U.S. Department of State Pilots Use Cases for Open Educational Resources

In the second U.S. Open Government National Action Plan, the State Department committed to launching three open education pilot programs before the end of 2015. This page details the three pilots and our lessons learned. All three pilots were run by the Collaboratory, a unit of the Bureau of Educational and Cultural Affairs. The Collaboratory designs, pilots, and spreads new approaches to educational and cultural diplomacy. In sharing these lessons learned, we hope to further inform the field of diplomacy through education. If you would like additional information, please contact us: ecacollaboratory@state.gov.

All three pilots utilized open educational resources (OER) with a goal of identifying new models for increasing access to educational opportunity. According to the William and Flora Hewlett Foundation, "[open educational resources] are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge." Because they are free for use and adaptation to meet new contexts and needs, OER offer a unique opportunity to increase access to knowledge for people around the world.

In our first experiment, we piloted the use of open educational resources in our MOOC Camp initiative. The other two pilots grew out of an existing effort to engage alumni of the Presidential Young African Leaders Initiative (YALI)--where we worked with its fellows, called the Mandela Washington Fellows (MWFs). We decided to provide direct access to openly licensed educational resources as an additional element to engagement with Fellows.

What we learned
The projects demonstrate that OER use can foster greater opportunities for affordable cross-border and cross-cultural understanding and education. The three unique use cases also suggest: 1) there is a need for a concrete framework for blended learning when using online materials; 2) localization of use and resources is essential, and that high degree of flexibility in programming must be paired with clear guidelines for measurement and accountability; and 3) there is a tremendous willingness and interest in collaboration among participants across borders and cultures. This summary provides details on the projects and the lessons learned. Additional lessons learned are available upon request.

Project Details
MOOC Camp: The first effort expanded use of openly licensed content through the existing Massive Open Online Courses (MOOC) Camp initiative. MOOC Camps are facilitated discussions around MOOCs, free online courses, as well as OpenCourseWare, free web-based publication of university course content. They are hosted at U.S. Embassies, Consulates, American Spaces, and other public spaces around the world. Facilitated discussions are led by alumni who have participated in U.S. government exchange programs, such as the Fulbright program, and U.S. Embassy staff, who are familiar with the course materials and volunteer their time. U.S. Embassies and Consulates in more than 60 countries are currently participating in MOOC Camps, focusing on subjects ranging from entrepreneurship and college writing to

science and technology. Course content is drawn from major MOOC providers, including Coursera, edX, and Udacity, as well as from multiple OpenCourseWare providers.

Through this effort, we encouraged the use of openly licensed courses (either MOOCs bearing open licenses or OpenCourseWare courses) by U.S. embassies and consulates running the MOOC Camp program. While most MOOCs are free for students to enroll, the overwhelming majority are composed of material that does not allow for free reuse or adaptation. Increased use of openly licensed material would enable greater adaptation of courses for local contexts.

Several embassies attempted to host MOOC Camps using openly licensed resources. All of the pilots used OpenCourseWare courses from a variety of providers. Only one embassy successfully completed a MOOC Camp drawing on openly licensed resources. In feedback provided to the Collaboratory, posts noted a number of challenges in using OpenCourseWare materials. Posts had difficulty identifying how to structure weekly discussions and often struggled with providing the necessary readings and other materials to participants. Most MOOCs, by contrast, provided a self-contained set of resources. Posts also noted that the user experience was substantially less friendly for participants compared to MOOCs. Certification by MOOC providers or the university also provided a substantial incentive for participants that was not present in OpenCourseWare courses.

Despite the challenges, posts were generally positive about the quality of OpenCourseWare materials and believed that with slight modifications and greater support (e.g., discussion guides), they could implement the MOOC Camp program with openly licensed materials in the future. As an alternative, MOOC-style courses with openly licensed content could meet their needs as well. Both are directions that the Department could consider for future programming.

The second and third pilots use low bandwidth technologies to bring access to open educational resources to communities in low-bandwidth, sub-Saharan countries. Like the MOOC Camp initiative, the second pilot focuses on a high degree of adaptability at a local level, allowing the project's wider breadth of resource sharing:

Virtual Engagement Tookits: In this pilot, U.S. Embassies in over 20 sub-Saharan countries shared a toolkit, or assembly of online and equipment resources, with alumni of the Mandela Washington Fellowship. The resources included low-bandwidth hardware, software and "living" documents that guided users with equipment directions, recommended engagement opportunities and lists of sites for locally relevant open educational resources. To cultivate an online community of practice, users were encouraged to add additional resources they found helpful directly into the communally shared documents. Copies of the online documents were sent with each equipment kit to the U.S. Embassies involved.

This project faced considerable challenges in launching, including significant difficulty in procuring the necessary hardware. Due to delayed procurement, many posts overseas are just starting to engage with the toolkits and could not contribute sufficient feedback in time for publication. Additional information and lessons-learned are expected: Because of the projects built-in flexibility for implementation, different implementation plans will continue at several posts.

Thus far, the results from field use suggest that embassies faced a variety of challenges in using the resources effectively. Some factors include turnover in U.S. embassy staff, timing the project to meet local contexts such as local community interests, resources available, integration into planning cycles for other existing projects, and work with local partners already supporting the Fellows. The availability of multiple cellular network carriers and the availability of limited Internet were also factors in how embassies decided to use the resources.

Preliminary feedback also suggests more guidance and a stronger framework for blended learning using the hardware is key. To ensure local relevance, the project afforded considerable flexibility for implementation, while offering facilitation guidelines for Embassies and MWF alumni. Participants were encouraged to use the resources to suit their local needs, and provide feedback on a survey before and after their use. However, we found participants' rate of engagement and feedback using educational resources was low. Furthermore, when participants faced challenges with hardware alone--they were disincentivized to engage in the OER pilot. The hardware *must* be paired with a concrete, locally relevant and incentivized framework of support for blended-learning with OER.

While it may be worth exploring stronger guidance on blended learning in the future, some surprising uses for the toolkits emerged in this pilot iteration.

Exemplifying using the tools for localized use: U.S. Embassy Port Louis found the low-bandwidth modem-router, called BRCK, a challenge to keep charged but used other resources in "'training the trainer' leadership sessions with 30 youth."

U.S. Embassy Mbabane in Swaziland, a small Southern Southern country with only one cellular network provider, found that the utility of the hardware depended on the city or town. They noted the hardware was ineffective in Mbabane, Piggs Peak, and Simunye but worked well in Manzini and Nhlangano. Community members used the toolkit's stronger Internet connectivity to work on what was most relevant to them--MWF applications for future opportunity, rather than immediate online learning. The U.S. Embassy plans to use their toolkit for information literacy programs and to facilitate MOOCs in rural areas without Internet in the future.

Both embassies demonstrated the toolkits were most helpful in local use cases not anticipated while planning this project. U.S. Embassy Mbabane also shared toolkit lessons and support with U.S. Embassy Bamako. The cross-country support demonstrates a strong willingness for collaboration. Exploring additional opportunities to strengthen the collaboration and community of practice is something for consideration in future open education programs.

While low-bandwidth hardware offers the promise of increased access to OER, the hardware as a tool is not enough. It must be paired with a blended learning model that balances flexibility for local use with a strong, incentivized framework for support.

Open Learning Exchange (OLE): This project used a blended learning model to reach over 300 student learners in low-bandwidth communities in Kenya. The program was administered by the U.S. Embassy in Nairobi, which provided a grant to an organization called Open Learning

Exchange (OLE). The program trained alumni of the Mandela Washington Fellows program to serve as facilitators, or learning coaches, in their local communities. The Fellows worked with Gilgil youth in Nakuru County, students in Lang'ata, out-of-school Maasai children in Narok, and rural schools in Kilifi.

Through the pilot program, the Fellows used Open Learning Kits with e-learning materials and a learner-centered model for engagement. The Open Learning Kits included a projector, video camera and laptop. The educational materials included OLE's 'Basic eLearning Library' (BeLL) resources, Khan Academy lectures, and lessons in primary education (math, science and English); the materials were curated for the communities based on preliminary needs evaluation.

Learners and their coaches accessed the e-learning curriculum available online and offline, through a "hub and spoke" model of connectivity. The model includes a small computer called Raspberry Pi as the "hub" to which the learners on tablets (the "spokes") would connect for regularly updated information. The flexibility of Open Learning Kits enabled learners to engage with materials at their own pace, with the Fellows' individualizing their support for learners' particular progress, tracked online.

The model demonstrated learners' deeper engagement with learning materials than expected. OLE also catered resources to meet local needs, teaching English through reading African stories on tablets, for example. Younger students were cited as arriving early to the OLE project (hosted at a local library) each day, to increase their chances of working on the tablets directly, despite older students' seniority.

Beyond the model's influence on individual learner's engagement, the OLE pilot also deepened a growing network of OER learning communities. Local Kenyan News station, KTV, highlighted the OLE project, noting that "pupils interact with others globally" with the low bandwidth technology [available here: https://www.youtube.com/watch?v=UHkanJUfzpc].
Furthermore, the Fellows and other OLE partners in Kenya exhibited a tremendous willingness and interest in collaboration with other learning efforts across cultures. OLE has also expanded to include a Kenya Chapter. Somali refugees involved in an analogous OLE project willingly mentored the Fellows, sharing their lessons on using the system of learning--and helping grow the community of practice across cultures.

This project will enter its second year in January 2016.

Conclusion:
One of our favorite elements in these pilots was watching connections and network grow among learners across cultures. We hope to foster greater connectivity and support for this community of practice through sharing our lessons learned here. If you have questions, or would like to find out ways you might get involved in this community/movement to increase access to education, please contact us at ecacollaboratory@state.gov.

<u>Glossary</u>
BRCK: a modem router hardware used for low bandwidth Internet connectivity
MOOC: Massive Open Online Course
MWF: Mandela Washington Fellowship
OCW: OpenCourseWare, free web-based university courses
OER: Open educational resources (also referred to as openly licensed educational resources)
OLE: Open Learning Exchange (OLE)
YALI: Young African Leaders Initiative