ICT will come to the rescue of education - but it's not a quick fix, says ex-Rand Merchant Bank COO

The DBE cannot roll out effective ICT interventions in schools overnight, or on its own, but there is a plan...

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In pursuit of its goal of achieving excellence in all South African schools by 2030, the National Education Collaboration Trust (NECT) has adopted several programmes, among them the Testing and Institutionalisation of New Ideas in Education. The NECT is a collaboration between all stakeholders in basic education: the government, teacher unions, academia, NGOs, business, school governing bodies and school communities - which seeks, through dialogue and a free flow of ideas, to identify, evaluate and implement bold, innovative strategies to improve the quality of teaching and learning in our schools. It is a direct result of the NDP's focus on education as the most critical area in need of development, and a realisation that the state cannot overhaul education on its own.

An innovation project - The Development of an education ICT Strategy - is now being launched under the project-management of Peter Gent, former COO of the Rand Merchant Bank, which is one of the business stakeholders in the NECT. The project is still in the scoping stage, but Gent has a clear understanding of the path ahead, and the groundwork that has to be done if the two main thrusts of the ICT Strategy - e-administration and e-learning - are to be implemented successfully.

National educational ICT initiative

"I spent three months talking to as many people as I could in business and the DBE about a national educational ICT initiative," Gent said. "We'll be starting on the e-administration side. That is the low-hanging fruit, where we can achieve quick wins. There are management information systems at schools, running on older technology platforms, and unfortunately not delivering optimal functionality. There is an opportunity to revamp those systems at a relatively low cost," he continued, "the system should be able to track a learner easily from Grade R to Matric; to know where they are, how they are doing, what subjects they're taking, how many they have in the class, etc. This information is required for teacher and infrastructure planning amongst many other needs."

Gent is aware of the resentment many teachers feel at the perception of top-down decisions being forced on them without consultation, and he is acutely conscious that the buy-in of teachers is essential if e-administration and e-learning are to be successfully implemented. In a recent newspaper article commenting on the Western Cape and Gauteng education departments' plans to roll out broadband to all schools, the chairman of the educational PETS Foundation, Michael Rice, wrote: "No matter how good the educational theory, no matter how much money is thrown at the problem, no matter how innovative the solution, if teachers are not integrated into the process, their needs elicited and limitations realistically assessed, there is little prospect of success."

Teachers' resistance

Gent believes part of the teachers' resistance stems from the way administrative data has been managed to date. "Information systems enable much more effective management of, and accessibility to, data. Although teachers and school administrators are asked to collect and submit vast amounts of data - very little of it flows back to them. They are not able to request reports that can help them run their schools and districts more effectively. That needs to change. Given the amount of effort that is going into collecting data, and ensuring it is accurate and complete, we really must leverage it across the whole system. That's one of our real opportunities."

He also feels increased connectivity among all schools will facilitate another key pillar of the NECT: the professionalisation of teaching. "In many ways, the primary initial beneficiaries will be teachers, rather than learners. It gives teachers the opportunity to be part of a global community; to see global best practice; to engage with their community in their districts and around the world. Our two quickest wins will be installing an efficient e-administration system, and creating a new channel for the continuous professional education of teachers. I think we can transform the working environment of teachers - especially teachers who feel isolated in rural areas. If you're the only science teacher, say, at a small outlying school - what chance do you have to engage with other science teachers? How do you remain abreast of the latest developments in your subjects, let alone the latest news in teaching practice?"

Complex challenge

E-learning, Gent believes, is a much more complex challenge. "E-learning is a value chain - and quite a complex one," he said. "It starts with content that has to be digitised, then the ability to put that content onto the Web, so we need a portal and the cloud. Then we need the ability to transmit that information to schools and teaching centres - that's a connectivity issue - as well as the ability to cache it at the school, so it can be accessed when it is needed. Then you need the devices for the teachers and the learners to consume that material. Those are all the technology aspects: the technology needs to be implemented and supported, and people need to be trained to maintain and use it.

"But then you have the human behavioural side, which is more challenging. We need to adapt teaching methodology to incorporate that material. E-learning is not just something for learners to access after class as part of their own work; we want to incorporate it into teaching. We need to train teachers to do that, but first we need to convince teachers that they should do it. If we don't get the change management right, this material will be ignored. Then we need ongoing user support, perhaps in the form of online groups, where teachers can share their experiences with the technology; their successes and challenges. It starts to build a culture of using technology as a learning tool. We also need to extend that into the way teachers are trained at universities. The human interface is the most important part of this.

"A huge amount of money has been contributed to e-learning so far," he admits, "with very limited results. There are pockets of success, but they're few and far between. Why? Because too often people are trying to implement one or other aspect, and not the entire value chain. There's no point in giving someone a laptop if there is no content to go on it, or if they can't access that content. It's a complex value chain and an enormous system - and a system that is by no means homogenous. We have to assess what the appropriate solution is, and then test and implement. I don't believe it will be a single blueprint, either; it will be a range of blueprints depending on the situation of the schools we're trying to deliver to. Schools in rural areas will need a different approach to those in major hubs, for example."

Pockets of excellence

He is under no illusions about a quick fix. "We need to accept that this is not a project with a finish date - it's a journey looking at each element of the value chain and seeking to advance each of those elements on an ongoing basis. What the NECT should be doing is looking for these pockets of excellence that do exist around the country; whether they be in government departments, NGOs or the private sector, and putting these people together. We should be pulling in the players that have value to add, into a strategy that considers all the aspects of each solution." He mentions organisations like SANReN, and the high-speed internet 'backbone' it provides to universities and research organisations, as well as Telkom, Vodacom, MTN and Cell C, with their advanced connectivity capability, as possible private-sector partners with government in improving connectivity to rural schools. This is an example, he pointed out, of how CSI spend can be channelled through the NECT to align with government's NDP strategies.

"Implementation is going to require national collaboration. The government will need to create an enabling environment that allows implementing bodies to be formed to achieve the goal," he concluded. "There needs to be clear direction provided, and coordination of the efforts, or the many and disparate elements get lost. The NECT will support the DBE in this coordination, so the private sector can engage, and know what direction to go in. So an organisation rolling out connectivity, for example, can get clear guidance from the department through the NECT and the implementing body. We can't take on all of it at once, or we will fail."