

Creating Fiscal Space Where There Is None: Examining Liberia's Teacher Vetting and Testing Project

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Creating Fiscal Space Where There Is None: Examining Liberia's Teacher Vetting and Testing Project

This case study examines the efforts led by Minister George Werner to create fiscal space in Liberia's education sector through a teacher vetting and testing project. By February 2018, a third-party audit confirmed that Liberia's education ministry had removed 83% of 2,046 ghost teachers; generated US\$2.3 million in annual savings; and hired 1,371 new and qualified teachers. In addition to sharing the details of this implementation success story, this case study shares reflections from key actors, highlights unique political and funding relationships, and looks ahead to what remains to be done to improve education outcomes in Liberia.

Introduction

In 2013, all 25,000 high school graduates in Liberia who applied to the University of Liberia failed the entrance exam.¹ This wasn't entirely surprising given that the average high school classroom in Liberia had 158 students; the estimated qualified teacher-to-pupil ratio ranged from 33:1 to 90:1;² and Liberia ranked 177th out of 199 countries on the UNDP education index.³ Furthermore, more than 90% of Liberian teachers did not have a university degree and 36% were untrained and unqualified.⁴ So when President Ellen Johnson Sirleaf appointed George K. Werner as Liberia's Minister of Education in 2015, he knew there was work to be done.

Werner came to the Ministry of Education with experience in the education sector. He had studied education and social work, taught at the university level, and more recently served as the head of the Liberian Civil Service Agency where he worked to clean up government payroll. In his new role, Werner knew that education outcomes were poor and that Liberia was not seeing any progress despite the amount of aid that was being received. Starting his term in the shadow of the Ebola crisis, he was primarily charged with reopening schools, setting the school calendar, and making sure teachers and students were prepared to go back to school. However, from his time at the Civil Service Agency, he knew that education was the largest and most troubled government sector and that it comprised 40% to 45% of employees on government payroll in Liberia. Looking ahead, he saw the impending likelihood of donor fatigue and realized that in order to make any significant long-term progress in improving education outcomes, he would also have to address fiscal space for education domestically.

Problem: From listening to legacy

As a trained social worker, one of Werner's first acts as minister was to conduct a listening tour around the country. In his words, "To know a problem, you first have to assess it." Notebook and pen in hand, Werner traveled from community to community around the country, shadowed by some staff and members of the media, to meet with parents, students, teachers, school administrators, and more. In this capacity, Werner got a first

hand account of the challenges in the education system in Liberia. He learned about the day-to-day problems of different stakeholders; he learned that ‘free education’ was not really free because of uniforms and learning materials; he saw the involvement of volunteer teachers who cared more for community than their salaries; he saw what schools looked like after months of abandonment during the Ebola crisis; and more. Most importantly, however, he got a sense of what children wanted for themselves.

With this knowledge in hand, Werner put together a list of 15 priorities he wanted to accomplish during his time as minister. The top five were 1) quality learning outcomes, 2) teacher training, 3) school infrastructure, 4) free early childhood education, and 5) increasing girls enrolment and completion rates. The cost of implementing his priorities was US\$100 million. At the time, Liberia’s national annual budget was US\$500 million, of which US\$40 to \$44 million was allocated to the Ministry of Education and approximately 92% of that was budgeted for payroll expenses. Werner had no funds to put behind his priorities. The education ministry applied for a US\$11 million grant from the Global Partnership for Education (GPE) to support its work over four years but GPE required that the Liberia’s domestic financing for education show progress towards reaching 20% of government budget. Werner needed to show that Liberia was taking steps in that direction.

Funding: It takes money to get money

When Werner came in to office, a pilot project (funded by USAID and implemented by FHI 360) to identify “ghost workers” and unqualified teachers was already in place. Ghost workers were defined as “teachers who never showed up for their jobs but still received pay, or who were fraudulently included on the payroll.”⁵ Their presence in the education system used up government budget, affected education outcomes, and affected the government’s ability to implement other programs. The pilot was being conducted in three of Liberia’s 15 counties as part of the Liberia Teacher Training Program and President Sirleaf wanted Werner to complete the removal of ghost workers across the country. This was well-aligned with a 2014 government-wide pay-reform strategy that Werner had led as part of the Civil Service Agency but also an opportunity for Werner to free up domestic funds that could be leveraged to generate more external funds and used to implement his priorities.

Werner knew that the ghost worker removal strategy would eventually free up domestic funds but it would require significant initial funds to be implemented. As such, he decided to share Liberia’s story internationally and from that a series of fortunate meetings ensued. In September 2015 at the annual United Nations General Assembly in New York City, Werner shared his plan to remove ghost workers to free up personnel costs and implement his education sector priorities with Robin D’Alessandro, CEO of Vitol Foundation. A few months later in November 2015, D’Alessandro invited Werner to speak at a conference in London. Jamie Cooper, Chair & President of Big Win Philanthropy and Dr. Muhammad Pate, CEO, were at that same conference. Cooper and Pate were

intrigued by Werner's goals. After sending a delegation to visit the education ministry in January 2016 for a feasibility assessment, Big Win approved a US\$1 million grant for the ghost worker removal program as well as mandatory competency testing for all teachers. This grant was made directly to the education ministry on the condition that the Liberian government committed to reinvesting any recouped funds back into the education sector. To verify Liberia's commitment and efficient use of Big Win's grant, President Sirleaf authored a letter to Big Win confirming reinvestment, PricewaterhouseCoopers was brought on board as a third-party auditor, and arrangements were made to release funds on a quarterly basis (based on achieving implementation targets). This grant from Big Win was critical as the ministry leveraged it to generate additional funds to support vetting and testing across the country.

Context: The challenge of finding ghosts

In Liberia, the Ministry of Education is responsible for supervising the education sector; the Civil Service Agency is the human resources arm of the government that sets policy for pay and benefits of all government employees and informs the Ministry of Finance of personnel costs; and the Ministry of Finance makes funds available for pay and benefits. The challenge of identifying and removing ghost workers was particularly challenging because of this joint governance structure and the presence of three payrolls.

Despite the fact that Liberia's civil war had ended more than a decade prior, its effects lingered. During the war, thousands of teaching posts were abandoned as people lost their lives or fled and often community members who stayed behind filled in. To compensate these substitute and often under qualified teachers, the government instituted a "supplementary" payroll in addition to its "regular" payroll for qualified teachers and its "general" payroll for non-teaching government employees who worked at schools.

All three payrolls were managed by the Civil Service Agency and funds were disbursed by the Ministry of Finance. The Civil Service Agency crosschecked payroll numbers with the education ministry's formal personnel listings, however the ministry's listings were often incorrect because the ministry had neither the capacity nor resources to verify the teacher lists it received from district and county education officers.

By the time Werner came into office, the personnel listings had not been spot checked in years, the payrolls had not been integrated, and the distinctions between the different cadres of workers were not as clear. Anecdotally, it was well known that many teachers abandoned their posts or had intermittent attendance but continued to collect paychecks. It was also not uncommon for lower level decentralized staff within the ministry to add their family or friends to personnel listings. These acts of dishonesty were magnified by flawed policies. New teachers that were hired to replace old teachers automatically took their spot on whichever payroll, regardless of qualifications or experience. This replacement policy combined with the government's inability to check

qualifications meant that unqualified teachers could get hired on the higher paying regular payroll and qualified teachers could get hired on the lower paying supplementary payroll. Furthermore, the Civil Service Agency often took months to add new names to payroll so some new teachers chose to receive their salary in the name of the teacher they were replacing to avoid any lag in payment. And to top it all off, an additional cadre of unpaid volunteer teachers had emerged.

Ultimately, the three payrolls contained duplicate names and payroll numbers, incorrect names, and missing names. All of this exacerbated the ministry's lack of control and potential for corruption. As of November 2016, the ministry of education had 13,403 teachers on the regular payroll, 6,024 teachers on the supplementary payroll, and 7,299 unpaid teachers.⁶

Implementation: From planning to action

With funding in hand, the teacher vetting and testing project was officially launched in July 2016. The deadline for the project was August 2017, two months ahead of the October 2017 presidential election when President Sirleaf's term was due to expire. Political support for this project under a new administration was not guaranteed and thus time was of the essence.

To focus exclusively on this project, a project implementation unit was created within the ministry consisting of a project manager, financial manager, field operations manager, and an administrative assistant. This unit was additionally supported by staff from the education ministry's human resources and teacher education departments.

Appendix A outlines the specific implementation steps of the teacher vetting and testing project.

Results: Changing the status quo

The teacher vetting and testing project is the most comprehensive assessment Liberia has ever done of its education workforce. It has communicated to teachers, principals, and staff that the ministry is making an effort to keep track and hold people accountable and that abandoning one's post will result in removal.

By February 2018, a third-party audit confirmed that almost all of Liberia's 19,500 teachers had their qualifications vetted and 73% of them wrote the competency test. Through this process, 2,046 ghost teachers were identified, 83% were removed, and US\$2.3 million in annual savings were recouped. The outstanding 17% of ghost teachers were identified in the last six months of the program and will be removed shortly leading to an additional US\$800 thousand of annual savings. Gbilie noted that while reaching higher levels of domestic financing can trigger other financing options, an added benefit

is a changed mindset within the ministry that they can achieve things domestically over time going forward.

As a result of the fiscal space created within the ministry's budget and the physical spots available for hire, the ministry of education was able to hire 1,371 new and qualified teachers who were recent graduates of Liberia's teacher training institutes that provided ministry certification. Furthermore, at least 2,000 qualified teachers who were previously on the supplementary payrolls were transitioned to the higher paying regular payroll, reducing the supplementary payroll from approximately 6,000 to 3,762 teachers. Looking ahead, the data collected has allowed the ministry to estimate that it needs to hire an additional 10,782 principals and teachers to ensure that across the country every classroom has an appropriately paid and qualified teacher. However, despite these significant successes, the last field visits conducted by the ministry found that 15-20% of teachers that had been vetted were not present. It is evident that spot checks will be necessary going forward and norms need to be eroded to communicate to staff that showing up is mandatory and that monitoring is ongoing. Essentially, teacher vetting is important but it must be accompanied by a strategic plan for robust accountability and monitoring with district and county education officers going forward.

The teacher testing component of the project yielded jarring results. Only 6% of teachers passed with a combined score on the math and English papers above 70%. Forty-five percent received a conditional pass between 40% to 69% and 49% failed with less than 40%. While these results make the challenge ahead of improving education outcomes apparent, the data will be a valuable tool for the ministry to design customized training programs to better meet their needs. Werner notes that having this evidence base within the ministry means that they are owning their own data, rather than relying on donors, and that there is intrinsic pride in this. Sheeler adds that data had always been perceived as "for donors" but ministry ownership of data has changed the way the ministry views its role in collaborating with donors. In fact, the new administration now plans to use the results of the test assessment to design its first teacher training and implement it during the next school break for teachers.

As the data continues to be analyzed, it is now becoming apparent that missteps did occur with regards to data management. The project implementation unit prioritized data consolidation but in many cases inconsistencies in data collection and formatting meant that efforts are still being made to reconcile data to create the final consolidated personnel listings. This was likely magnified because of the change in management between the pilot study by USAID and FHI 360 and the remainder of the project by the education ministry.

The results above refer to public school teachers on the regular payroll but analysis to confirm the number of ghost teachers on the supplementary payroll is ongoing. The Civil Service Agency implemented a policy that ghost workers removed from the regular payroll could be replaced but that ghost workers removed from the supplementary

payroll had to be deleted. The ministry still needs to analyze how many supplementary deletions occurred so that they can reallocate those funds to hire new teachers to the regular payroll. They estimate that for every two to four supplementary ghost workers deleted they can hire one new teacher on the regular payroll, and ultimately they aim to use the data to migrate all qualified supplementary teachers to the regular payroll.

Reflections: Blinded by the urgency of the moment

Based on conversations with a number of key stakeholders with various levels of involvement in the teacher vetting and testing project, some key reflections on political risk, funding relationships, and transformational leadership emerged.

Looking back as Werner reflects on his feelings at the conclusion of his listening tour, he says, “I was blinded by the urgency of the moment. What I saw in the field pains me and blinded me to the degree that I really wanted to solve problems in the here and now.” Perhaps this naiveté was a blessing as the political risk associated with undertaking the project was much higher than the technical risk. Jamie Cooper, President and Chair of Big Win Philanthropy, comments that “George may not have appreciated the potential political risk...but the upside of that is that he was focused on changing the system and not about protecting himself.” She also notes that Werner’s relationship with President Sirleaf and his efforts to nurture it were critical to her willingness to provide political cover when needed.

The funding relationship upon which this project was built is particularly unique. Toby Eccles, Cofounder and Development Director of Social Finance, reflects that, “In a place with as few resources as Liberia, room to use imagination is extremely limited because there are only incremental changes you can make to the budget.” However, distrust of government, especially those with a history of corruption, is a common sentiment in the international philanthropic space. While the story of Liberia’s project may be appealing to other countries, a key challenge to replicating this experience within a ministry is identifying funders who are willing to give funds directly to government. One of Werner’s clear successes was his ability to attract and develop a relationship with a funder that was open to such an arrangement. While a series of fortunate events led to their meeting, Werner’s plan to campaign externally for funding; President Sirleaf’s willingness to commit in writing to reinvesting funds; and the amenability of both the Liberian government and the Big Win Philanthropy team to negotiate terms of a target-based, incremental funding deal with a third-party auditor in place are all intentional factors that contributed to this unique funding arrangement. Government efforts to recreate some of these elements may be a foundational step to generating trust and allowing such funding relationships to occur more commonly in other settings.

One critical element associated with the aforementioned funding relationship that may not be as easily replicable is the need for a transformational leader. When asked about what attracted her to Werner’s mission, Cooper immediately noted his earnest

commitment. She said, “What’s more unique about George than almost any minister I’ve met is his ability to think outside the box, to try something that is really different but can have a tremendous upside.” While his leadership and public speaking skills are well admired, Werner admits that he didn’t prioritize communication domestically as much as he could have. In hindsight he would have had a better communications architecture in place and made use of ‘palava,’ traditional Liberian peace huts, to increase communication with teachers, settle disputes, and promote inclusiveness. Despite the successes, the opportunities for improvement, and the work ahead, Cooper’s final reflection on Werner is that “he resonates with integrity” – and that basic quality may be the key to why the teacher vetting and testing project worked.

Appendix A: Detailed implementation

The following sections outlining the specific implementation steps of the teacher vetting and testing project were obtained from “Managing the Business of Education: Liberia Cleans up its Teacher Payroll, 2015-2017,” an in-depth case study by Princeton University’s Innovations for Successful Societies.⁷

Winning support

The implementation team’s first challenge was to work with Gbovadeh Gbiliala, Deputy Minister of Education, to secure buy-in from two crucial stakeholders: the Civil Service Agency and the National Teachers’ Association. A lack of coordination between the education ministry and Civil Service Agency was a longstanding problem, and Werner hoped his past role as head of the agency would pave the way for better collaboration.

The Civil Service Agency initially did not see the vetting project as part of its responsibility, arguing that it was up to individual ministries to ensure that personnel listings were accurate. However, because the agency had to sign off on any changes to the listing, the education ministry felt it was vital for agency officials to see the vetting process was legitimate. “In response to the initial lack of cooperation, Werner’s ministry elevated [its lobbying efforts] to another level by going directly to the finance ministry,” said David Baysah, a sociologist and education planning strategist hired to lead the vetting project’s implementation unit.

By explaining that the vetting and testing exercise could save up to US\$7.5 million per year—reducing the annual amount spent by the education ministry on salaries from US\$34 million to US\$26.5 million—the project team secured support from the finance ministry. The team also relayed to the agency and the finance ministry that President Sirleaf had agreed up front that the funds recovered would be earmarked for re-investment in education, and would not be put into the government’s general coffers. Convinced by the outreach effort, officials from the Civil Service Agency agreed to have their officials accompany the vetting team as they traveled around the country. The ministry also agreed to pay additional per diems to enable staff from the Civil Service Agency who became part of the team that traveled throughout the country.

In another step to address the disjuncture between the Civil Service Agency and other government departments, the finance minister worked with the agency to introduce a policy amendment in the cabinet. Whereas the agency previously had overarching responsibility for—and substantial control over—ministry payrolls, there was now “a policy, endorsed by the cabinet, that ministries will handle their own payroll and be held accountable for it,” Baysah said. In addition to smoothing the path for the project’s implementation, the finance ministry’s creation of the draft policy promised to give greater power to individual ministries to maintain their own payrolls.

Next, the education ministry turned to the teachers’ association. In negotiations with Werner and senior officials, the association’s main concerns were that no teacher should

be fired summarily based on the outcome of the competency testing, that those who failed but held at least a high school qualification should receive training, and that the government should pay adequate severance to any teachers who lost their jobs because they were determined to be “untrainable” for various reasons.

The ministry used an existing forum to open a dialogue with the teachers. Under the teacher training program that ended in 2015, the ministry had established a committee that brought together the teachers’ association, senior education officials, donor partners, and nongovernmental organizations as well as civil society groups. In response to resistance that had emerged among some teachers during the USAID pilot, the ministry framed the new project as one that would remove cheaters and improve payroll management, leading to better salaries. The team presented its plan to the committee in the hope of winning the association’s support.

Despite initial resistance, the teachers’ association’s long-serving president, Ellen Varfley, ultimately agreed to the planned vetting and testing, and the ministry agreed to provide future training opportunities to all teachers deemed trainable, and severance packages to others. In addition to being the teachers’ association president, Varfley also worked in the ministry’s teacher-training division, a position that allowed her to be involved in drafting the test.

In championing the project, Varfley said she hoped that the competency testing in particular would lead to further gains. “After doing the test, we would know if people need content or pedagogical training, which would allow us to design better training” plans, she said. “... We knew that one size does not fit all. Teachers would [ultimately] benefit by receiving better training.”

Managing data

Before the team could begin collecting data, they needed a way to manage it. They decided to use a common software product, Microsoft Access, to create a database of information that would allow users to see the big picture as well as to focus on specific schools, districts, and counties. Data would enter the system both electronically and manually. After a teacher’s fingerprints were digitally scanned, a computer would generate a unique enrollment number. Using the same number, the team would manually upload information—including digital copies of the teacher’s qualification documents, photo, and ID materials—to the corresponding file in a database, which the team named the Payroll Data Access Tracking System.

When all the information on any particular person was in the system, “you can see the person’s face as well as all their bio data, their current status, their salary history, their health information and also all their academic credentials,” Baysah said. “It’s a one-stop shop.” The cost of setting up the system was minimal because the human resource team

was able to use the ministry's existing computer systems and worked with the ministry's in-house IT specialist to design the platform.

Once completed, the database was a valuable management tool. In addition to forming the backbone of an integrated future payroll system, the ministry could use it for professional development and to track replacements and transfers between schools. Further, the ministry could use the database to predict how many teachers were set to retire in coming years, enabling the ministry to anticipate future costs and recruitment needs.

Gbilias team recognized that keeping the database up to date was crucial to its long-term effectiveness. After completion of the countrywide vetting and testing, education officers in each of the 15 counties would gain access to the database. The plan required the education officers to update the system whenever a teacher was hired, transferred, or otherwise changed status in their region. The national human resources department in Monrovia would then audit the central database every calendar quarter. The ministry's hope was that, over time, the Access Tracking System managed by Gbilias "would not just be a data management system but also a planning system," Baysah said.

Getting the word out

The team's next task was to inform teachers about the planned project. In a nation where roads were poor and comparatively few people, particularly in isolated or densely forested rural areas, had access to television and less than half the population had cell phones,⁸ radio was the go to communications medium. Aware of the need to assuage potential fears among teachers and to inform parents and the general public, the education ministry produced a series of radio spots that played on some of the more than 60 FM radio stations across the country. (Radio jingles and other productions were often used as tools to make public service announcements in Liberia). The education ministry's radio spots aimed to head off any knee-jerk opposition among teachers by emphasizing that the vetting and testing would not lead to any arbitrary firings. At the same time, the messages reached the wider community, potentially galvanizing public support.

Prior to kicking off the vetting process in any specific county, the field team also distributed flyers at schools and engaged with community leaders and county authorities during town hall meetings. Their aim was not only to encourage public and parental support for the vetting project but to help teachers understand that they ultimately stood to benefit because the cleanup would free up more money for salaries.

"The communication was very clear that the process will lead to results and consequences: At the end of this process, teachers will have better salaries and access to training opportunities. But also, those that cannot be trained will be removed from the system," Baysah said. "But no one will be just kicked out. ... There will be severance packages."

Public sentiment was on the side of the project team. Many parents were deeply concerned about the quality of education. Afrobarometer research network survey showed that half of all respondents felt the Liberian government handled education “very badly” or “fairly badly.”⁹ “When the teachers heard [the president saying that] if you want to boycott the vetting exercise or test you will be removed, protests stopped immediately,” Gbiliala recalled.

The team also worked closely with local district education officers and their county-level supervisors. The local officers, who were well known in their communities, provided additional information to teachers in other areas of their counties. Before they traveled, the project unit and local education officers jointly decided on a feasible schedule and locations across a county (usually in public spaces like schools or town halls) to conduct the vetting and testing.

Vetting and testing

Teachers from each school received assignments telling them when and where their vetting and testing would take place. While teachers were responsible for their own travel expenses, the ministry paid accommodation and food costs, as needed. The project team divided the teachers—usually about 150—into two groups. One group took the competency test in the morning, while the other group went through the vetting process. In the afternoon, the tasks were reversed. Baysah pointed out that bona fide teachers who happened to be sick on their assigned days were “provided a window for them to come to one of the other vetting venues in the county, or they would have to travel to Monrovia.”

On the assigned day, the vetting process began when school principals submitted personnel lists to the project team. The team then compared each principal’s list to lists submitted separately by district and county education officers, who monitored all schools in their areas. If principals and local officials could not explain why a name appeared on one list and not on the other, the name moved to the “ghost worker” category. This step would enable the ministry, working with the Civil Service Agency, “to get rid of some ghosts,” Baysah said. “It was the first filter.”

The competency test, designed by the education ministry’s teacher training division, contained two papers, one on mathematics and the other on English. Both tests included questions on teaching methods. The test incorporated a combination of different types of questions, including multiple choice, short one-paragraph answers, as well one longer essay or sample lesson plan based on a prompt. Kammi Sheeler, an economist from the Overseas Development Institute (an independent London-based think tank) who worked with the education ministry on data management, noted that the ministry eventually created four different versions of the test in order to prevent cheating.

While the tests were mandatory only for salaried teachers, the ministry encouraged volunteer teachers to participate. The ministry recommended that volunteers who did

well on the test but lacked formal qualifications should attend a teacher training institute and then apply for formal positions. Volunteers who scored well and held teaching qualifications would be in line to replace ghost workers on the payroll. After teachers completed the tests, the team sent the papers to Monrovia, where 25 staff members from Varfley's teacher training division graded them. The team then uploaded the results to the digital Access Tracking System.

During the vetting part of the day, teachers formed lines behind their principals (all principals and vice principals also had their identities and qualifications reviewed as part of the project). Teachers submitted their credentials to the vetting team, including their national identity cards as well as any documents proving high school and other educational qualifications. Because some Liberians, especially in rural areas, did not have national ID documents, the vetting team also accepted voting ID cards, birth certificates, passports or driver's licenses. "Almost everyone had at least a voting ID card, but we accepted any of these documents," explained field supervisor Veekie Wilson.

It was particularly important to confirm dates of birth and the exact spellings of names in order to stop the practice where some teachers received salaries made out in someone else's name. If the team identified a fake document, they seized the document, and placed the offending teacher's name on the same list as personnel who did not show up for the vetting process. Just as was the case for teachers who missed the exercise, those who submitted fake documents were given up to two months to provide the proper documentation before their names were submitted to the Civil Service Agency for removal from the payroll.

Similarly, when the team identified a ghost worker, they submitted the name to the Civil Service Agency for removal from the payroll. The agency then sent a letter to the school where the person supposedly worked, calling on the teacher to present his or her credentials to the national education ministry. If the person in question failed to do so during a specified period, the name was removed from the payroll.

The team also regularly encountered qualified teachers who were older than the mandatory retirement age of 65. In some counties, over 10% of the teachers were eligible for pension. When a teacher was older than 65, the team issued the teacher a pensioner's ID card from the Civil Service Agency, and the Agency official that accompanied the field team recorded that the teacher was eligible for pension. But due to a lack of funding, it often took the Civil Service Agency a long time to issue pensions and remove pensionable teachers from the payroll. In the meantime, many kept teaching to continue earning an income. (The government calculated pension benefits based on length of tenure. For example, a 65-year old teacher with 30 years of service and a monthly salary of US\$100 would get a monthly pension of about US\$60).¹⁰

Project staff next made copies of all supporting documents and uploaded digital scans to the Access Tracking System. At the end of the process, teachers who submitted all of the

required documents had their fingerprints scanned and were issued special biometric ID cards. (The cards were issued only to qualified teachers who also took the competency test.)

The process was not foolproof. Despite the team's efforts to work with district and county education officers, local officials still might collude with school principals to get ghost names added to the payroll. For example, if a district and county officer, as well as a local principal, agreed to add a person's name to their personnel listing, that person could theoretically show up and undergo vetting and testing. In an effort to curb fraud, the team carried out follow-up spot checks a few weeks after completing the vetting process, in order to identify any ghost workers who slipped through the net.

In addition, the biometric system fell short of expectations. The USAID pilot had planned to install biometric card readers at all public schools. Teachers who had been vetted could then use their biometric cards to clock in and out of work every day, reducing the opportunities available for ghosts, tracking absenteeism, and generating useful data.

When the project team took over, they found that about 400 card scanners had already been purchased by the education ministry as part of the Liberia Teacher Training Program. "But we have around 3,000 public schools, so that was not enough. Many of the machines were already quite old, so we didn't know how many still worked," Baysah said. Another problem was that "every year you would have to pay a license fee of US\$20,000 to continue using the software, but that did not include maintenance costs."

The field team also experienced problems with the machines used to capture biometric IDs, which meant that some fingerprints were not recorded. The project team also decided not to install the 400 scanners. For those teachers who did receive IDs, the cards were still useful in proving their identities. But the money spent on the scanners was effectively wasted, and the technical problems with some data-capturing machines meant that not all teachers had their biometric information captured.

¹ David Smith, "All 25,000 candidates fail the Liberian university entrance exam," The Guardian, August 27, 2013; <https://www.theguardian.com/world/2013/aug/27/all-candidates-fail-liberia-university-test>

² Ministry of Education, Liberia education statistics report 2015-16; <http://moe.gov.lr/documents/>.

³ United Nations Development Program, Human Development Data: Education Index (2015 ranking); <http://hdr.undp.org/en/data>.

⁴ Ministry of Education and UNESCO, Assessment of teacher education and development needs to ensure education for all, June 12, 2014; <http://unesdoc.unesco.org/images/0023/002330/233080E.pdf>.

⁵ Leon Schreiber, Blaykyi Kenyah, "Managing the business of education: Liberia cleans up its teacher payroll, 2015-2017," 2018, Innovations for Successful Societies, Princeton University, https://successfultsocieties.princeton.edu/sites/successfultsocieties/files/LS_Liberia_Payroll_FOR_MATTED_27_Feb_18_LS-2%20TDedit2Apr17.pdf

⁶ Ministry of Education, Liberia Education Sector Analysis, November 2016.

⁷ Leon Schreiber, Blaykyi Kenyah, "Managing the business of education: Liberia cleans up its teacher payroll, 2015-2017," 2018, Innovations for Successful Societies, Princeton University, https://successfultsocieties.princeton.edu/sites/successfultsocieties/files/LS_Liberia_Payroll_FOR_MATTED_27_Feb_18_LS-2%20TDedit2Apr17.pdf

⁸ The Mobile Economy 2014, GSMA Intelligence; http://www.gsmamobileeconomyafrica.com/GSMA_ME_SubSaharanAfrica_Web_Singles.pdf.

⁹ Afrobarometer, Handling addressing educational needs, Round 6 2014/2015; <http://afrobarometer.org/online-data-analysis/analyse-online>.

¹⁰ Civil Service Agency, Guide to Civil Servants' Pension, October 2013; http://csa.gov.lr/public/doc/Pension%20Brochure_CSA_Oct3.pdf.