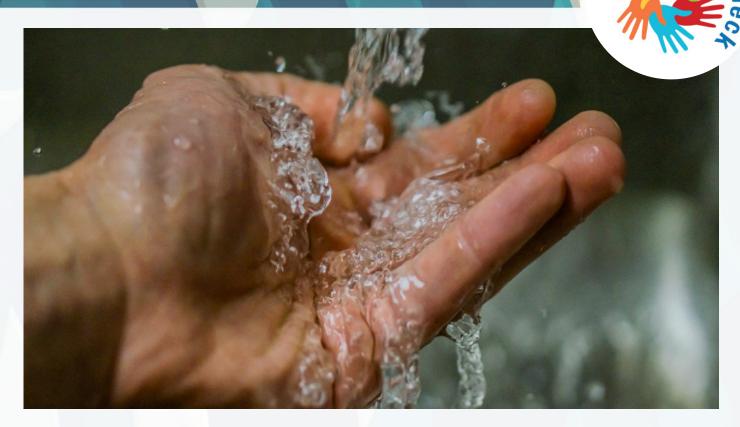# WATER ACTS NEED URGENT REVIEW

BY SUE SEGAR

The Covid-19 pandemic has provided the Ministry of Human Settlements, Water & Sanitation with a number of lessons – including the critical need for inter-departmental co-operation in rolling out and implementing water projects.

This was a key message from Jürgen Kögl, the special advisor to Water & Sanitation Minister, Lindiwe Sisulu. Kögl addressed the opening plenary session of WISA 2020 in Sisulu's absence as the minister had to attend a meeting of the ANC's National Executive Committee.

The department's interventions in communities during Covid-19 had amplified the fact that too many South Africans are still without access to clean water … and that resources are scarce, Kögl said.

"So a new way must be found to finance (the work). We have to redesign and explore."

"Teamwork between the Department of Water and Sanitation, the department of Cooperative Governance and Traditional Affairs (COGTA) and other stakeholders must be attended to with some urgency for the successful implementation of water delivery," he said.

A further lesson is that there is a need for legislative reviews of the National Water Act, the National Water Services Act and the Water Research Commission Act.

Kögl said Sisulu has reorganised her department so that it can effectively support the implementation of the department's Water and Sanitation Master Plan and she will call on the provincial offices of the department to "formulate their bespoke designs for provinces" to take the plan forward.

The master plan, developed by the Department of Water and Sanitation, is "a plan intended to guide the water sector with investment planning for the development of water resources and the delivery of water and sanitation services over the horizon until 2030, and beyond".

Kögl said the campaign to confront and prosecute unethical behaviour in the department will continue, adding that professional bodies involved in the water sector have "as much of an obligation to fight the scourge of corruption, to monitor the conduct of members and to enforce a code of conduct."

Kögl called on all WISA delegates to support initiatives to mentor young engineers and to "give them a chance to prove their worth".

Behind the scenes at the WISA 2020 Online Conference

SOME SA SCHOOLS BETTER PREPARED FOR WATER CONSERVATION

BY MORGAN MORRIS

If young school learners are to drive change attitudes to water usage and conservation in wider society, some inroads will have to be made to address existing inequalities in schools.

That much was clear from the presentation – titled 'Challenges Facing Schools to Provide Effective Water Services and Promoting Water Conservation' – delivered this morning by Mr Willem Wegelen of WRP Consulting Engineers. Wegelen was speaking on the open day of the 2020 Online Conference of the Water Institute of Southern Africa (WISA).

His talk was based on the findings from a survey conducted with some 30 schools in the Metsimaholo Local Muncipality in Gauteng in 2018. The survey reached over 1,000 educators and other school staff, as well as over 28,000 learners, and aimed to get a sense of attitudes and behaviours towards water conservation and usage.

More ambitiously, the project imagined a scenario where changed attitudes and practices among school learners would ripple through broader society, explained Wegelen. "Our approach to this was that if we could target schools, and we could get schools on board with conserving water in our daily environment, then the school can influence the learner, the learner can go home and influence the household, the household can start influencing the community, the community can start influencing the municipality, and the municipality can start influencing the catchment, which will then all lead to water security, and better health and safety."

But that potential impact faces immediate constraints; for instance, the infrastructure varied considerably across schools. So, for example, the survey found that some schools had one maintenance staffer for every 35 learners, while at others the ratio stood at one to 1,785 learners.

Similarly, there was variation in the state of school facilities. In some, the basins and urinals and toilets were in good state, in others not so. As to garden maintenance, some (seven out of the 30) schools had been able to install tanks to catch rainwater as an alternative water source for irrigation, while others ran sprinklers from their taps.

There are other problems, like regular supply issues. On average, schools' water supply was interrupted 19 times per year, with substantial turnaround times for those to be sorted by municipalities; meaning that schools could be without water for 100 days out of the year and more.

Similarly, some schools had to rely on the Department of Basic Education for funds for maintenance, while other could raise money through school fees or through special fundraising initiatives.

"But in general, there's insufficient budgets within the municipalities and a very big reliance on national government," reported Wegelen.

And while schools sought to raise awareness around water usage, the means to put solutions into place are often out of their reach, he added. "Schools are planning interventions but are constrained by lack of knowledge, funding, support and clarity on external programmes."

There is also widespread scepticism among school educators whether awareness raising actually works. The survey found that some 50%, educators don't believe that such programmes have an impact on learner behaviours, citing everything from ill-discipline from home to lack of understanding as stumbling blocks.

But certain interventions could change things around. Out of the survey, a number of recommendations were made, reported Wegelen. This included the appointment of more and trained maintenance staff who can, for instance, fix leaks themselves; the development of conservation plans within schools; the integration of water issues within the curriculum; and closer engagement between schools and municipalities on challenges like meters, billing and water supply.

But bigger hurdles require bigger measures. With this in mind, engagement with the Departments of Education and Public Works is critical in addressing issues of asset renewal and maintenance projects.

'COVID-19 WON'T BE THE LAST PANDEMIC THE WORLD WILL SEE'

BY DI CAELERS

Spiralling deforestation, climate change and human encroachment on animal habitats all set the stage for global pandemics such as COVID-19 – and this one certainly won't be the last the world will see.

Just as the water sector had a key role to play in tackling the Ebola outbreak in West Africa and parts of East Africa, so it has again in the response to COVID-19, from fundamental handwashing prevention that necessitates a reliable supply, to helping scientists identify infection hotspots via analysis of waste water.

That was the scenario sketched by Dr Eunice Ubomba-Jaswa, research manager for Water Resources Quality at South Africa's Water Research Commission, in her address on Monday to the Water Institute of Southern Africa's (WISA) 2020 annual conference.

Stressing the need for political prioritisation of water issues, which she said the COVID-19 pandemic had highlighted as a fundamental need, Ubomba-Jaswa suggested that the pandemic had presented a long-term sustainable argument for water resources.

"We need to ensure that, in the event of another pandemic, we wouldn't face the same situations again and again," she declared, stressing that water, sanitation and hygiene are the world's first line of defence against pandemics.

Another important issue was to ensure that technology rolled out during the current pandemic, including handwashing stations, becomes a permanent part of the infrastructure.

"We don't want to see these solutions left to deteriorate. It is important that the services we provide are reliable, and have longevity in our country which has highly erratic climatic conditions, and is severely water-stressed.

"COVID-19 has been a significant threat multiplier, and we cannot have a situation going forward of 'water management as usual'. Strengthening our water security is essential for both preventing and combatting future pandemics," Ubomba-Jaswa said.

Meanwhile, several speakers during the same session highlighted the rapid progress South Africa has made in the analysis of waste water as an early warning signal to help identify COVID-19 infection hotspots.

Speakers from the South African Medical Research Council (MRC), the Durban University of Technology and the University of Pretoria all presented results of pilot studies and other investigations into this monitoring method which was pioneered in the Netherlands early this year.

Dr Renee Street, a specialist scientist at the MRC's Environment and Health Research Unit, told the conference that waste water monitoring had been used historically as a public health tool, and that since the start of the COVID-19 pandemic, numerous countries and institutions were now using waste water as an early warning system for the virus.

Put simply, science is showing that the concentration of SARS-CoV-2 in waste water is proportional to the number of COVID-19 patients in a particular area, offering identification of cases up to six or seven days before they present at clinical facilities.

The MRC has created a SARS-CoV-2 waste water surveillance dashboard detailing study findings from treatment sites in the Western Cape, Eastern Cape, Gauteng and Limpopo, that is now available for public viewing on its website.

Another study conducted by the Durban University of Technology (DUT), said Dr Sheena Kumari, a senior researcher in DUT's Institute for Water and Wastewater Technology (IWWT), was aimed at the rapid identification of infected individuals, a key response in containing the spread of the virus.

"The contribution of asymptomatic individuals to COVID-19 transmission is still not well understood, and relying on clinical testing alone may not be feasible.

Wastewater-based epidemiology, as an alternative approach for COVID-19 hotspot identification, has therefore gained prominence," she explained.

The research was built on the concept that both viable COVID-19 and viral nucleic acid will be shed via the saliva, sputum, urine and faeces of infected people, eventually ending up in the waste water – where it can then be detected and quantified.

Microbiologist Dr Gina Pocock, a specialist consultant at Waterlab, addressed the same question in her address to the conference, reiterating that because many COVID-19 infections are asymptomatic and untested, they go undetected. Waste water testing offered the potential for use as an epidemiological indicator, especially in communities where testing wasn't possible.

"It may well offer the critical support needed by officials to determine the timing and severity of public health interventions necessary to mitigate the spread of the disease," she said.
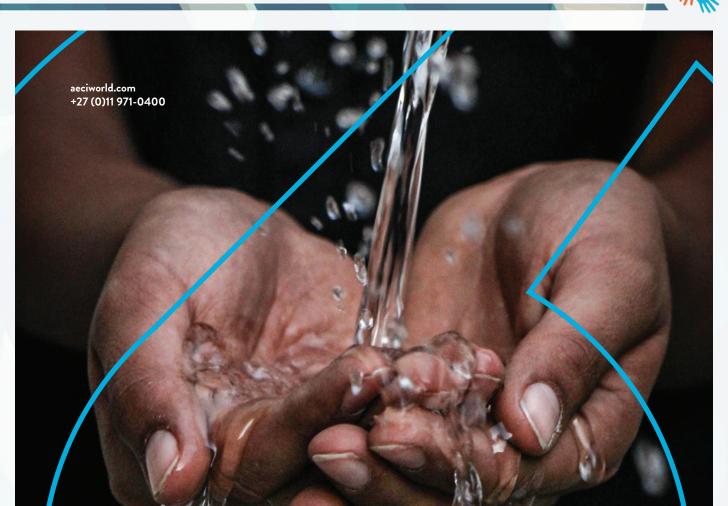
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BUDGET SHORTFALL PUTS SDG 6 AT RISK

South Africa needs close to R100 billion a year to address all the country's water and sanitation infrastructure needs - but only about R60 billion a year has been budgeted for this critical task.

The country needs to find a further R33,3 billion/annum to bridge the gap in addressing water services and infrastructural needs through the National Water and Sanitation Master Plan (NWSMP) and the National Water Services Regulation Strategy (NWSRS), said Mark Bannister, the Chief Engineer: Water Services and Local Water Management.

Bannister was speaking during the session entitled Sustainable Development Goal 6 – Optimising Operations to Deliver Excellence Towards 2030 Goal in South Africa.

He said completion of the goals of the master plan would close the SDG6 Gap by 2030.

SDG 6 is a dedicated water and sanitation goal with the objective of "ensuring availability, and sustainable management of water and sanitation for all".

Bannister said SDG6 is being driven by the Department of Water and Sanitation (DWS) while supporting all other 16 SDGs from a water and sanitation perspective.

"Without this financial commitment from South Africa (the government), to invest in projects that will address the gaps, we will not succeed. If partial commitment is achieved, then only partial achievement of SDG 6 will be realised," Bannister warned. "We need to be creative to ensure we can get sufficient

BY SUE SEGAR

money together to deal with this situation."

Elaborating, he said the National Water Investment Framework (2017) suggested that R89.9 billion/annum is required "and we only have R56,6 billion/annum budgeted."

This figure, he added, would by now have grown closer to R100 billion.

Bannister stressed that the efficient provision of Water and Sanitation is central to the other 16 SDGs "so we need to ensure we provide sufficient contribution to their own activities so that they too can reach their goals. We need to know where they need our support, what kind of support they require and how we can provide it."

The Research and Innovation task team, under the Water Research Commission, has developed a report which shows these important interlinkages.

Bannister said the research report will assist DWS in understanding the scope of support required to achieve the other 16 SDGs. It will also assist the other 16 SDGs in understanding their own water and sanitation needs and how best to involve DWS in ensuring their own successes towards 2030.

"The SDG 6 programme is not a DWS programme but a country programme, endorsed by the president to deliver. It's up to the sector to ensure they help to close the gaps."

SA FACES A 'PERFECT STORM'

BY SUE SEGAR

The repercussions of the Covid-19 pandemic, coupled with the existing socio-political and economic "malaise" in South Africa, present the country with a worrying "perfect storm".

This was the stark warning from Daniel Silke, a leading commentator on the SA, African and global political and economic landscapes and future trends.

Silke, the director of the Political Futures Consultancy, was the keynote speaker in WISA 2020's opening plenary session.

In a riveting address titled South Africa and the World: Navigating the Post-Covid Future,

Silke reminded his audience that, when the World Economic Forum met in the Swiss ski resort, Davos, in January last year and listed the key risks to the world, Covid-19 was not mentioned.

Today, we live in a world where the online platforms like Zoom are valued at more than major airlines. Global leaders have been thrust into a changed world – without a "playbook" to guide them. Both developed and developing countries will be "paying" for Covid for years to come, Silke said.

The post-Covid-19 environment, which has exacerbated many of the world's major political and economic trends, has also highlighted the weaknesses of SA's political economy. These challenges require a completely different way of thinking.

Silke said the world is facing a series of dramatic trends – ranging from demographic changes, to technological shifts and debt-related shifts as a result of paying for Covid-19.

A post-Covid South Africa will experience the same major socio-political trends other countries are experiencing, including "cash-strapped administrations which have to make very difficult decisions about spending cuts while, at the same time attempting to raise taxes from an already-burdened tax base".

South Africa also experiences a dual society of "haves" and "have-nots", an inequality which is present in large parts of the world.

"The country also has to grapple– especially post-Covid – with major expenditure issues around enhancing public health care, which clearly requires a reset within the country and a major rethink for pandemics of the future.

"From a demographic point of view, South Africa, along with other countries will see a rising urbanized population in an environment of increasingly strained urban infrastructure.

"That will bring a series of additional social, economic and political challenges which will require a different way of thinking that must be more pragmatic, proactive and co-operative between the various key economic and state groupings within the country," Silke said.

Silke said the "foundations" in South Africa were particularly weak before Covid-19. "So the economic damage that has been done which occurs alongside a deficient state will provide substantial challenges now and into the medium term.

The South African government has placed substantial emphasis, during the second part of 2020, on restoring infrastructural developments as a catalyst for economic growth. "While indeed South Africa does need major capital input in her infrastructure and, in particular, in the management of water as a scarce resource, the infrastructure spend alone is not sufficient to take SA out of the economic slump and the general social malaise in which we find ourselves.

"The structural reforms needed include a more efficient state mechanism, more prudent state spending, a better relationship between the private and public sectors and a reduction in the ideological constraints in which the ANC has operated for years … if we are to spend wisely on infrastructure."

Silke said South Africa has succeeded in identifying the industries and sectors that require infrastructure spend and understands the new technologies that need to be implemented.

"The question that remains is whether we have the state capacity and the necessary skills base to implement the required changes.

"The country has to be careful not to commit to very large capital projects … when the foundation for exercising or completing those projects remains suspect. You can permanently damage yourself by taking the scarce capital you have … and squandering it as we, in South Africa, have squandered billions over the last decade."

Silke ended his talk with a quote by globally renowned author/management consultant, Peter Drucker: "The greatest danger in times of turbulence is not the turbulence; it is to act with yesterday's logic."

EW SETA

ENERGY AND WATER SECTOR
EDUCATION AND TRAINING AUTHORITY

PARTNERSHIPS KEY TO EFFECTIVE SKILLS DEVELOPMENT

The ever-deepening water crisis that South Africa faces, requires collaborative efforts from all stakeholders in the sector. Now more than ever, we need to join forces in addressing the myriad challenges faced by the sector, not least of which is skills development.

As the skills development authority for the water and sanitation sector, EWSETA seeks to join forces with stakeholders in the sector ranging from business and industry bodies to NGOs, SMMEs and co-ops, as well as institutions of higher learning, in addressing the sector's skills challenges.

Interested? Contact:

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Creating a Sustainable Tomorrow – Today

Water Sector Skills Within a COVID-19 Context

South Africa's lockdown in response to the COVID-19 pandemic, whilst necessary, has had a devastating effect on the economy and has left many South Africans without formal or informal means to earn an income. The COVID-19 pandemic and its socio-economic consequences require EWSETA to assess skills required to respond to the challenges, as well as empower the sector to exploit opportunities which may have arisen.

The EWSETA virtual water skills COVID-19 Workshop held on 6 August 2020, in partnership with the Department of Human Settlements, Water and Sanitation (DWS), the Water Research Commission (WRC), and the Water Institute of Southern Africa (WISA), sought to unpack the consequences of COVID-19 on the water sector.

The 100 workshop attendees from national and provincial departments, large, medium and small employers in the sector, professional bodies and industry associations, private and public skills development providers, researchers, and non-governmental organisations, participated in discussions facilitated by six individuals from partner organisations with knowledge of the water and sanitation sector.

Whilst the pandemic appears to have not had significant impact on the water and sanitation sector yet, the sector is holding its breath unsure about what the future will hold. This is reflected in not filling vacancies and in some instances keeping staff, but lowering salaries instead of retrenchments. Whilst SMMEs had been able to remain afloat in the short term, most SMME respondents alluded to liquidations and retrenchments, especially if they were not able to tap into the emerging opportunities.

Digital skills, ranging from the complete digitalisation of processes to basic computer literacy, emerged as key skills requirements in the sector. Many agreed that these skills requirements should be approached through short courses delivered in a timely and appropriate manner.

Upskilling within the context of COVID-19 has identified three key challenges: facilitators who themselves are not digitally savvy or accepting of the new reality; access to digital learning platforms is highly unequal and often not of good quality (including access to devices, connectivity, computer literacy); and the public frameworks for digital learning are not in place in the water and sanitation sector to ensure quality control and guidance.

From the range of responses, it was clear that those in senior managerial positions required immediate upskilling to manage the rapidly changing environment and circumstances. This includes risk and disaster management, leadership and human resources management, as well as agile project management. Middle and lower level staff require digital upskilling to manage the shifts in processes.

It should also be noted that respondents generally felt that digital literacy and leaderships skills gaps existed prior to the pandemic, but had come into sharp focus due to the crisis.

Whereas the workshop focused on skills within a COVID-19 context, key messages that emerged were the importance of collaboration between sector stakeholders, driving available opportunities and addressing sector skills development challenges in a coordinated manner.

"Digital literacy and leaderships skills gaps existed prior to the pandemic, but had come into sharp focus due to the crisis."

The workshop questionnaire was based on DHET's SETA employers interview template for the Sector Skills Plan - but adjusted to factor in COVID-19 as a specific change driver

Skills Development Providers

- SDPs indicated municipalities have restricted staff to work from home and reduced working hours
- Technical ability impacts success of online learning
- Many had no planning trained for the foreseeable future
- Placing learners in workplaces a challenge

Skills Development Considerations

- Overwhelming feedback that skills development to be a priority for next 12 months
- Digital soft skills identified as key
- Lack of online learning platforms a challenge

Key Findings

94% had not experienced retrenchments or liquidations.
❓ Water and sanitation are considered essential services.

Suspension of projects had knock-on effect on independent consultants and SMMEs

Many smaller businesses were on the verge of closing – in some cases, payment of creditors and staff deferred to mitigate retrenchments

Impact on Larger Employers
- salary cuts
- re-organisation and consolidation
- vacancies remain unfilled

Technical roles remained field-based and support roles were predominantly home-based (more than 50%)

Main Challenges
- Loadshedding
- Data costs, connectivity and
- availability
- Work-life balance at home
- Discipline

Public sector roles and responsibilities remained largely the same, except where access to tools required roles to be adjusted temporarily

In some instances, work roles and workload skewed

New ways of meeting targets needed

E-learning a challenge for many

Non-readiness of SETAs to create a compliance and quality framework for online training

COVID-19 has exposed SA's lack of online/digital readiness

Inequality of access (only 13% of households have laptops)

Changing of strategic plans and reworking budgets

A readjustment to online work formats

Increase in frequency and length of meetings

Most organisations have put specific COVID-19 projects in place

In some workplaces COVID-19 has increased the PPE compliance and hygiene requirements, requiring upskilling of workers

One large employer made it clear that SETAs "must recognise short courses as a legitimate form of learning"

Curricula needs to be adjusted to remain relevant to the sector and the rapidly changing digital transformation and international trends

Specific comments that came out of group discussions

Most of the skills needs existed prior to the pandemic, but pandemic has highlighted skills weaknesses and increased the urgency of responding to these gaps – particularly digital skills

Skills gaps that existed previously remain important post COVID-19

Are organisations future fit?

Skills gaps being addressed should respond to the type of skill needs and the level of skills required

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DIGITAL LEARNING NOW AND IN THE FUTURE

Whereas the COVID-19 pandemic has completely disrupted life as we know it, one of the greatest impacts has been the way we communicate. With family and friends, for business purposes and in this case, the way we learn. The pandemic has acutely highlighted the need for flexible learning that leverages technology, but it is important to remember that digital learning is still in its infancy, especially in comparison to the more traditional physical classroom environment. This is an important factor for consideration when implementing digital learning strategies.

As it is relatively new, digital learning has many teething problems, but it also holds a world of opportunity and operates on the assumption that digital learning will enhance learning in the future.

Whereas people often think of 'online' learning as an activity that takes place over the internet, or that it is 'digital' learning, without any physical intervention – the term is broader and more encompassing than these limited definitions. The opportunities to implement digital learning, and particularly EdTech, are massive and have a lot of momentum at the moment, as evidenced by some of the spend recently to implement digital learning.

Building awareness of the advantages and possibilities of digital learning is the gateway to implementation at scale. Digital learning needs to be seen as a complement which is used at appropriate times during the learning process, and not as a replacement for all learning guides and resources.

Opportunities and Advantages of Digital Learning

New technologies and new ways of doing things present certain challenges, opportunities and advantages. These challenges and opportunities can be focused specifically on the technologies, or they can be more generic and related to education as a whole.

The research conducted by BluLever Education identified two 'types' of opportunities or advantages that digital learning presents, namely: learning and business.

From a learning perspective there are several elements that can improve the way we learn and teach, including personalisation or differentiation, rapid reinforcement or feedback, self-paced learning, time available to achieve mastery, more and different opportunities to practise, greater exposure, increased levels of autonomy or self-management for the learner, greater variety of content, and more timely learning. There is much to be gained, and great opportunities pedagogically when we introduce digital learning.

From the business perspective, the potential advantages of digital learning are: reduced costs, greater reach, increased efficiency, increased safety, consistent quality, and increased data from learning.

WHAT IS DIGITAL LEARNING?

Digital learning refers to all technology enabled learning (TEL). This includes education technology (EdTech), and any other form of learning that uses technology. Online learning, learning management systems (LMSs), virtual reality (VR), augmented reality (AR) and simulators are all forms of digital learning - to name a few. The term 'digital learning' is an all-encompassing term to simply reflect learning that is being enhanced through digital technology in any way.

The content of this article has been derived from a research study conducted by BluLever Education that works to prepare Africa's artisans for the Fourth Industrial Revolution. BluLever Education is developing artisans through holistic vocational education and skills training that creates ethical industry professionals of global standard. This article is a summary of the BluLever Insight Series Think Piece on Digital Learning. The EWSETA wishes to thank BluLever for sharing this valuable content.
Link to full original article bit.ly/ISdigitallearning | www.blulever.com

THE ARTISAN 4.0 INSIGHT SERIES

BluLever Education

Challenges of Digital Learning

Overall, digital learning offers huge advantages, resulting in a lot of excitement. However, there are significant challenges in implementing digital learning.

The first of these is **lack of buy-in** in that there is often an attitude and mindset that online education is inferior to the traditional brick and mortar version. This lack of buy-in holds back demand for digital learning, and willingness to implement it.

A very common challenge that many people face is the **lack of infrastructure**. The most common examples of this are devices, data, reliable access to electricity and network coverage (cost, speed and reach), data security, a lack of physical environments conducive to digital learning, and a lack of supporting infrastructure.

Not only should we change our **awareness**, but we need to change our attitude towards digital learning. We found that there is often a deep sense of fear and a lack of confidence in accepting and applying digital learning. People are often more afraid of failure than excited by the opportunities for success, and this needs to change in order to successfully implement digital learning. We need to move away from the notion that teachers or educators will be replaced by technology, which **drives fear**, and rather build an understanding of the possibility of educators leveraging technology to enhance our success.

From a regulatory perspective, the **accreditation** process is a massive barrier to innovation and acceptance. This issue is compounded by the fact that we mostly don't know how to measure quality in this space yet and are more afraid of failure than the opportunity of success. We need to think about different ways to accredit and be flexible, possibly thinking about it in two dimensions: accreditation for institutions who offer digital learning, and separately for digital platforms.

The ability to **marshal resources** is a key barrier to unlocking systemic change. Digital learning can be expensive to implement and requires cooperation from several different stakeholder groups.

Finally, the last major challenge that came through in the research is the **lack of skills**. This filters throughout the value chain and ecosystem. Skill gaps identified include: digital implementation, decision making, digital literacy, digital pedagogy, M&E skills, creating better learning environments, educators with industry skills and knowledge, and a general lack of confidence. Potentially the biggest limitation for widespread use of digital learning is a supply of skilled, confident and willing educators. Perhaps we need to change our style of education when it comes to digital learning, with a shift from expert-led teaching to facilitation.

It is worth noting that while the COVID-19 pandemic has pushed us to leverage technology in ways we never imagined, it has also potentially put off a whole generation of learners who have had to sit through hours of poorly designed and badly implemented Zoom classes and lectures, while being told this is the height of digital learning.

When we consider implementing digital learning tools, it is crucial to break down the learning journey and figure out how technology can enhance, complement and supplement learning, and not try to substitute it as a like-for-like experience. It's key that we understand where digital learning best fits in the learning process, and how to apply it.

Furthermore, we need to ensure that form follows function. We cannot just replace physical learning with digital solutions, we need to fix the offline issues at the same time as adding technology. The strategy of simply switching to new technology for a broken system will not work, and will carry through the same problems.

Opportunities **for Artisan Training**

All of this being said, there are many opportunities within the artisan training space to start applying what we already know about digital learning. A real issue in South Africa is a lack of certification or documentation, yet through micro-credentialing we will be able to recognise skills that people already have as well as enable people to build a portfolio of evidence that can stack up into a qualification.

In order for an apprentice to qualify they need to create a portfolio of evidence, and through platforms which aggregate short work opportunities from multiple employers (in a very disaggregated market), apprentices can more easily find opportunities and add them to their portfolios. In addition, there are many elements of the apprenticeship journey that can start to become digitised, such as logbooks. We just need to think about it as a journey enhanced by digital tools, and not one single experience.

Through technology we are able to better leverage mentorship relationships, which are a rare commodity in the apprenticeship space. This will break down the barriers that young apprentices have when securing a mentor.

We need to start to leverage technologies that have been tried and tested in training in other industries and bring them across to the artisan space. We have to cherry-pick established technologies that are now cheaper and more accessible and adjust them to fit the artisan ecosystem.

If we are to take digital learning seriously within the vocational education space, we need to first create awareness throughout the ecosystem. We then need to build relevant and practical guides and frameworks for implementation.

COVID-19 has increased the need to leverage digital learning, and whilst there are many hurdles to overcome, the opportunity to improve education and increase efficiency is tenfold. By getting started, and through trial and error, we can start to change the way we teach vocational skills and create artisans that are ready to take on the 4th Industrial Revolution.

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