The Digital Teachers Corps: Closing America's Literacy Gap

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Almost 30 years after the landmark study A Nation at Risk, and the subsequent hundreds of billions spent trying to ramp-up children's mastery of basic skills through Head Start, Title 1 and No Child Left Behind, American school performance is stuck in wet cement. In the United States today, the majority of low-income children and a shocking one-third of their more affluent peers are behind when it comes to one key predictor of future achievement: fourth grade reading. Only 14 percent of African-American and 17 percent of Hispanic children are deemed "proficient" readers in fourth grade as judged by the National Assessment of Educational Progress scores.

Why is fourth grade so important? Because if children are not well on their way toward being confident readers by the age of 10, they will fall progressively behind in learning complex academic content. Researchers have found a nearly 80 percent correlation between being two years behind in reading at the 4th grade mark and dropping out of high school later.

But instead of meeting these pressing needs with modern approaches and new technologies, national education policy has unintentionally turned many of our schools into test-prep academies focused on standardized skill sets in a world that demands higher-level critical thinking. Policymakers also have ignored the central modernizing force of the 21st century—the creative media tools that have transformed nearly every element of life today except schools. In this policy brief, we suggest a new way to get over the early learning hump: Create a Digital Teacher Corps to unleash the untapped power of digital media to boost literacy among our most vulnerable children.

The model for this proposal is Teach for America (TFA), a non-profit civic enterprise that also receives some public funding from the Corporation for National and Community Service. We challenge U.S. foundations to create a competition for the best design for a non-profit organization focused on a specific goal: Ensure that 80 percent of all 10-year-olds are competent

readers by 2020. The winning design would receive seed money to launch the Digital Teacher Corps, which would recruit and dispatch digitally proficient teachers into low-income school districts where they are most needed.

In this way, reform-minded foundations could leverage the impressive "viral approach" pioneered by Wendy Kopp, the visionary who founded TFA two decades ago to recruit college graduates to teach in America's toughest schools. But they should also learn from TFA's shortcomings as well as its achievements, including mixed results in driving academic results and developing local leadership capacity once the "best and brightest" recruits move onto other pursuits.

Once established, a Digital Teacher Corps should aim at recruiting some 1,500 members in its first years and build up to 5,000 annually. These digitally savvy young teachers, as well as a cadre of community literacy mentors including master teachers and librarians, would attack the early literacy crisis head on. The Corps would dispatch these literacy evangelists to work with the nearly half-million children in low-income communities, rural and urban, who face academic failure due to their weak literacy skills. These teachers would support evidence-based scaling of effective literacy instruction using the most modern and personalized digital literacy tools available. The Corps should set an audacious goal: increasing national performance on the internationally validated NAEP benchmark measure by 10 percent. This would double the amount of measurable progress we have made since 1992 in advancing literacy skills among disadvantaged children.

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The Corps would also address a related "digital participation gap" that is emerging from the explosion of new media tools that are now available to middle class kids. Perhaps the strongest illustration of this gap can be found in research undertaken by Dr. Susan Neuman of the University of Michigan and colleagues, which maps the use of digital technologies in community libraries. She has found that while access for low-income youngsters can be addressed with hardware installations, most low-income elementary school children do not get the active mentoring and support or one-on-one conversations with caring adults needed to choose "rich literacy" resources such as educational media sites available on the web.

Advancing Literacy in a Digital Age

Digital innovation and literacy learning cannot coexist if the technical infrastructure and teacher support elements are not in place. The United States now lacks both the "hardware" (actual technology "pipes" such as broadband availability and server capacity) and "software" (the professional development, content knowledge and learning objects needed to integrate new tools for discovery). For example, the United States ranks in the bottom half of countries in broadband availability in schools; most early

learning programs in particular do not have adequate access. This is mystifying, given how much Americans spend on technology, and the ubiquity of digital media in most children's lives. According to the Kaiser Family Foundation, kids as young as eight are spending nearly seven-and-a- half hours every day using all types of media, but very little of this time is spent on intentional learning.

Much as the computer chip and the invention of the internet stimulated the dawn of the information age and multiplied productivity over the past two decades, interactive digital media is leading the next wave of technological innovation. Research suggests that digital tools can help children who too often are bored, reluctant learners become excited, engaged, and creative citizens and workers. For example, in New York City's School of One, middle school math scores skyrocketed thanks to a digital curriculum that tailors learning to the varying needs of individual children. Founders of the school have benchmarked dozens of research-based digital curriculum tools, software and videos in a unique algorithm that created "personalized learning plans" for each student. High Tech High Charter School, established a decade ago in San Diego, has expanded into a K-12 school that seamlessly incorporates technology in all aspects of its "project-based learning" approach and trains new teachers to creatively deploy technology to scaffold key literacy skills beginning in the primary grades. It boasts a 99 percent graduation rate, and enrolls students via a lottery (the average dropout rate among comparison schools in the district approaches 40 percent.) "You can play video games at HTH, but only if you make them here," says Larry Rosenstock, High Tech's founder and CEO. Another example comes from the Escondido, California School District, which uses mobile devices to deliver literacy instruction in grades K-3, with substantial achievement gains for chronically underperforming students.

Randomized research by the Center for Children and Technology and SRI International, sponsored by the U.S. Department of Education, demonstrates that public television programs such as *Sesame Street, Super Why* and *Between the Lions* in preschool classrooms have moved the literacy needle. The research demonstrated that short video clips and engaging games wrapped around effective professional development gave early educators new ways to raise preschool children's mastery of vocabulary and phonemic awareness, critical building blocks for reading success.

Unfortunately, such inspiration and innovation is lacking in all too many low-income communities. What's missing is an imaginative way to help teachers understand that new media tools for acquiring literacy can be both personalized and powerful. Video gameplay, net surfing, and media production tools, cell phones and other mobile devices are popular parts of nearly every tweens' social repertoire. They dominate the hours that

children spend outside of school: low-income kids are especially heavy digital media users. Yet these tools are nearly absent in low-performing schools.

When well-deployed, digital media can allow students to see how complex language and other symbol systems are relevant to their own lives. Because digital media can easily combine actions, images, levels of challenge with language and other symbols, this technology can generate "situated meaning" which allows children to know how a word functions to solve problems in the world and how its meaning can vary across different contexts of use. Imagine a music video and connected video game illustrating the various ways in which "silent E" transforms a 'plan into a plane" or 'slop into a slope" produced by a popular rap musician on Sesame Street's *The Electric Company*. Children can learn the rules of usage, construct their own words and then compose a story narrative using words and video images—all online, shared with peers. These assets are now readily available, free of charge, but rarely used in formal educational instruction programs. When they are—in efforts such as the intricately researched Success for All program created at Johns Hopkins University—there is solid evidence that embedded digital media makes a real difference in motivation and skills development.

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The Digital Teacher Corps: Key Components

Of course, the integration of digital media into classrooms would add an important new dimension to public education at all levels. But given its critical importance to student success, we propose that the Digital Teacher Corps concentrate on the fourth grade reading slump. The Corps would deploy—much as Teach for America (TFA) has—highly motivated, tech savvy recent college graduates. But it will avoid TFA's sometimes ephemeral and less sustained impact by building on local capacity. The Corps will engage accomplished teachers and community literacy mentors, such as librarians and cultural professionals as well, thus advancing a multi-generational campaign to address a national crisis.

How will the Corps Be Financed and Organized?

As we envision it, the Digital Teacher Corps would be financed and organized as a private, non-profit civic enterprise. Like TFA, it could also apply for funding from the Corporation for National and Community Service to offer loan forgiveness or other post-service awards to Corps members. Its governing board should be a diverse consortium of people from cutting-edge technology companies, eLearning experts and community service and teacher-training organizations. The Corps should be initially financed with start-up capital made available from the private sector and philanthropy. But over time our hope is that it would become a model worthy of public support as a new and more effective approach to

early reading intervention. For example, last year, approximately $2 billion was spent—most of it unwisely—on early reading intervention programs via the Elementary and Secondary Education Act.

We estimate that, in its first three years, such a Corps would need about $25 million in seed capital to roll out in 30 school communities before scaling to 250 communities by year three. Assuming steady funding form the Corporation for National and Community Service and other foundation sources, by year five it would reach 500 sites serving over 200,000 kids annually and deploy teams of 10 literacy and digital professionals in each of the target communities. Eventually, government grants should support local schools' contributions to Corps operations via Title 1 funding and some loan forgiveness capital contributed from the federal Higher Education Act.

Size and Focus of the Corps

Our vision of a 5,000-person Corps is based on the following assumptions. According to the U.S. Department of Education there are between 2,500-3,000 low-performing elementary school communities in the U.S., about one-half of all of the lowest performing K-12 schools. According to reading researchers, these low-performing schools account for as much as 50 percent of the 4th grade reading problem. The Education Department also says that the lowest performing 5,000 schools contribute to 50 percent of the national dropout rate.

Many schools in these communities have made some progress on early reading instruction via well-researched models such as Success for All, Reading Recovery, and the Children's Literacy Initiative. But few have access to a technology infrastructure that can help them 1) winnow out ineffective programs by building data collection instruments that follow a child's progress over time; 2) establish links between schools and parents, to encourage "at risk" children to maintain strong attendance and parents to engage in daily reading in preschool and the early grades; and, 3) design a summer reading program that uses digital tools to help children retain the achievement gains they have made over the previous school year. These activities will be a central focus for the new Corps.

Recruiting the Corps

Corps candidates should be recruited from two sources. About two-thirds should be recent college graduates who have demonstrated passion and competency in the integration of digital tools into their teaching or other relevant activities. The new teachers (or others who apply for the Corps who have already demonstrated technology leadership) will be enrolled in an eight-week digital 'boot camp' that will lead to initial digital certification. Each recent college graduate would commit to a three-year stint and receive

base pay from local school districts and charter schools. In addition, volunteers would receive up to $10,000 in loan forgiveness.

Because the younger teachers will be less expert in proven reading intervention practices, one–third of the Corps should consist of master teachers and "digital mentors." These more experienced volunteers would be outstanding teachers and library professionals who are committed to modernizing instruction and who have proven track records in the classroom and community. Each community with a low-performing cluster of elementary schools would have a National Board certified—or equivalent—DTC literacy teacher who is responsible for training, curriculum development and coordination of reading intervention programs with an explicit focus on using technology to promote productivity and scaling of best practices. These mentors/coaches, recruited from the local school district and aligned libraries, would receive their base pay from district or county budgets and receive "step-up" pay from a shared pool developed by the partnership.

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The Corps should also be supported by "Digital Fellows," volunteers recruited from high-tech companies and universities and organized to build volunteer capacity and to monitor the outcomes of innovative digital literacy programs.

How will the Corps be "Prepared for Battle?"

Backing the community teams should be a powerful professional development and networking platform. After training and community planning during the eight-week summer immersion 'camp,' corps teams should be deployed to low-literacy communities that volunteer to participate in the program. Training regimens will include games and simulations, tools for community and individual assessments, and a Facebook-like social hub to brandish the new corps' 'cool factor.'

Building upon the current TFA model, the new teachers should be paired with a mentor/coach to receive professional development support, but the DTC will deepen the induction process by enrolling new teachers during their first summer in an online graduate level training program created in conjunction with groups like 2utor.com, (John Katzman's successful re-invention of masters-level teacher education programs now being successfully tested at University of Southern California Rossier Graduate School of Education).

Much as the modern military has "war gamed" operations in far corners of the globe, the Corps' sophisticated learning *network* would share data metrics and mapping strategies to identify literacy 'dead zones' based on test scores, and mobile apps designed to help parents turn digital fun time into learning time. Such a network would allow participants to engage with

each other across the country to create a common core identity as members of the DTC and to engage in mutual activities.

Conclusion

American technological ingenuity gave birth to the Digital Age. Yet our public institutions—especially the vitally important institution of public education—have been slow to adopt online instruction, computer games, social networking and digital tools of all kinds. The result is a growing gap between how people acquire and process information, how they communicate with others, and how we educate our children.

Closing this gap is particularly important for children from poor families, who come to school with limited vocabulary and related cognitive challenges. These children are at high risk of falling behind in reading in the fourth grade. Absent a focused effort to get them over the hump, they will fall behind, aggravating inequality and undercutting America's ability to excel in global competition. The Digital Teaching Corps would tackle both challenges by harnessing the products of America ingenuity to close the literacy gap.

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