

The role of technology in improving education

By [Paul Fick](#)

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The South Africa education sector faces a growing number of challenges, from a lack of facilities to outdated teacher training certifications and a resulting lack of passion within the teaching profession as a whole because of these factors. Together, these three factors create a very obstructive situation for local learners and educators.



Without an updated curriculum, teachers cannot help learners achieve an education that is relevant to the current economy. A challenging school infrastructure may cause children to remain uninspired and are less likely to attend school. Although an enthusiastic teacher may be able to create initiative and inspire learning, without adequate facilities their efforts are stymied, creating a vicious negatively reinforced cycle.

Technology is evolving at a dizzying pace and schools need to stay abreast of these developments because they nurture the workforce of tomorrow. By embracing technology, certain areas such as the curriculum and flagging interest by both pupils and teachers can be addressed and resolved. In doing this, education can be made relevant once more by giving the pupils and their teachers the skills needed to become productive members of a highly technology driven society. One such example is the cost-effective Critical Links Education Appliance, the world's first purpose-built education server comprising three main components: a learning management system; a student information system; and an IT management system for administration.

Resources centralised

The appliance places all resources centrally on one system within a school, which is accessible to teachers both at school and after hours, enabling teachers to create lesson plans and structures with the help of built-in wizards and other tools. Together with core curriculum materials developed by Critical Links' partner LearnThings, teachers have access to a powerful bank of materials that can be used as is or can be customised to meet specific needs, empowering both teachers and learners through interactive, engaging educational content.

The learning management system is linked into Moodle (Modular Object-Oriented Dynamic Learning Environment), a global open source e-learning community designed to help educators create online courses with a focus on interaction and collaborative construction of content. Teachers can use this to learn from the experience of educators from around the world and collaborate in creating new, dynamic lessons by connecting and sharing ideas.

More tools for teachers

The Moodle community also allows teachers to download lesson plans and access huge volumes of learning and study materials created by the on-line community, giving them more tools to make lessons better and more inspiring.

From a presentation point of view, lessons can be saved on the Education Appliance as video files, or simply as a written lesson outline. These files can then be viewed by teachers and students alike. Children who have missed classes for whatever reason, get an opportunity to catch up without placing extra workload on the teacher. It also enables dynamic distance learning to become possible, with a centrally based teacher helping students from multiple classrooms in multiple locations to learn simultaneously over the Internet.

In addition, the Education Appliance helps teachers to streamline education activities, creating a compelling learning experience with personalised attention for students through media-rich lessons. It gives teachers more resources and more flexibility to design lessons and activities and allows educators to create and post student records, assignments and grades for real-time performance monitoring through an intuitive, easy to use application.

Tools for administrators

For the school administrators, the Education Appliance provides all of the tools and solutions required in a single box, from administration and networking to security and management. This helps to simplify the administration process, allowing attendance to be easily recorded and reports to be generated quickly. It also allows for demographic information, such as the number of pupils and the spread of these throughout the grades, to be easily shared with district government offices for more accurate data; data that the government can then use to provide better services.

For the student, the education appliance is designed with their environment in mind, providing access to a better, more engaging and interactive model of education that stimulates learning and provides the technology background that learners need to prepare them for the job market. Using a combination of the Education Appliance server and Classmate PCs, teachers can give students tasks and assignments to complete in their own time. Students can fully interact with their teachers and classmates and access lessons, learning material and study guides at school and at home. This stimulates learners to think for themselves rather than just absorbing information, encouraging interaction and involvement and assisting with development through a student-centric learning model that embraces technology to entice students to take part.

The learning of the future

Technology such as the Education Appliance represents the learning of the future now, embracing the 2.0 culture of today's world to give learners an edge on their education. It makes the jobs of teachers easier by providing access to resources and tools for more dynamic lessons, and facilitates the curriculum and the administration of the school quickly and easily. More importantly, however, it helps children to learn by providing education on a platform that appeals to them, which is interactive and will improve not only their marks and pass rates, but also the learners' real-world technology skills.

However, as helpful as technology is, and as necessary as it is for the future of education in South Africa, technology alone will not solve our country's problems. The Education Appliance is simply a piece of hardware with great software and enabling tools, but it is unrealistic to simply put technology into schools and expect miracles to happen.

The blackboard... an old favourite, but...

The blackboard, although practical and useful, has its limitations, and the curriculum for teacher training needs to be updated with advances in technology in mind. Teachers need to be trained and given the skills to not only use technology but interact with teachers from other schools around the world in an increasingly social media driven world, helping to build up their knowledge base and exchange ideas. By providing a wealth of tools and information as well as a global platform for teachers to connect and exchange ideas, the Education Appliance helps teachers to regain their passion for education and harness the power of technology to improve their learners' results.

Without professional development teachers remain unable to take advantage of investments into technology. By empowering our educators to lead the way using new advances in technology, we can pave the path for better education and a brighter future.

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