Covid-19 exposes urgent need for tech-savvy teachers, 4IR e-learning options

The coronavirus (Covid-19) threat, coupled with the closure of South Africa's schools until at least the end of the Easter weekend, foregrounds the urgent need for tech-savvy teachers who can take advantage of the myriad e-learning opportunities offered by the fourth industrial revolution (4IR).

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Fear of change, along with an unwillingness to welcome digital technologies into their daily lives, is however preventing many educators from assimilating tech-based learning models into their teaching. Compounding the challenge is the fact that plans are afoot for the full implementation of Coding and Robotics into the national curriculum by 2022, as the National Department of Education prioritises the task of equipping learners with the requisite skills for the 4IR.

With Coding and Robotics introduced for learners in Grades R to 3 in 200 schools this year as part of a pilot plan, it is clear that it will increasingly fall to the country's teachers to shoulder that all-important task of preparing the younger generation for a whole new world.

Put simply, 4IR will be unlike anything humankind has experienced previously; the physical, digital and biological worlds will blend together, fundamentally changing the way we live, work and relate to one another, says Micheal Goodman-Mareme, group knowledge manager at educational publishers Via Afrika. They have stepped into the breach with an e-learning opportunity aimed at demystifying 4IR, specifically among teachers.

Teaching for 4IR

The Via Afrika Digital Education Academy's newly-launched course Teaching for the Fourth Industrial Revolution directly addresses the biggest stumbling block: the fact that the teaching profession of today is dominated by Gen Xers and Baby Boomers, while their classrooms are filled with Gen Alphas, for whom social media, for example, is not just a tool, but a way of life.

"Most teachers are largely disengaged, or at the early adoption stage and only now beginning to embrace technology in their classrooms, and that's not good enough. It's critical that they work towards reaching a place where technology is a regular part of their lives including, for instance, being receptive to communicating with their learners via text or social media," Goodman-Mareme explains.

Achieving GenReady teachers for South Africa presents three important challenges, he points out:

- Change: Teachers are human, and humans don't like change
- Misunderstood definitions: Believing you are digitally literate when it is in fact digital fluency that is the goal. The former indicates a proficiency in using the tools, while the latter means you are skilled enough to create something new with the tools and can effectively evaluate messages in the media.
- What it really means to transform teaching and learning: The need to be skilled in how to use technology professionally in the classroom, and to make the best decisions in order to achieve optimal learning outcomes.

"Digital education is learning that is supported by, enhanced by, or facilitated through information and communications technology services (ICTS), and supported by reconsideration of content and relevant pedagogy," continues Goodman-Mareme.

Traditionally, Goodman-Mareme says, good teachers have had equally strong content and pedagogical knowledge; they know their subject and understand how to teach it effectively.

"But today's reality is that learners are surrounded by smart devices which are getting smarter every day. It's essential that teachers add technology to their conventional knowledge areas so they can equip learners with the skills they need, not even for the future, but for right now," he cautions.

On coding specifically, Goodman-Mareme stresses that properly defining it as a new subject, and understanding how it can be taught effectively, requires training.

"The Department of Education recognises that the jobs of the future will be very different from the jobs of today, and learners will have opportunities that we can't even imagine now. What we do know is that an increasing number of future jobs will entail coding, or at least aspects related to coding.

"And even if learners don't enter a coding-related field, they will need to use computational thinking in all parts of their lives," he says, adding that it is becoming as vital a skill as reading, writing and numeracy.