



Message from the NSTF Executive Director

The doors of learning

The Freedom Charter (1955) says: “The doors of learning and of culture shall be opened”. This has been a very difficult human right to achieve in South Africa, and since 27 March this year, the doors have been closed. Whether we should open the physical doors of schools, and when, have become pressing questions. But do the doors of learning refer only to school doors? In the Freedom Charter the meaning is not limited to school buildings. When this crisis is more resolved, we should be thinking of new methods of achieving inclusiveness in education.

There are pros and cons to re-opening the schools.

Wuhan, China, has only now reopened its schools, more than four months since the pandemic started in that city, although schools have gradually been opening in China since the end of March. Most countries seem to be considering re-opening only now, and mostly with extreme caution. Once extensive testing has been done in a region or country, and the curve has passed its apex, opening the schools is understandable and indeed necessary. But what of our country, which is still in the initial stages of our epidemic, no-where near the peak? And while we have a myriad of challenges not adequately addressed over the years? There seem to be advantages and disadvantages in equal measure.

On the one hand, many school buildings and premises are not ready for reopening. Hundreds of schools have been set alight and vandalised in other ways. (Have they been repaired?) Many have been hazardous even before the COVID-19 pandemic. Overcrowding is now even more dangerous than before, and there is no easy way to ensure social distancing. The challenges of water provision, electricity connections, sanitation, maintenance, resourcing and internet connectivity persist. Water and sanitation are not negotiable, especially now. Has the government resolved these problems in the thousands of schools that have been affected? Electricity, internet and computers are essential for catching up and likewise the need for these is greater than ever. As the Mail&Guardian (M&G) headline of 30 April to 7 May 2020 says: “...what the government couldn't do in seven years it has to do in two weeks”. (See the article by Bongekile Macupe: [‘We are going to live on prayer’](#).) This window of time has been extended, but it is unlikely that the government has been able to do much about it. An [article](#) in The Conversation on 5 May, *Impact of school closures on education outcomes in South Africa*, written by Vijay Reddy, Crain Soudien, and Lolita Desiree, Winnaar says:

“Our findings underscore the fact that disasters amplify the existing structural inequalities in society and worsen inequalities through an unequal recovery process.”

On the other hand, children need to be in school, now more than ever. There they can usually get a hot nutritious meal for the day. They can resume socialising and learning, giving them purpose. If left in the often dismal circumstances at home, they can be victims of despair, or worse – abuse, deprivation, exploitation, gang recruitment, etc. Most of our learners are in poor communities, and we are all familiar with the social problems experienced in many communities. Very few homes can actually provide home-schooling, and self-learning can't be done without data for the internet. Most learners struggle to do self-study at the best of times. Ultimately, education is a human right, and depriving learners of it leads to being more disadvantaged further down the line.

The COVID-19 Ministerial Advisory Committee has recommended that the schools be reopened in phases as from 1 June. [Professor Shabir Madhi](#) who is on the Committee (and received an NSTF Award in 2009), has shed some light on the reasons for this advice.

He explains that children are extremely unlikely to get severely ill from the infection, and even less likely to die from it. This is deduced from the analysis of statistical data. The actual reasons for this phenomenon are still being researched. So although children will get the virus in large numbers, they will not suffer much from it, not more than the common flu. Furthermore, it appears that adults do not easily get infected from children – it is much more likely that adults will infect adults. This is all very good news and provides support to the wisdom of the decision to re-open the schools.

However, just to be sure, all learners will have to wear a mask at all times. The classrooms must be disinfected and sanitiser must be used before entry to any classroom. The teacher is advised to keep her distance from the children. The children are advised to keep a social distance among themselves too. Such measures contradict the reassurances. They are also highly impractical. Anyone who is teaching, or has taught, will be aware of this. Children will not keep their distance from other children, nor from the teachers. Shouting at a teacher from a distance has always been considered bad manners, and it is difficult for a teacher to hear all the learners shouting in her direction and indicating whose turn it is to speak. There are matters that have to be almost whispered in a teacher's ear and not shouted from the rooftops. Masks will not stay on children's faces. They need to talk to each other and a mask makes it cumbersome. How many children in a school daily forget their books at home, or their jerseys at school, leading to frustration of teachers and parents? The same will happen to masks. If a disposable mask could be provided every day to each learner, it has a better chance of working, but the costs will be exorbitant. Add to that the cost of kilolitres of sanitiser, and the additional costs of education will be considerable.

At home, Madhi suggests that children keep their social distance. Again this is impractical for the circumstances in which most people in South Africa live. The houses are cramped, and often overcrowded. And most children, i.e. those in primary school, still need physical contact with the adults close to them. It is essential for emotional security, bonding and the building of confidence.

Madhi's biggest concern, however, is about the teachers, who will likely be infected and, when infected, become ill. Some will be more vulnerable, depending on age and pre-existing conditions. Yet this is the indispensable workforce that makes education possible. What else can be done to protect the teachers other than the unworkable measures of all learners wearing masks at all times, and keep their distance from the teacher?

There is another issue that might be overlooked in the eagerness to get the academic year going again. That is that some (a minority of) learners will be particularly vulnerable, namely those with pre-existing conditions of the heart or lungs, and those who are immune-compromised. It is mentioned quite lightly that children who are ill should stay at home, but the same reasons for being in school apply to them. This is where measures for remote learning are of the utmost importance.

The coronavirus will probably be with us permanently - in countries across the world. Herd immunity is seen as the most feasible aim to achieve. The flattening of the curve as a strategy for dealing with an epidemic is still very useful, but never as an end in itself. There should be ongoing localised interventions where there are outbreaks.

Besides this particular coronavirus (SARS CoV2) there will be other viruses and emerging diseases. This will not be the last pandemic. Humankind has created the conditions for these to spread. The better we prepare ourselves for such situations in future, the less disruption they will cause.

Resumption of education in 2020

The Department of Basic Education (DBE) and provincial education departments are facing the hard realities of all the implications addressed above, and I do not envy them their task of weighing up the pros and cons, and deciding on the best measures to take. The best case scenario is that a slow and gradual process is introduced for children to return to school, and that any infections are picked up

immediately and provision is made for isolation and tracking of individuals. This is certainly the intention, from what DBE and the COVID-19 team have said.

In the same The Conversation piece referred to above, it is advised: "The curriculum must be simplified, targeting areas where learning loss will be most consequential for the following years."

After what will be a chaotic and fragmented academic year, what must be done to prepare for 2021? The coronavirus will still be with us, say the scientists. All of our safety will depend on the ongoing measures that are put in place and the social agreements we all commit to, but what must be done from government's side? Here are some ideas:

- Create many instant classrooms to relieve overcrowding and enable social distancing. Deliver shipping containers, building materials, pre-fab units, etc. to schools. Unemployed people and learners could help to build the classrooms. (The unemployed because there will be many more desperate people needing work, and the learners because they can learn valuable practical skills). The Department of Public Works should also continue to build schools, classrooms and facilities. (Assuming that they have been doing so.)
- Provide water and sanitation, with renewed urgency. This should go without saying, but it has not been happening for years. Ideally, no schools should have been re-opened until all schools have these most basic and necessary of facilities, but the other factors also weigh heavily.
- Bring back ex-teachers, hire graduates and get education students to assist by supervising smaller groups of children instead of large classes supervised by subject teachers. Hire many new teachers and fast-track education students to do their teaching practicals and take up posts. Unemployment in the country will be much worse than before the pandemic, so there should be opportunities for recruitment. However, ways must be found to equip and support volunteers and new teachers! There are many good reasons why teachers have left education, and why young people are reluctant to go into teaching.
- Arrange for remote teaching methodologies, which can assist teachers in their classrooms, as well as make home-learning more productive. There have been a number of small initiatives that experimented with such technology, e.g. lessons given by experienced teachers are video recorded and played in other classrooms as additional input to lessons. Smart whiteboards can be used to share content. The 'expert' teacher writes on the board while teaching a lesson, the board records what was written and transmits it to a whiteboard in another school. The learners in the second school can then watch the video lesson and follow what was written on the board at the same time. The content of the whiteboard can be discussed, or corrected if necessary, or copied down. There is, e.g., a public school in Tembisa that is equipped with such boards (although the majority of schools won't have these). An organisation called [Africa Teen Geeks](#) provides zoom lessons in STEM subjects for all grades in collaboration with the DBE, and Sasol Foundation. This is a new service launched on 30 March. Teachers should become familiar with this service and make use of it. It would of course be necessary to provide the required equipment to teachers, as well as electricity and wifi.
- Provide all teachers and learners with smartphones. Provide solar chargers for those without electricity. Provide solar charging stations at schools. Smartphones are very effective learning tools and are already the means of communication for many teachers and learners. Assist teachers to use them and to become comfortable with their use.
- Provide free wifi cover for every school district. There are new technologies that allow for wifi to be made accessible in remote areas. Have these been explored?
- Roll out the plans for provision of tablets to learners and for connectivity at every school with renewed urgency (which some provinces have already embarked on).

- Provide online teacher training courses – on subject matter, pedagogy, practical safety measures, remote teaching methodologies, etc.

COVID-19 lockdown has forced learning to go online, but only for the more privileged schools. Although there are many ways to learn offline, with great results, all learning of school knowledge and skills require a teacher, and the teacher must be particularly adept to teach in the absence of infrastructure and learning materials. There are indeed such people – look at [Professor Musa Manzi](#), who taught himself and his friends at school because there weren't matric maths and physical science teachers. He went on to obtain degrees and do research, and is now an acclaimed scientist, who won among others, an [NSTF Award](#) for Emerging Researchers in 2018. But such examples, though inspiring, are few and far between.

Sixty years or more of research into computer assisted learning; various innovative initiatives on a small scale; all the talk around the Fourth Industrial Revolution (4IR); ambitions to replace textbooks with tablets and getting all schools connected... all this has finally come to a head. That microscopic virus is dragging us 'kicking and screaming' into the era of the 4IR. To roll out mass education during an epidemic, and make up for lost time after an epidemic, there is only one feasible solution and that is electronic learning, ideally guided by a teacher through mainly electronic communication. Which requires: connectivity, equipment, carefully selected materials and most importantly, teachers with the will and confidence to teach themselves first.

There have been initiatives by certain provincial governments to introduce computers and tablets into all schools, and provide connectivity. But this is a work in progress. Only last year, in October, the MEC for Education in Gauteng, Panyasa Lesufi, [launched an e-learning platform](#) "to prepare learners for the 4IR".

He tweeted a photograph with the words: "Inside a paperless classroom in the township. They never thought we will change the face of township education. We are getting there so we can restore the dignity of the poor [#ContentLaunch https://t.co/8wQtPZ229b](#)" He [urged matric learners](#) to use the Department's digital platform to prepare for the National Senior Certificate examinations.

"We have managed to digitalise all our curriculum content for all our subjects. Even a parent can log on – if your child asks for the homework and you are not sure, you can log in, and listen to that teacher on the video and animation in terms of the previous question papers. You can also set your own test for your child, and the system will mark that test and indicate where your child is struggling," said Lesufi.

This was only about two months before the novel coronavirus made its appearance in China. Has the Gauteng Province digital platform been evaluated and rolled out on a larger scale? There probably has not been time to do so.

Home schooling

It has certainly been demonstrated many times that home schooling can result in learners who are motivated and disciplined and who have mastered the skills and knowledge required by an official curriculum. Home schooling can nurture problem solving skills and creativity, as well as self-confidence.

What does successful home schooling require? Above all it requires adults who have the ability to learn by themselves, who are confident people with curiosity and a passion for learning. They can model learning behaviour to their children/learners (better than in classroom conditions) and they can enforce routine and discipline, and inspire and motivate learners. One such adult is what is required for home schooling (of a limited number of learners of course).

But home schooling has been the preserve of the privileged few. Often home schooling environments are also enriched learning environments, with a good stock of learning resources, internet connectivity, computers and gadgets, and resources for experiments and field investigations. But the most critical factor remains the quality of the adult's interaction, teaching and facilitation. Learning can happen almost anywhere, but the adult must know how that learning can take place and how he/she

can play the role of a learning facilitator. Not every adult will be able to do home schooling with their children, but I am sure that many adults do have the latent ability to be such facilitators of learning, without realising it themselves.

Some form of home schooling should be possible for children who are physically vulnerable to communicable diseases.

There was some good advice for maths learning for parents doing home schooling in a popular piece on Microsoft News (MSN): [Homeschooling: 4 things about maths success that might surprise parents](#). It encourages best practice for teaching the subject. Parents should encourage their children to attempt maths problems on their own, in the presence of the parent, and talk through the steps the child would take in solving a problem. This will be hard for most parents, but if home schooling is done, the adults should learn how best to teach this subject in particular.

A final thought or two

Gone are all the irrational fears of teachers being replaced by computers in the 4IR. We can all see that the teacher is the most crucial factor for successful learning!

It would be ideal, when the schools reopen, to make educational use of the learners' experiences during lockdown. They can share what they have been learning and thinking, required to put their experiences into words – both written and spoken – and perhaps in the form of images and diagrams. Experiences can be the springboard for new learning, even next year.

Conclusion:

The academic year is all but lost – whether the children return to school on 1 June or not, whether all stops are pulled out to get learning going again, or not. For this reason, Professor Jonathan Jansen recommended that the academic year be cancelled in favour of an intensive education year in 2021. My hope is that something can be salvaged of this year without it being further disrupted by unnecessary and unworkable measures being put in place at schools. I also hope that it will be made easier for teachers to get through the rest of the year, by cropping the curriculum to make it possible to do even a little bit of deep learning.

The opinions expressed above are those of the Executive Director, Ms Jansie Niehaus, and do not necessarily reflect the views of the [Executive Committee](#) or [members](#) of the NSTF.