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The current education system hardly recognises that Africa has a rich knowledge, and science and technology heritage. It is about time we appreciated this positive heritage and included it systematically in the curriculum of all African schools.

Why Pan-African education should be promoted

Today, more than ever, Africans need to look back in order to go forward. But what do Africans see when they look back? They are often overwhelmed by seeing mainly the destructive 500 years of the de-humanising African experience. They rarely acknowledge, appreciate, recognise, and promote the positive and constructive African knowledge heritage and contribution that the African ancestors created before the period of destruction.

The current education system hardly recognises that this rich knowledge, and science and technology heritage ever existed. They are hardly included in the curriculum. It is about time to appreciate this positive heritage or data and include it systematically in the curriculum of all African schools.

The demand to change the education policy in Africa often receives a lukewarm reception. This closed approach has to change in order to include the African knowledge heritage to design new models that prevent dependence and encourage creativity and innovation by African learners. The negative narrative emanating from the destructive period should be changed.

It is thus very essential that knowledge production is built on the foundation and values that Africans have left behind. We believe that, though it is long overdue, it is about time Africans must hurry to reclaim the positive and constructive heritage, to anchor the African education system on the following four foundations:

(a) The constructive and positive heritage must be resurrected and serve to educate and wean generations of Africans, starting with children from kindergarten and going up to the tertiary level.

(b) The negative destructive period must be taught with a full appreciation of the positive data, so that the legacy of colonialism, imperialism, apartheid, neo-colonialism and all the

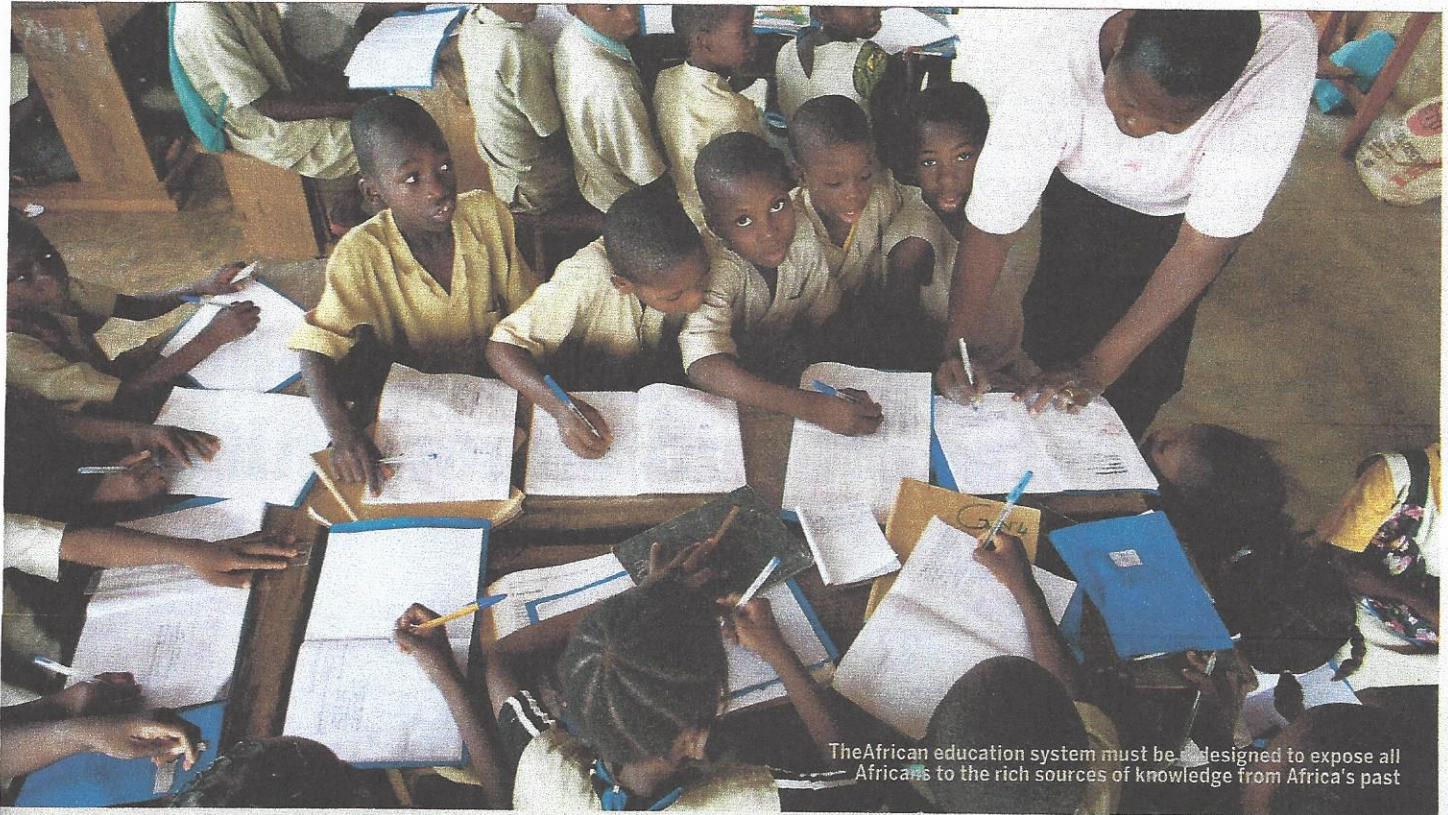
varieties of oppression no longer affect Africans, from the way they think, to the way they look and work. They must go beyond it and fully become Africans with pride, dignity, self-reliance, self-confidence, freedom and independence.

(c) The African future should be built both with the imagination and with knowledge of the constructive history and heritage left behind by the ancestors, and also by learning and overcoming the remaining risks and dangers from the legacy of the destructive period. The future is made by appreciating and learning from the constructive and destructive African history and heritage. The Pan-African education system must capture critically both the heritage and the future.

(d) Ethiopianism, Pan-Africanism and the African Renaissance, as three in one together, must provide the foundation and defining meta-narrative for re-thinking, re-designing and re-engineering the whole African education system. We must find ways of using all the learning materials and languages, so that we can deliver education from the human, natural, and social sciences both on physical and online platforms. Ways must be found to promote the Pan-African education system across the African world without excluding anyone by making sure all are encouraged, invited, and welcomed.

The reason why we must resurrect the positive heritage, history, and data is that the African past contains rich sources of knowledge that are highly relevant for today and tomorrow, knowledge that all Africans must be exposed to, learn, and grow up with. This can be achieved by systematically putting African knowledge and values in the curriculum.

When my generation went to school, we never learned the following remarkable facts about Africa. Even today, we ask, who in Africa knows that Africa is the origin of humanity? Who knows that Africa has made many discoveries in mathematics, astronomy, science and technology? Who knows Africa is also



The African education system must be designed to expose all Africans to the rich sources of knowledge from Africa's past

Africans should appreciate and promote the knowledge heritage that the ancestors created before the period of dehumanising African experience.

the origin of universities? Evidence has been acknowledged by astronomers and engineers from Western research universities that in many major inventions, documented contributions have been made by Africans.

Carbon steel was made 2000 years ago in Tanzania; astronomical observations by the Dogons of Mali have been acknowledged by those such as Carl Sagan of Cornell University; language, mathematical systems, architecture, agriculture, cattle-rearing, navigation of inland waterways and open seas, medicine and communication, writing systems - in all these fields Africans have been inventors. The negative narrative that Africans have not been inventors must be rejected.

Who knows that there was proto-maths in the form of Lebombo bone in South Africa and Swaziland, Ishango bone in the Congo, and in Ancient Egypt the Ahmose (Rhind) mathematical papyrus? Who knows that there was in present-day Angola what is known as sona geometry, symmetrical and non-linear, which has become the basis for new mathematical ideas like mirror curves and various classes of matrices such as cycles, cylinder, and helix.

There were also African fractals (West and Central Africa), demonstrated by repeating geometric patterns on various scales that have been used in textiles, paintings, sculpture, cosmologies, architecture, town planning. Today fractals are the basis of the worldwide web.

In Ethiopia and Nigeria (Yoruba), the mathematics that

applies binary logic has been used both for computation and metaphysics. The Ethiopian method of mathematical calculation was released publicly by BBC4 with commentary by scholars from the UK's Open University. This ancient mathematics from Ethiopia demonstrated that Africans used binary logic of mathematical calculation which is similar to what is behind today's internet explorer and other computer-based systems.

African knowledge in agriculture is rich. This has been recognised and acknowledged fully by the US Academy of Science in 1996, that Africa has more native cereals than any other continent. Africa has its own species of rice, as well as finger millet, folio, pearl millet, sorghum, teff, guinea millet, and several dozen wild cereals whose grains are eaten. This is a food heritage that has fed people for generations, possibly stretching back to the origins of humankind.

It is also a local legacy of genetic wealth upon which a sound food future might be built. But strangely, it has been bypassed in modern times. Forward-thinking scientists are starting to look at the old cereal heritage with unbiased eyes. Peering past the myths, they see waiting in the shadows a storehouse of resources whose qualities offer promise not just to Africa, but the world.

Africa had a rich past before the destruction and the dehumanisation of Africans. It is high time that the positive past is resurrected. The more Africans learn to unite and stand up together, the more there will be the opportunity for Africans to resurrect the positive data for constructive transformation.

Africans should reject epistemological marginalisation and overcome strongly the Africa failure narrative. It is important to recognise that they can do so only if they re-engineer the entire education system on a Pan-African and African Renaissance foundation. Then the Africa that the imperial-colonial builders rejected will become the cornerstone of the arch for new humanity and civilisation!