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A Classroom Revolution through ICT

The historic achievements of Shiva Maharaj at El Dorado North Hindu Primary School

By Indrani Rampersad

El Dorado North Hindu Primary School was launched into the spotlight in March 2013 when the school made national headlines. Daily newspaper, Newsday, stated "History-making venture, El Dorado North Hindu primary school gets ICT lab". The article reported on the launch of the Caribbean's first and largest integrated Internet-based hardware solution, customised to meet the needs of the 21st century learner while delivering the stipulated curriculum. This tall claim was verified and praised by computer hardware vendors and Ministry of Education IT officials. The project was the brain child of a teacher of the school, Mr. Shiva Maharaj, and in his words, "was designed by a teacher for teachers".

Even before the turn of the new millennium, Maharaj used his Information and Communication Technology (ICT) knowledge and skills to integrate technology into the education system. With the anticipated havoc of the Y2K bug, global corporations spent millions of dollars to upgrade their systems and purchase updated personal computers. The older, assumed-to-be-defective computers were donated to schools including some in Trinidad and Tobago.

As the saying goes "one man's garbage is another man's treasure". Mr. Maharaj, through his affiliation with local and international computer groups, pooled the expertise of a number of education technology enthusiasts to develop a Linux based thin-client solution for primary schools, complete with free educational software applications.

As simple and basic as it was back then, the excitement on the faces of the 5-to-11 year old students signaled the dawn of a dynamic technology era in Trinidad and Tobago. It also inspired Mr. Maharaj to become a primary school teacher, which he did in 2002.

At the Tunapuna Hindu Primary School, the school's parents, teachers and principal

used their initiative to take advantage of the tax and duty-free concessions on computer systems to build and furnish their very own computer lab. In 2003, Mr. Maharaj deployed one of the largest networked school systems at the time. Administrators and management all boasted of having the most functional computer lab in the country, with over 30 client computer systems connected to shared resources and Internet, on a centralised server. Mr. Maharaj was charged with the responsibility to work with teachers to use the computers as a tool to engage the pupils with existing subject matter. Within a short period, pupils all looked forward to their weekly visit to the computer lab and utilised it to draw landscapes, write letters, design post cards, not to mention scaffold their learning by having fun and conquering various levels of the many subject-specific software programs made available to them. This facility became a prototype for many schools, as the Information Technology (IT) facilitators modeled the integration approaches in other schools and districts.

Having graduated with a Bachelor's degree in Education from the University of Trinidad and Tobago in 2009, Mr. Maharaj

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merged his newly acquired educational background with this multitude of other ICT qualifications and extensive experience to continue the technology innovation. By this time, computer prices were slashed drastically and processing power was phenomenal. Nationally, telecommunications infrastructure upgrades and the opening of the telecommunications market also facilitated faster internet connections at competitive prices. For education, this meant more devices, more access and more content were at the fingertips of our children. According to the research, kids growing up in such an environment, with ICT at the core of their mode of communication, are referred to as 'Millennials' (Smith, 2011). They are characterised as being masters of digital media, Internet and mobile technologies.

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In a response to meeting the educational needs of the Millennials, Mr. Maharaj made a presentation at a Parent Teachers' Association (PTA) meeting to deploy a state-of-the-art ICT facility to the parents and teachers of the El Dorado North Hindu School. The proposal was made to deploy a 'thin-client' hardware solution. This solution reduced the initial capital expenditure by over 75% compared to a traditional Personal Computer (PC) solution. Because there are no system towers, the projected recurring maintenance cost was reduced by almost 90%, in electricity usage. With these tangible benefits coupled with the intangible benefits of the educational engagement of the students, the project was unanimously

supported by all stakeholders at the school. The project was 100% funded by the hardworking PTA under the stewardship of then acting principal, Ms. Lackhan, after whom the facility was named. The completed system incorporated interactive web-based curriculum activities and Google platform with the powerful features of the Microsoft Multipoint server platform. This combination gave the teachers the control to monitor and engage pupils. It also simultaneously allowed students the freedom to explore and expand their minds in their digital world. Mr. Maharaj conducted orientations with teachers and continues to be the in-house technical and educational support for the system and teachers, respectively.

Since the formal launch of the facility in February 2013, many principals and Ministry of Education officials have visited the school to observe its operation and use by the pupils. The most interesting visit was on June 20, 2013. On this day a parliamentary-appointed six-member committee comprising officials from the Ministry of Education, Ministry of Tertiary Education Skills and Training and business sector stakeholders, visited to evaluate the use of ICT in the classroom. They requested that Mr. Maharaj demonstrate the use of ICT to teach a lesson. Apart from illustrating the use of the thin-client solution, other technologies such as tablet PCs, an Interactive white board, and a document camera, an ultra-short throw projector, were also integrated with a customised interactive lesson developed by Mr. Maharaj. The content was presented in multiple ways to entice the

learning mode of each student. Individual and group assessments were also done using interactive questioning on the tablets which fed back to the interactive board, giving instant feedback via graphical representations of the student's responses. The members of the committee were all blown away by the possibilities. When asked by the committee which method of instruction they preferred, the pupils all resoundingly chose the technology-driven one over traditional methods of delivery.

The MoE recently adopted the Google platform across the Ministry of Education and is planning for a technology-driven learning environment in more primary and secondary schools. The Tobago House of Assembly Division of Education, Youth Affairs and Sports is in consultation with Mr. Maharaj for implementing their technology-driven educational solutions for both primary and secondary schools.

Understanding that technology is a dynamic force in engaging and empowering students, Mr. Maharaj completed his Masters in Leadership, Technical, Vocation Education and Training and Workforce Development at the University of the West Indies School of Education (UWI, SoE), further establishing his competence and mastery in this area of studies. He is presently evaluating a number of new educational technology devices and platforms for implementation, including the International 'School in the Cloud' project propagated by educational researcher, Sugata Mitra, and based on the Self Organised Learning System.

