



No More Islands
ICTs in Education Policy:
Implementation and Engagement

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ICTs in Education in Namibia

At the turn of the millennium, national information and communication technologies (ICTs) in education projects or organisations could not be found in Namibia. Within three years, nearly a dozen projects and organisations had begun to pilot ICT-related activities. These included ICT deployments, curriculum development, content deliver, teacher training, educational management, technical support, and connectivity. During these early days, projects and organisations operated independently, as islands of activities and interventions.

Project managers and organisations could attempt to align ICT activities to the Ministry of Education's overall education goals, but little guidance was available regarding the actual form of implementation for ICTs in education. Technology platforms varied dramatically from one school to the next. ICT-related curricula were virtually non-existent. ICT-based content, if available, was haphazard and almost wholly imported. Training programmes were developed based on trial and error. And affordable connectivity and technical support for ICTs was no where to be seen. As these islands of activity increased, the Ministry of Education was unable to ensure that the projects and organisations were working in line with the Ministry's educational goals.

While the scene described may appear unfortunate, on the contrary, the use of ICTs in education in Namibia was extremely new and these projects and organisations began to form a collective set of local experiences, highlighting what worked and what didn't. Eventually, Ministry officials, ICT project managers, and NGO leaders, at the request of the Ministry of Education's National Institute for Education Development (NIED)¹, came together to share experiences and coordinate the ICTs in education sector. Thus, the ICT and Education Steering Committee was formed.

In late 2003, when the ICT and Education Steering Committee was first developed, the Ministry had only just begun to consider the ways in which ICTs should support the education sector. While the early steering committee meetings focused mostly on information sharing, the Ministry had also decided to update their ICT Policy for Education at this time.

The Namibian ICT Policy for Education was first drafted in 1995 and then updated in 2000. The 1995 and 2000 versions of the policy, like much of the ICT sector, rather quickly became outdated by focusing on limited uses of ICTs in education. The steering committee, as one of their first tasks, undertook to update the ICT Policy for Education to reflect the comprehensive nature and opportunities presented through the use of ICTs in education.

After nearly a year and half of discussion and input from sector partners, the ICT Policy for Education was completed and launched. The policy, while simply a document, represented the development of a medium for exchange and debate. The Steering Committee, by leading the policy creation process, became the forum for all

¹ NIED is the Ministry of Education directorate responsible for curriculum and professional development.

things ICT in the education sector. This policy development process evolved from a revision of the existing policy into a strategy for sector-wide educational change through the integration of ICTs for teacher training, classroom learning, and educational management. As this process took shape, a framework for engagement for all partners, and thus a framework for change, emerged.

Educational Change in Namibia

Educational change is no easy task. The complexities involved have been thoroughly documented.² The combinations of factors which must be considered are nearly endless. Educational reform involves key stakeholders, from policy makers and planners to administrators and implementers to teachers and learners to community stakeholders and parents. Educational reforms can take a variety of shapes, from centrally-mandated to community-driven to donor-lead. Educational reforms can consist of any combination of stakeholders and forms. In short, educational change is complex.

Though there seems to be no “one path” to educational change, this should not be construed to mean that there is “no path” to educational change. Rather, each government must consider their own intricate set of contextual factors in the development and revision of reforms.

New tools and technologies are now creating new challenges and opportunities for educational change. These “new challenges and opportunities”, when considered more closely, may not be new at all. Teachers, communities, administrators, policy makers, planners, private sector, NGOs, public sector, donor organisations, and other government institutions responsible for physical infrastructure all have very specific roles to play in implementing educational change. When ICTs come into the picture, the opportunities and challenges for change are heightened, resulting in the need for greater understanding about how to utilise these new technologies for improved teaching and learning.

In 2005, the Ministry of Education in Namibia initiated the Education and Training Sector Improvement Programme (ETSIP). ETSIP addresses the entire education and training sector, from early childhood development through to vocational education and tertiary education. With nearly universal access achieved in Namibia³, this new educational reform sets out to overhaul the education sector to build on the broad access base and thus improve quality. Key among the educational reforms in ETSIP is the ICTs in education component.

ICTs in education form nearly 20% of the total ETSIP budget, which is second only to the general education component. Considering that the Ministry of Education had previously never had a line item for ICTs in the education budget, the inclusion and relative size of the ICT budget is testament to the importance placed upon ICTs by the Ministry. Previously, ICTs were implemented solely through donor-funded projects and non-governmental organisations (NGOs). While some of these projects and NGOs continue, the leadership for the implementation of ICTs across the education sector has clearly shifted.

² Fullan, M. G. (1991) *The new meaning of educational change*. London: Cassell.

³ Ministry of Education (2004) *Education management information system: annual education census data for 2003*. <http://emis.edsnet.na/AEC2003/Table27-2803.xls> accessed on 10 August 2006.

ICTs in Education: Implementation and Engagement

The ETSIP process required the Ministry to turn their ICT Policy for Education into a comprehensive implementation plan. Again, the ICT and Education Steering Committee took up the task and an ever expanding set of stakeholders participated in creating a framework and strategy for implementation.

A comprehensive framework for implementation must consider a wide-range of factors, stakeholders, and approaches. Based on the wide-range of experiences in Namibia, the ICT and Education Steering Committee began working with the Global eSchools and Communities Initiative in early 2005 and, slowly, an implementation framework began to emerge.

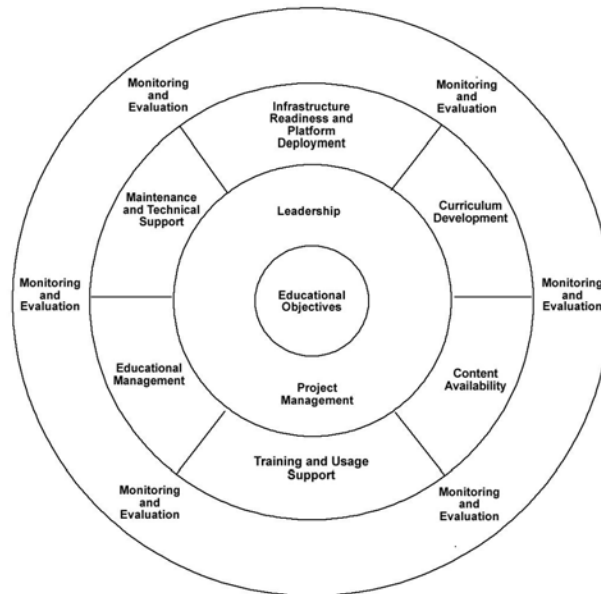
The resulting framework for implementation, which forms the basis of the Ministry's implementation plan for ICTs, consists of nine key components. These are: (1) educational objectives, (2) project management, (3) infrastructure readiness and platform deployment, (4) curriculum development, (5) content availability, (6) training and usage support, (7) educational management, (8) maintenance and technical support, and (9) monitoring and evaluation. Each component is described in the Ministry of Education's Implementation Plan Guide for ICTs in Education as follows⁴:

At the centre of the entire process are the Educational Objectives, which must drive the whole initiative. These are then followed by Leadership, to be provided by the Ministry of Education, and the development of a Project Management Office that oversees the day-to-day management of the initiative. Next are the actual components of the ICTs in education initiative (Deployment, Curriculum Development, Content Availability, Training and Usage Support, Educational Management, and Maintenance and Technical Support). These are the activities that must be implemented at the educational institution level. Finally, enveloping the entire process must be a comprehensive Monitoring and Evaluation process.

The framework highlights key issues which must be addressed for successful implementation. Physical infrastructure must be in place in the form of power, buildings, and, ideally, telecommunications. Appropriate curriculum must be in place for basic ICT literacy skills, for the integration of ICTs across subject areas, and for ICT as a subject in itself (e.g. computer science). Content must also be available to support the delivery of each of these curricular areas. Training programmes must be implemented to address the ways in which the curricula and content are to be implemented. Educational management at school, district, and national level must be aligned and implemented for the ready exchange of information for planning purposes. All hardware, software, and personnel must be appropriately supported through centralised and on-site support. And all of this must be monitored and evaluated regularly to make suitable adjustments.

Each component provides guidance for implementation plan development. The framework for implementation is presented in the figure below.

⁴ Ministry of Education (2006) *ICTs in Education Guide to the Implementation Plan*. (To be published in September 2006.)



The framework is meant to reflect a comprehensive solution for implementation of ICTs across the education sector. One additional benefit of utilising this framework is that, based on the comprehensive nature of the solution, the framework doubles as a “framework for engagement” for all partners to critically influence the ways in which ICTs are introduced and utilised for the education sector.

By focusing on actions instead of institutions, the framework can be used at all levels as implementation plans are debated, drawn up, and executed. For instance, central policy makers and planners can employ the framework to consider high-level educational objectives for the sector, such as “improving maths results for girl learners” or “improving attrition rates”. These are sector-wide educational objectives which then drive the deployment of ICTs, development of curricula, etc. At another level, each educational institution can determine their specific educational objectives and then develop various components of their institutional implementation plans.

When educational institutions sit down to create their plans, all areas of the framework must be considered, with some components more open to input than others. For instance, if the standard deployment platform is mandated from central planners due to budgetary requirements, a teacher training college which is to receive this platform must still consider a number of key issues included under the infrastructure readiness and platform deployment component. The college will decide where the deployments will be located within the institution, who will oversee and sign off on these installations, how security of the room will be ensured and sustained, how access will be managed, etc. The framework of engagement ensures that everyone at all levels considers the full implications and requirements for the implementation of ICTs.

An Example: Project Management and Leadership

The implementation framework, in serving as a framework for engagement, creates competing demands on organisations within the ICTs in education sector. Currently, the ICTs in education sector in Namibia exists as a multifaceted environment with a

number of different players. Each stakeholder, based on their mandate, applies pressure to the Ministry of Education and the Ministry, in turn, responds by applying pressure back on the sector. The framework helps guide that pressure such that roles and responsibilities are clearly defined. In the past, the pressure generally originated from outside organisations and often the Ministry took some time before responding due to the uncertainty of partners' roles. More recently, this has shifted whereby outside organisations make demands on the Ministry and/or the Ministry makes demands on organisations.

For instance, the ICT and Education Steering Committee determined that the ICT solution deployed to schools must include educational content for use by teachers with learners. The educational content was expected to cover at least maths, science, and English for grades 8-12, since these were deemed priority areas. The Steering Committee tasked their Content Working Group to evaluate educational content packages.

The Working Group in turn looked to National Institute for Educational Development (NIED), which is the Ministry's curriculum and professional development directorate and thus responsible for content evaluation. The working group also requested assistance from the Global eSchools and Communities Initiative to assist with the development of an e-content evaluation tool since NIED had little experience with the evaluation of digital content.

GeSCI developed the tool in close collaboration with the Working Group and NIED. The tool was then reviewed by the Steering Committee members, with extensive input from members who regularly work with content, curriculum, and/or training. After the evaluation tool was revised and endorsed, the Working Group identified subject area specialists from NIED to conduct the e-content evaluation.

The team evaluated content which was recommended by Steering Committee members for use in schools. Once the evaluation was completed, the results were compiled by the Working Group and shared with the Steering Committee. The Steering Committee reviewed and endorsed the results of the evaluation. And in the end, a collection of e-content packages was identified for inclusion with all educational deployments.

This example, as presented here, looks rather straight-forward. In actual fact, it was a messy, contentious process which continually required the leadership and support of the Ministry of Education. The Ministry, as the head of the Steering Committee, continually pushed NIED to ensure the review moved forward. GeSCI was reminded to ensure that a wide-section of stakeholders reviewed the evaluation tool. Steering Committee members had to be asked repeatedly for recommendations for content packages. And, in turn, Steering Committee members from NGOs and other training organisations pushed the Ministry to ensure the evaluation was transparent and consistent. It was no easy feat. But in the end, the results of the evaluation were such that the Steering Committee was confident that they could stand by their endorsement.

This process can be compared to previous attempts by organisations to solicit recommendations from the Ministry on content packages for use with ICT deployments. In the past, when organisations requested that the Ministry review and recommend a content package for use in all ICT deployments to schools, the Ministry

was unable to provide guidance. The reviews were inconsistent. The results were difficult to endorse. Organisations had to go on ahead without the Ministry's input. The responsibility for this lack of coordination rested squarely with the Ministry of Education. In effect, by continually pushing and moving forward, other organisations drove the Ministry's eventual management and leadership of the sector.

Conclusion

Namibia began with competing visions for the ways in which ICTs should be utilised for educational change. It can be argued that a unified vision continues to elude the sector. But, given that educational change happens in myriad, competing ways, perhaps a unified vision is unnecessary. It is likely that the "messy, contentious" nature of the ICTs in education sector in Namibia is an asset since the framework for implementation and engagement provides the unifying theme for the sector.

By the time the Steering Committee began working with GeSCI, things were already happening in Namibia. The Steering Committee was moving forward with the policy developments and partners were sharing some experiences and thus creating an asymmetrical pool of knowledge for ICTs in education in Namibia. The difficulty was that, while there was no unifying vision, there was also no clear mode of engagement for partners. Activities were developed and delivered through ad hoc discussions and feedback was shared inconsistently. Institutional sector knowledge remained inaccessible to most and it was unclear how things were to move forward beyond small-scale activities and pilots.

The development of the revised ICT Policy for Education led to the creation of an implementation strategy and this in turn led to the development of a framework for implementation and engagement. Currently, the ICT and Education Steering Committee, with over 70 members, represents nearly all directorates within the Ministry of Education, as well as a wide-range of private sector, civil society, and donor partners. The steering committee is supported at the day-to-day level through the Ministry of Education's Project Management Office for ICTs in Education. The Project Management Office assists the steering committee's Working Groups, which are organised around each component of the framework for implementation. More and more, the Working Groups are becoming the decision making bodies of the Steering Committee, with each working group making recommendations for their areas of expertise and the Steering Committee reviewing these recommendations for endorsement.

Overall, the ICTs in education sector in Namibia has moved from donor-driven projects to a Ministry-led, sector-wide initiative. Going forward, the Ministry and the Steering Committee must continue to bring in additional partners to ensure all targets can be met. For example, connectivity can only be expanded in an equitable, affordable manner by aggregating demand across all educational institutions and thus the telecommunications providers must be brought on board.

With the development of the ICT Policy for Education and the comprehensive Implementation Plan, the ICTs in education sector in Namibia has a consistent forum to work together and engage all public, private, and civil society partners. Given the wide range of views for the sector, this is no easy task. The framework for implementation and engagement creates a common environment to ensure that these

differing views are constructively and consistently aligned to the overall sector goals. And this, in turn, ensures that in the ICTs in education sector in Namibia, all partners are connected to one another and, more importantly, there are *no more islands*.