The larger and more established open source developer communities generally offer the most stable, virus-free and productive applications, for nearly every conceivable productivity and learning purpose. An excellent overview of such applications can be found in Wikipedia's **List of free and open-source software packages**.

Lastly, many educational institutions purchase licenses to stellar fee-based software applications—e.g., Microsoft Office—that enable them to offer learners, educators and often even their families, up to a certain number of free licenses. Whenever NCDE secures a grant financing purchase and donation of new computers, we seek to distribute to LMI learners in partnership with an educational institution that has such a licensing agreement, so that we can equip the devices with the most potent array of learning and productivity tools as possible.

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GenYes is a school-based strategy that assists a school or district to create a GenYes chapter in which "student tech leaders" are taught how to provide in-person and online tech support for fellow students and educators.

CyberSeniors is a community-based approach that assists community organizations to develop a chapter which teaches youth to provide tech support to elders. In both cases, participating youths benefit

tremendously from developing not only technical skills but also poise and other "soft skills", while, of course, those to whom they provide much-needed tech support benefit from learning how to use tech resources for learning and living. Of special interest to educators serving students who either want to learn how to mentor others about learning technology resources and/or who know of elders that would benefit from free mentoring will find CyberSeniors national, toll-free helpline for elders exceptionally interesting. Senior citizens can call into a toll-free number and receive personalized mentoring. Equally, youths who want to become mentored can participate in free online courses equipping them with the skills to provide such phone-based support.

Older Adult Technology Services (OATS) provides free training to help older adults become digitally literate. OATS offers excellent free classes and are especially interested in collaborating with local partners to grow capacity for tech training and support for older learners.

Tech Goes Home began in Boston and which is gradually adding new chapters in additional cities to provide tech training in lower-income neighborhoods for many audiences, from students and seniors, to entrepreneurs and families. They secure philanthropic support enabling them to provide free training, a computer and home broadband access for their participants.

NCDE has launched a nonprofit initiative to build tech support capacity in low- and moderate-income ("LMI") communities, funded primarily by banks under the federal Community Reinvestment Act. Known as **VISTA** (Virtual Inclusion Support and Technology Assistance) NCDE's strategy involves equipping LMI youths at the middle school and high school levels with a full array of "systemic inclusion" resources which provides resources for financial, economic, educational as well as digital inclusion.

LIBRARIES AND LIBRARIAN SUPPORT

The American Library Association has led the nation's largest and longest standing initiative to spur digital equity and access, through its abiding commitment to provide patrons with walk-in access not only to broadband, a computer, and tech support and training, but also to librarian assistance with digital literacy and media literacy skill development. Many public libraries offer free classes as well as personalized assistance.

NCDE regards support from school and public librarians as an essential ingredient for the success of efforts to address the digital divide, because they possess the training and commitment to develop learners' skills with regard to digital literacy, media literacy, cybersafety, and mitigating the risks of device and social network addiction. More broadly, they stand ready to help

educators locate digital equity resources keyed to educators' most pressing digital divide concerns.

In partnership with a **cadre of fourteen past presidents** of the American Association of School Librarians, NCDE has produced **a compilation of state library systems and other agencies** that offer an extraordinary array of online learning resources for learners of all ages.

In addition, there are significant "open source" content initiatives such as **MERLOT**, **SkillsCommons**, **OERCommons**, **OpenCourseware**, as well as the **Directory of Open Access Journals** which curate high quality educational resources on nearly every conceivable academic subject, for different audiences, from PreK-12 learners to undergraduate, graduate and doctoral students and their educators. While there are many, many other great sites that compile well-tended pointers to fabulous educational resources, one for which we have special affection is **Kathy Shrock's Guide to Everything**.

Among fee-based digital content providers, NCDE has found especially collaborative **Rosen Digital**, **EBSCO** and **Education Associates**. Each has committed to more and more deeply lowering the cost per user of exemplary digital content as

NCDE expands to serve more LMI learners. These partners offer interactive learning resources especially regarding career exploration and living wage careers, inclusive pathways into banking, financial literacy, cybersafety and digital literacy.

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HEADSETS TO FACILITATE ONLINE LEARNING

Students in online courses often find either they cannot hear class discussion or that other students and the teacher cannot hear them, because of background noise. Even a low-cost headset with built-in microphone can be invaluable.

SUPPORT FOR E-LEARNING PEDAGOGY AND A SAFE ONLINE LEARNING CLIMATE

The Covid Pandemic has caused many schools, colleges and other educational organizations to move (partially or entirely) to online learning. For many learners and their educators and, for younger learners, their parents and other caregivers, this has required that they possess or rapidly develop skill in teaching and learning online.

The National Education Association's excellent "**microcredentials**" initiative has generated several performance-based badges, based on free, very well designed and curated online courses, by which interested educators can develop and demonstrate mastery of specific skills pertinent to that given badge. They offer several such badges of great relevance to educators seeking to improve their **e-learning facilitation skills**.

Internet Essentials from Comcast created an **Online Safety Toolkit**, developed in partnership with ConnectSafely and leveraging resources from Common Sense Media and the Family Online Safety Institute. This resource provides state attorneys general, nonprofits, and schools with up-to-date materials to help spread awareness about the importance of online safety and digital citizenship to empower parents, seniors, and teens with the tools and knowledge they need to stay safe online. It also contains information about the latest cyber security threats and covers topics including: cyberbullying, sexting, online gaming, privacy, online shopping, social media, secure passwords, and copyright.

FOSI is a great resource as well. The **Family Online Safety Institute** (FOSI) is an international, non-profit organization which works to make the online world safer for kids and their families. FOSI convenes leaders in industry, government and the non-profit sectors to collaborate and innovate new solutions and policies in the field of online safety. Through research, resources, events and special projects, FOSI promotes a culture of responsibility online and encourages a sense of digital citizenship for all.

In addition, recognizing that educators and parents/caregivers, especially in more resource-poor LMI communities would benefit from online mentors, to assist them to support successful online learner by their students/children, NCDE has entered into partnership with the **State Education Technology Association's E-learning Coalition** and Southern New Hampshire University to prepare those interested in serving as free or fee-based e-learning pedagogy coaches, to

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grow capacity in LMI communities to assist educators and students to enjoy more consistently successful online learning experiences and outcomes. SETDA is comprised of the nation's state leaders in education technology. SNHU has one of the nation's most robust online learning quality assurance systems, to ensure that its 130,000 online learners are engaged and demonstrate evidence of mastering an online course's learning outcomes, through rigorous formative and end-of-course performance assessments.

Lastly, teachers with limited or no opportunity to observe their students in person lack access to *crucial* information on their students' well-being. Students may be at risk of abuse or even suicidal in ways not readily observable to online teachers. NCDE is grateful to know about and be able to recommend a toolset for online learning, GoGuardian, that many school systems have adopted. This toolset includes a mission-critical component, "Beacon", which uses an increasingly robust Artificial Intelligence algorithm that can alert school counselors in cases where students are at risk for self-harm or suicide.

Building Community Capacity for Digital Equity: Allies and Strategies

We highly recommend the following allies to help address digital divide challenges.

The **American Library Association** (ALA) has been a long-time leader in advocating for libraries to build digitally inclusive communities that support individual opportunity and community progress. Among many endeavors related to issues of inclusion and equity, the report **Libraries and Digital Empowerment** is a helpful example of insights and approaches in this area and the efforts of librarians to "expand the ways in which they reach into schools and communities to help people harness the transformative power of digital information to support education, employment, entrepreneurship, empowerment and engagement" for everyone, everywhere—or **The E's of Libraries**®.

The **American Association of School Librarians** (AASL), a division of ALA, has long been at the forefront of digital equity efforts and includes in their **Standards Framework for Learners** as one of their common beliefs that "access to information technologies must be appropriately integrated and equitably available." AASL provides ongoing opportunities for members and chapter affiliates to connect and share best practice and research through conference, webinars, and publications. AASL has developed **Best Digital Tools for Teaching & Learning**. Best Digital Tools combines the previously separate lists of Best Apps and Best Websites for Teaching & Learning. The new list follows the evolution of technology as websites develop apps and resources are produced which are not easily classified in either platform. The recognition honors electronic resources that provide enhanced learning

and curriculum development for school librarians and their educator collaborators.

ConnectHome USA is an inspiring initiative to close the digital divide in HUD-assisted public housing. Their growing **network of participating local public housing authorities** offers residents—by definition, LMI individuals and families—free broadband, computer access, training and user support, often in conjunction with a extensive array of free courses to develop not only digital literacy but also media literacy, career readiness and other skills key to economic and educational opportunity. Their **ConnectHome Playbook** is a simply unparalleled gem on "how to build partnerships and narrow the digital divide".

Consortium on School Networking (CoSN): This national association serves primarily school systems' chief technology officers and other school system technology leaders. CoSN offers publications, conferences and webinars, many of which identify and address digital divide challenges and ways to alleviate them.

Digital Promise: As their mission states, this national nonprofit's mission is to accelerate educational innovations, especially those that foster more equitable opportunities to learn. They support networks of educators piloting and validating educational innovations and offer webinars, publications, and conferences.

International Society for Technology in Education: This global association for educators, administrators and

policy makers interested in all aspects of educational technology offers conferences, webinars, publications and numerous special interest groups and professional learning networks (PLN) on a wide range of topics. Most notable for this Guide is ISTE's **PLN on digital equity**, which maintains an active message board where ISTE members can post queries, share resources and get advice rapidly for others who are concerned about the digital divide in education. Founded and for several years chaired by NCDE's executive director Robert McLaughlin in 2000, this PLN's current leaders have generated two particularly relevant publications in 2019—*Closing the Gap: Digital Equity Strategies for the K12 Classroom* and *Closing the Gap: Digital Equity Strategies for Teacher Preparation Programs.*

National Digital Inclusion Alliance (NDIA) is a national membership association and policy advocate concerning home and public broadband access, device access, and user support and training, especially for LMI learners of all ages and their families. They offer conferences, webinars, monthly calls and networking opportunities, publications, and sustained policy advocacy at the state and, especially, federal level, in support of appropriations and authorizations that address the digital divide.

Next Century Cities focuses on assisting a growing **national network** of cities sharing promising and proven strategies for enhancing broadband capacity and infrastructure, for use by all, especially those in otherwise underserved LMI areas.

Schools, Health and Libraries Broadband Coalition (SHLB) This national **membership** association for schools, healthcare providers, libraries and other "anchor institutions" shares information on promising and proven strategies for improving equitable access to affordable broadband, especially in LMI communities and for LMI learners and clients of all ages. SHLB also researchers and advocates with great thoughtfulness for improved state and federal policy.

State Education Technology Directors Association: This national association for state leaders in education

technology produces stellar publications, advocates for improved federal and state policy, and works closely with NCDE to design a national series of state summits to mobilize local partnerships in LMI communities to address digital divide barriers to educational and economic opportunity. In addition, SETDA's **E-Learning Coalition** compiles information on best practices in designing and delivering online learning. Of special note, SETDA, NCDE and Southern New Hampshire University are developing and jointly offering badges—performance-based microcredentials—for (a) coaches who provide online- and phone-based mentoring to teachers and parents on how to improve their student's/child's e-learning engagement and outcomes, and (b) for youths in how to become "e-learning-ready".

Lastly, the **National Collaborative for Digital Equity** (NCDE) is a nonprofit committed to removing digital divide barriers to economic and educational opportunity for LMI learners of all ages and their families. NCDE emphasizes assessing and addressing the digital divide as a systemic digital equity challenge, and stresses that digital equity capacity building efforts in LMI communities need to be both sustained as well as in explicit support of **systemic inclusion**—financial, economic, educational and digital—for LMI learners of all ages and their families.

NCDE contends that resolving digital equity challenges, as crucial as this is, is nonetheless insufficient to enable LMI learners and families to move out of intergenerational poverty. NCDE organizes annual **state summits** that bring together state and LMI community leaders from banking, education, workforce development and philanthropy, to develop and continually strengthen local systemic inclusion efforts that begin with digital equity, but also foster financial, economic and educational inclusion. Wherever possible, NCDE points participants in its summits and webinars to already established providers of digital equity and other systemic inclusion resources but, as with e-learning badging, will undertake its own innovations to address an urgent and otherwise unmet concern.

NCDE has pioneered pilot efforts and capacity building initiatives that have enabled banking leaders to begin earning credit under the federal **Community Reinvestment Act** (CRA) for removing digital divide barriers to economic opportunity by, for example, investing in improved access for LMI individuals, families and communities to broadband, devices, tech and librarian support, and related digital equity essentials. Banks annually spend over $480 billion to meet their CRA requirement to support economic opportunity in LMI areas in their service region. NCDE's "One Percent for Digital Equity" campaign seeks to persuade banking leaders to voluntarily commit up to 1% of their CRA resources for digital equity in support of systemic (financial, economic and educational) inclusion, which would unleash eventually close to $5 billion each year to narrow the nation's vexing digital divide.

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