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Making the Grade:
A Preliminary Study of the Thomas Food Project ICT Intervention

Executive Summary

Despite the costs of designing and implementing high-quality technology solutions, technology-enhanced learning has delivered superior learning benefits that outperformed other interventions such as smaller classes or teacher performance incentives alone, when introduced appropriately in developing countries. However, technology-enhanced learning is non-trivial to implement effectively, and takes years of infrastructure building and educator professional development. While model schools in industrialized countries such as the United States have excellent infrastructure as well as educators with expertise in both pedagogy and the content they teach, educators in developing countries face limited infrastructure and professional development opportunities.

It was in the context of this disparity that the Thomas Food Project started in 2011 in Haiti, the most economically depressed country in the Western hemisphere, in the aftermath of the 2010 Haitian earthquake. The Project began as a hot lunch program for school children in the Thomas region. Since then, newer programs such as water purification, solar lighting, computer-based education, clothing donations, and penpals have been launched to address a broader range of community needs. As the Project expanded, its leadership began to consider ideas for participating schools to generate income out of micro enterprises, so as to cover the costs of the lunch program in the long-term. One of these ideas revolved around setting up computing facilities in participating schools, such that the computers and ancillary services like computer literacy programs could be made accessible to the community for a fee. To date, the Project has installed solar panels and computing facilities in a total of five schools.

In this discussion paper, we described the early progress that the Project has made, with an emphasis on its computer-enhanced learning programs which aimed to provide educational and economic opportunities to Haitian students from high-poverty backgrounds. Our findings were based on seven weeks of field research from May 17 to July 4, 2014, during which we visited two participating schools, where we interviewed two principals, twelve teachers, five parents, ten students and another fifteen community members. At the same time, we observed 137 students from kindergarten to 6th grade in a total of eleven computer sessions. In these sessions, students shared the computers to engage with open-source educational software that targeted computer literacy, French, mathematics and science.

Where the lunch program was concerned, most parents did not have the resources to provide their school-going children with more than one meal every day. As such, parents expressed their delight that their children were receiving lunch -- a meal that they would otherwise not have -- on school days. The number of students at a participating school has risen from 75 when the lunch program began in 2011, to about 125 as of May 2014. The lunch program was believed to be responsible for attracting more children to attend classes at this school. Similarly, the solar-powered street lights that the Project has installed at the other participating school have reportedly transformed the school into a location where high school students and youths in the community came to socialize and study after sunset. This was because there was almost no electricity in the neighborhood to support similar social and educational activities at night prior to the introduction of the street lights.

Most residents in the villages where the two participating schools were located had never used a computer until the Project introduced computer-based learning. Given that the Project's computer programs were relatively nascent, we cautiously noted that several families shared positive impressions of the computer-aided learning programs. In total, 25 students, parents and other adults volunteered their perspectives that computing skills were useful, with 14 of them adding that these skills would help them to find jobs in the future. Those respondents who told us they would not enroll in computing classes cited their lack of time or inability to afford those classes, as opposed to a perception that computing skills were not useful. A principal observed that both students and teachers enjoyed using the computers, and that the computers have helped his students to learn French and mathematics better, although he also noted that computer-aided learning has not yet translated into improvements on test scores.

An important factor was that the solar-power infrastructure at participating schools suffered from technological limitations, which made it impossible for the computing facilities to be fully utilized in order to realize the potential of technology-enhanced learning. Specifically, due to limited sunlight for the solar panels, as well as competing demands for the electricity that the panels generated, there was enough power for each computer to be used by students for only a maximum of two hours per day. Worse, depending on whether the solar panels were fixed or mobile, they could only power a maximum of 10 and 4 computers at any time respectively. Both situations were inadequate for the needs of an entire school (or classroom, for that matter). The Project's leadership is aware of the above barriers and is exploring solutions to these obstacles, in order to improve the effectiveness of the Project's computer-based education programs.

Complete study to be released September 2014:
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For more information on the Thomas Food Project, contact
Warren McGuffin at admin@mcguffin.com