Transforming Teaching Through Tablets: Final Report

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Executive Summary

This report is about an ICT Pilot Program [Extension of the Transforming Teaching Through Tablets (TTT) project] to improve Haitian teacher capacity and access to digital educational resources. Inveneo implemented this pilot program in three primary schools in three different regions in Haiti from March to June 2014 (Petit-Goave, Hyacinthe, and Cascade Pichon) before we expanded the program to reach more than 30 secondary teachers in Petit-Goave. The program’s main goal was to demonstrate the benefits of using tablets in a school environment to build teacher capacity and make educational resources available for teachers.

We re-designed the project to fit not only primary school teachers, but also those working in secondary schools. In March 2015, we launched the TTT extension project at Harry Brakeman secondary school, located in the town of Petit-Goave.

Inveneo has used Google Nexus 7 tablets as the centerpiece of this innovative, replicable program to build teacher capacity and improve student access to quality education in Haiti. Implemented over four months, this program has provided 35 secondary educators (including school administrators and district supervisors) with tablets and a 30-hour workshop spread over several weeks. The teachers received Google Nexus 7 tablets loaded with content relevant to secondary school education in Haiti, tools for professional development (e.g. articles and books on pedagogy, and a digital library with hundreds of books for different class levels), ongoing training to build teacher capacity, with the end goal of improving student access to quality education in Haiti.
Implementation Preparation

From experience, we have learned that before launching a training program, it is extremely important to have preparatory meetings between the involved parties. These meetings provide an appropriate orientation to participants on program requirements and expectations so participants know what is expected from them and what they should expect in the short and long term.

First, Inveneo meets the school administration to discuss general conditions for participation. Besides infrastructure (electricity and connectivity) in the school, the school administration has to be able to help schedule training sessions with all participants when needed. We leave the school with a questionnaire to administer to all interested candidates, which we collect at our next meeting before the contract signing. This is a contract between Inveneo, the school administration, and the teachers in which the signer agrees to attend and participate actively and positively in all training sessions besides completing a learning portfolio at the end of the program. This is a way to encourage the school to become involved and begin to assume ownership of the project.

Our next meeting is with the teachers. We invite the administration to lead part of this session while former participants share their experiences with the project. This session includes a Q&A part where interested teachers ask questions answered either by Inveneo, former participants, or school administration.

Now It’s Time for the “Contract Signing”!

Those who completed the questionnaire are required to sign a contract that involves the teacher, school administration, and Inveneo. The contract states that “the participant agrees to attend all training sessions, do weekly assignments, and produce a learning portfolio by the end of the program”. Participants also agree to return the tablets to the school administration if they have not participated in the training and/or produced the
learning portfolio. This is a very democratic way to run the project and minimize risk. This meeting is concluded with a proposed agenda for the training sessions.

Professional Development

The training was divided into two parts: technical and pedagogical. Started in March 2015, the training was extended over several months with a 3 to 4-hour session every other week. By the end of the program in June, the participants had attended 30 hours of training plus independent work.

Teacher participants attended sessions on how to use the tablets to access information both offline and online. All pedagogical sessions were discussion-based. A number of education-related topics were presented and the participants worked individually, in pairs, and in small groups to reflect, discuss, and share in a think-pair-share model emphasizing a facilitated learning approach. The goal was for teachers to apply this model into their classroom practice and conduct a “student-centered” approach to teaching. Inveneo’s approach to teaching and facilitating discussions on professional development has helped the teachers improve and modernize their teaching skills.

The participants also did weekly assignments that included independent reading of content available on the tablets, keeping a reading log for self-reflection, and preparing lessons for class simulations. Class simulations outlined best practices such as facilitation techniques, peer observation, and an auto-evaluation and feedback session. The results have been positive to date. Teachers commented that the simulations helped them practice new skills for later application, helping increase their confidence in the classroom. As one teacher noted, “observing and giving or receiving feedback helps to identify areas in which we are good and not too good. Feedback helps us know what to do to improve our work.” Inveneo is proud to have been able to contribute to the work
of these teachers to improve the quality of education for all Haitian children regardless of their social and economic background.

**Final Evaluation and Feedback**

In this section, I would like to share with you a few quotes I collected from the participants’ final evaluation and feedback about the project as a whole.

Sauveur Simplice (30), a literature teacher, uses his tablet three to four times a week for personal reading from e-books we pre-loaded on each tablet, photography, and as a reference for lesson planning.

“I am going to have more resources at my disposal, and by using the knowledge and techniques from the training, I am sure that my teaching will be of better quality. I personally liked the instruction method used during the workshop. It was very participative. I also liked the books available that I can read offline.”

Most of the participants say that the program should be expanded. Sauveur said, “I would like Inveneo and its partners to expand the program to more schools in Petit-Goave so that more teachers can benefit from these valuable resources. And we would be happy if Inveneo could have follow-up activities with us”.

Thierry Medor uses his tablet every day. He uses it for word processing, reading, and file sharing with teacher colleagues. “One thing that is going to change in my teaching practice is the adoption of the participative method that we have used during the training. I hope to use it to encourage my students to participate more actively in the class activities. I liked the training format very much!”
According to Sony Charles, the training sessions with Inveneo are going to help him better manage his classroom and plan his lessons with good learning objectives. He said he has become more aware of the challenge with time management for lesson delivery and can better prepare to manage the time. He said he liked the training, but some sessions were a little tiring due to their long duration.

Anne-Marie Brignolle (54), one of the oldest female participants, teaches in fourth grade. She has been teaching for 29 years. She now uses her Nexus 7 tablet everyday and everywhere she goes. She’d never used any ICT tools before the project at Harry Brakeman. She believes that technology is the future for a better educational system in Haiti. She said she enjoyed all the sessions because she has learned about emails, Facebook, and Skype, which she uses to connect and communicate with people in other places.

Ylves Cenedit (59), one of the two district supervisors for the Methodist schools in Petit-Goave, says that he is better prepared to help and support the teachers in planning their lessons. He also thinks that such training programs should be ongoing so that teachers can keep improving their teaching practice through experimentation and best practices.

Spinda Lespinasse, the school secretary, reported that the program has helped her personally. In the past, she would receive hand-written exams from teachers for her to type. But since the inception of the program, teachers have learned to use the tablet and she is happy to see some of them coming with their exams already typed on their device, which they just share via Bluetooth. She can now receive the files and transfer them to the computer and edit if necessary before printing. This makes her job much easier now, she said.

I recently contacted a few past participants to check in how they have been doing since the program ended. I collected a few more quotes from them worth sharing.

“I have no words to describe the progress I have made since I participated in the tablet program at Cascade Pichon with Inveneo. I can do almost everything that I learned in the training. I have even taught my students to use my tablet.”

- Jean-Guithaud Barthelemy
“I will not be able to find the appropriate words to talk about the benefits of this tablet. I just know that you have put more knowledge in our hands.”
- Vitane Jean, Ecole Nationale Nan Hauteur in Pichon

“This training enhances the quality of teaching in Haiti. When our teachers learn about technology, [they] get access to resources and new ways of teaching, [and] learning is easier for our children. Teachers can be more creative and confident in their work.”
- Thony Dominique, Director at Methodiste de Hayacinthe

“This training has been a means for me to improve or change the way I work to improve myself as a teacher and have a wider view for my professional life through research and professional training. The tablet used in this program is a very good technical and pedagogical tool. I will make it my best friend for learning and teaching.”
- Emilian Renault, Methodiste de Hyacinthe

“My tablet is my teacher. As an educator…with the documents on my tablet, I have realized that I have things to work on to become a better teacher. I hope this is true for most of us.”
- Chango Noncent, Director at Ecole Nationale Bois-de-Lance in Pichon

A Deeper Look

View of the training room at Harry Brakeman School
Lesson Learned

We have learned several key lessons from this project with the secondary school teachers. We have learned that working with secondary teachers may require a different approach to working with primary school teachers in Haiti. While it’s very easy to gather primary school teachers since they are already in one school, with secondary teachers the task is not so easy. It is difficult to schedule trainings for secondary teachers because they normally work in more than one school. As a result, we had to deal with repeated lateness and absence cases. The main problem from this is that some participants either felt left behind or were required to do more work to catch up with the rest of the group. They had to feel responsible and do the work for their own personal and professional development.

A second lesson is that you cannot always rely on what’s available today to be available tomorrow. At the time of the project set up, the school had city power and a generator. In the middle of the project, however, power was not available at the time of the training. City power was sometimes available only at nights and the school generator would not work for many hours. The school administrator and the teachers did the best they could to deal with the problem. On some occasions, they all contributed funds for gas to run the generator as long as we needed for the training sessions. Inveneo has learned that one key element for a project to succeed is to get the beneficiaries involved as much as possible so they feel they really own the project and that they are ready to do what it takes to make things work.

Lack of connectivity is the third challenge we faced, which also taught us some lessons. The UMCoR team helped build a network to connect the school. When there is power, teachers with a passcode can access Internet via their tablet. When power is down, however, there is no Internet access. A good way to solve this problem in a future project is to use a device that takes a data SIM card from a local ISP (Internet Service Provider). This way, every participant will be able to easily make a very affordable daily plan to use Internet on his or her tablet. Internet is available in many parts of the country, but the quality and reliability vary from region to region. It’s an issue we still want to explore to figure out how to best deal with it in future projects in remote communities in the country.
Based on the lessons learned, the following conditions have contributed to the success of the program:

• Integration of school administration in the implementation phase
• Participation and strong support from school administrators
• Good knowledge of the environmental and teaching context of the schools
• Training that is relevant to the teachers’ needs and interests
• Availability and commitment of teachers to participate in training sessions
• Commitment of administration to support teachers to complete training activities
• Use of self-directed and andragogical approaches
• Constant communication with participants to determine the level of support to provide to them
  - After the training program ends the formerly trained participants still need support. They sometimes have questions about training content, technical issues with their device, new apps they need, etc. It is always with great pleasure and enthusiasm we work together to address these issues when they come up. That strengthens our relationship!

Project Evaluation

We have used a very simple mechanism to evaluate the project. From the very beginning, we involved the school administration in almost everything. Besides their commitment to providing the necessary infrastructure for implementation, they were also responsible for leading their teachers to actively participate in the training sessions and complete their various tasks as required.

We administered three surveys to the teachers: before, during, and after the training was completed. These surveys allowed us to see the change that has operated in the participants as a group. For example, before their participation in the program, no more than 10 teachers had prior experience with email or Internet. But by the time we had our last sessions, every participant could conduct research on the Internet, send and receive emails, or save their documents on the cloud. This indicates that these teachers are obviously taking advantage of the tools and resources available to them via their device. And since the teachers received the tablet as a loan, they were required to create a learning portfolio, which was another way we evaluated their participation and learning. The portfolio is not graded, but participants were encouraged to create it as a way to self-reflect on their learning, strengths, and weaknesses in certain
areas in their respective field. It was not an easy task for most of them, but they produced a very interesting reflection on topics such as learning, evaluation, setting learning objectives, etc. We hope this becomes second nature to them!

Results and Impact

The results of the program focused on the direct impact for teachers, schools, and students in Haiti and a replicable model for larger-scale tablet deployments in education, capacity building, and access to educational resources. The program has allowed the creation of Android-Tablet Training, Curriculum, and Pedagogy-Related Training modules made available on the tablets.

The impact of this project will multiply with years. A total of 71 teachers (primary and secondary) are now digitally literate and have access to a world of resources for personal and professional development. They all have an email account that they are happy to use to exchange content and ideas with other teachers. They have learned about cloud technology for online collaboration. And through the use of social media, they all can stay connected and expand their professional network to create and/or take advantage of more learning opportunities. Being part of a teacher’s network will encourage exchange and collaboration among them. We do expect the culture of collaboration to continue for a long time through the different means of communication among these wonderful Haitian educators.

Besides the personal tablet each teacher has, the school administration also receives a version of the Google Nexus 7 tablet and a projector that the teachers can use to share content and teach with the tablet. We encourage the teachers to include an ICT part in their lesson plan as often as possible in order to raise their students’ awareness of the benefits of the effective use of technology for education. With more than 70 teachers trained, we can expect students to have access to better classroom instruction and a more interesting learning experience. Better teachers equal better classroom instruction and engaging students in their own learning for better and satisfactory school results.
Sustainability and Replicability

Several elements make this program sustainable. First of all, because the program used the tablet as a means to an end, the impact of the program will be seen even after all tablets are gone. The training provided has shaped new behaviors, and teachers and students will continue to benefit. A second element is that the tablets run Android; it is almost maintenance-free and easy for users to install newly-released applications. The first group of 36 teachers who received tablets has been using them since March 2014, with no issues reported.

A third element is the training content available on the tablets. All the training material (technical and pedagogical) we developed is in digital format, so teachers will always have access to them whenever they need to review something about any of the modules. All these resources are free for them to use to train other people in their community. The fourth element is the local capacity building mentioned earlier. When it comes to teachers who have received extra training and support, we believe that they have gained confidence to work with others. The fifth and last element here is the commitment and contribution of school administration and teachers. When the primary and key stakeholders are involved and motivated, it is much easier to obtain the appropriate support to sustain a project long-term.

To conclude this section, I would like to draw your attention to one key element that makes this tablet project replicable in Haiti and in many other countries where education indicators are low. We have implemented the project in the most difficult areas of the country, where electricity and connectivity were two big challenges. If it has worked in these hard-to-reach and challenging locations, it will surely work in locations with better infrastructures.
Conclusion

The TTT program was carefully designed with the Haitian teachers’ needs in mind as we had learned helpful lessons in previous programs implemented in schools in Haiti. We worked closely with the school administrators to ensure the program would be tailored toward teachers’ needs and interests. We understood the need for technology, but we also worked hard to improve access to quality content and resources that support the learning/teaching process through pedagogy.

A key component of this pilot program was the focus on the teachers’ ability to work collaboratively and reflect on their teaching practice and students’ learning. Throughout the process the teachers produced a number of reflections (self-reflections) on different topics relating to teaching, learning, evaluation, and classroom practices. That encourages the development of an independent learning culture, which is a very important aspect of continuing professional development. The enthusiasm, motivation, and interest for learning about technology and improving education showed that our teachers have gained an awareness of the challenges in the teaching profession and the need to develop and teach new competencies to students in the 21st century. We see this as an important step to improving the quality of education in rural Haiti. We are proud to have implemented this pilot project benefiting teachers in areas that are in need.

Again, we hope this report could be helpful to anyone with ideas for deploying and implementing technology projects in Haiti and in rural schools around the world.

Sponsors and Partners

Inveneo is proud to partner with other organizations to make this project possible. We would like to thank UMCom, Library for All, Gumdrop Cases, Heart to Heart, the Craig Newmark Philanthropic Fund, Google, and the United Methodist Church of the Resurrection for being a part of this continued project in rural Haiti.
About Inveneo

Inveneo is a non-profit social enterprise working to bring ICT tools to the organizations that need them most, particularly those in rural and remote parts of the developing world. Inveneo designs and delivers integrated ICT solutions, including low-power-consuming hardware, open source software, and connectivity that are designed to be sustainable in these settings. Our clients are primarily NGOs, governments and private sector organizations that deliver critical education, relief, healthcare, microfinance and other services to underserved communities. In addition to designing sustainable ICT solutions, the Inveneo Certified ICT Partner Program (ICIP) trains and certifies in-country ICT entrepreneurs to be capable of installing and supporting projects in low-resource settings. More detailed information about Inveneo and the ICIP program may be found at www.inveneo.org