

Implementing and Managing ICT Integration and STEM Education in Mauritius

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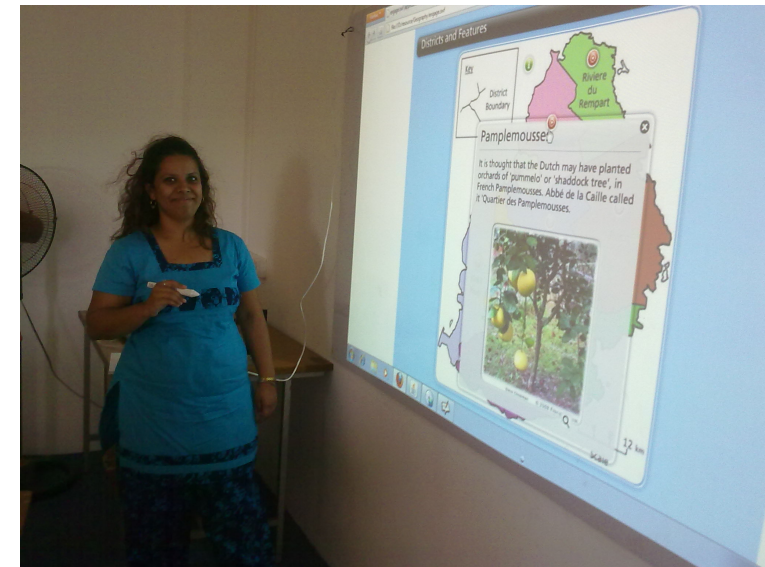
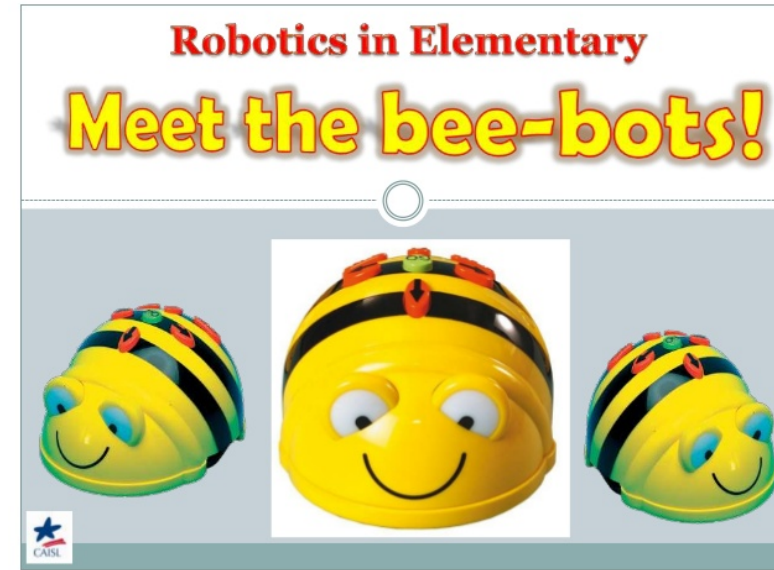
Initiatives in STEM Education and ICT in Mauritius - 1

Pre primary schools

- Introduction of the Beebot floor programmable robot in some elementary schools

Primary schools

- Interactive projectors in Sankoré project – grew from a Project to a National Programme for this initiative started by France



Initiatives in ICT in STEM education in Mauritius - 2

Secondary schools, TVET and Tertiary

- **Codecraft project – introduction of basic concepts of software programming skills at lower secondary level**
- **Use ICT in Mathematics teaching : Teaching Shapes, motion, formulae, 3D visualisation**
- **Use of data logging for practicals and demos in Technology and Science subjects**
- **Implementation of the National Tablet PC programme at Secondary**
- **Progressively connecting all secondary schools to high speed wifi**
- **Use ICT tools in vocational colleges to ensure match with tools used in Industry which are increasingly technological**
- **Ministry currently working on setting up of a dedicated NREN for enhancing research, in particular in STEM in Universities**

Managing the integration of ICT in STEM Education

- **Ministry officials guide policy-makers to engage and plan on integration of ICT and STEM Education**
- **Progressively train, build organisational capacity, coordination and monitoring ability by Ministry – GESCI's ALICT assisted in building leadership**
- **Developed a National Curriculum Framework which embeds ICT both as a taught standalone subject and its cross-curricular usage in STEM subjects**
- **Developed a National Open Software Policy - encourage and train in use of OER in STEM Education, as support to classroom teaching**
- **Stating the obvious : Recruit teachers with STEM background**
- **Encourage E-Assessment in STEM subjects**

Managing the integration of ICT in STEM Education -2

- **Control obsolescence : Choosing appropriate ICT and STEM Education solutions given limited funding for replacement**
- **Ensure ability of private sector providers to deliver and maintain ICT and STEM infrastructure : this isn't always obvious in a SIDS or developing country context**
- **Avoid vendor lock-in – but instead manage and encourage vendor partnerships with those vendors that do have specific strengths**
- **Plan for the disposal of e-waste of ICT and STEM equipment**
- **Ascertain regulatory compliance – eg in data protection, use of licensed software**

Managing the integration of ICT in STEM Education - 3

- **ICT, in some cases, provides simulation platforms as substitute to expensive or unavailable equipment**
- **STEM Education is expensive, so plan funds by inclusion in National budgets, in steps**
- **Work with NGOs for starting projects- but ensure they also build capacity of Ministry departments in these areas where initial Ministry capacity is low**
- **Build Awareness : Plan a Communications strategy for dissemination of ICT in STEM Education**
- **Synergize a resource mobilisation strategy with development partners**

Summarizing the Mauritian experience

- 1. Start projects in ICT and STEM Education with development partners**
- 2. Strengthen national execution and monitoring capacity across the system**
- 3. Learn and adjust from successes (or failures)**
- 4. Expand, in planned phases, into national programmes**

ICT helps in overcoming isolation of SIDS

“SIDS can envisage rapid technological innovation, especially in information and communications technologies, that will help to overcome island isolation, create new ways of maintaining social and cultural ties across the island diaspora and help evolve new economic activities.”

UNEP 2014 - GEO Small Island Developing States Outlook.

THANK YOU !

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