

# LEAP Science and Maths School– An Anthropologically-Grounded Education Intervention Model During COVID-19

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## Abstract

During COVID-19 the learning experience for students entirely from the lowest quintile of the South African Black population proved highly difficult after the South African government closed all schools in March, 2020, especially for secondary schools. A remarkable values-driven culturally coherent Leap Schools of Science and Maths with six campuses utilized cell phones to continue teaching and engaging the students. The necessity was due to the inability of families of students to provide other internet connections. The new methodology of learning of Leap Schools includes the skill of teachers in consciousness-raising and the extraordinary resilience of the students. Students were grounded by LEAP methodology in both anthropologically designed activities and consciousness-raising and showed self-determination at a mature level surpassing the public school students as assessed by the Department of Education of South Africa.

## Introduction

LEAP Science and Maths Schools have developed a values-driven culturally coherent school model as a successful approach to break the cycle of poverty for Black children living in the lowest economic category in South African township and rural communities. South Africa presently has the highest GINI coefficient showing the largest global difference between rich and poor. The model on which the Schools were founded by John Gilmour has for seventeen years worked to create schools where high expectations, self-liberating pedagogy, and a powerful sense of belonging to school and community, have reduced the huge drop-out problem and ensured access to pathways into economic productivity and responsible citizenship [1].

LEAP adopts a unique Life Orientation based approach to social-emotional learning leading to self-liberating consciousness development and life success. The model builds on the basic construct of circles of healing in which all LEAP students participate on a daily basis in difficult conversations unlocking personal insight and understanding opening the door to self-liberation and meta

cognitive capacity for critical thinking. The success of the model is reflected in Table 1 in a number of areas of measurement and assessment including the following: academic results; measures of resilience and academic literacy; and post-school outcomes seen in.

**Table 1:** Comparison LEAP to Public Schools in national South African tests plus access to Universities and Pass rates.

COMPARING actual LEAP attainments against national public school with dropout and failure rates factored in.		
INDICATORS	LEAP	NATIONAL Public schools
Pass Rate	85%	42%
Access to University	72% <small>Nationally only ~5 % of township students gain access to university</small>	21%
% Eligible for Higher Education	90%	42%

The real value of Life Orientation is “process intervention” relying on daily time spent in the facilitated process circle groups,

results in accelerated learning in the subject areas of Maths and Science, subjects from which black children in South Africa were barred prior to 1994. This approach applies conscious focus on personal emotional development and liberating school structures intended to ensure appropriate cultural coherence has ensured the development of an African school model that tends to the child's well-being through identity construction and development of intrinsic capacity for self-regulation.

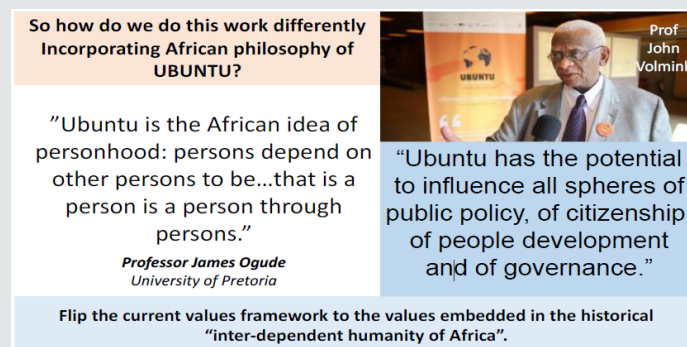
The LEAP model assumes that moral courage derived from an education for cultural coherence is extremely likely to lead to personal agency and some degree of critical distance from students inherited beliefs by virtue of the inescapable differences encountered in the larger society. This daily encounter particularly with secular, materialistic difference is very likely to encourage critical reflection on ideas and convictions, certainly to a higher degree than is likely to be the case for many cosmopolitan people for whom principled encounters with difference are often incoherent

or irrelevant. Perhaps most importantly, an education for cultural coherence may very well provide persons with a vantage point from which to critique a culture of mass conformity, consumerism and materialism; it also may provide each student with amoral foundation from which strength can be drawn in encountering social injustice.

LEAP embraces the ancient African philosophy of Ubuntu as an African alternative basis for quality education to the rugged individualism often projected as the mark of potential progress as discussed by Prof. John Volmink (Figure 1).” Ubuntu has the potential to influence all spheres of people development and of governance”.

## Results

Application of African Active Learning and consciousness training to Pandemic constraints with positive outcomes for Science and Math learning (Figure 1 and 2).



**Figure 1:** Concept of Ubuntu by various Educational authorities in South Africa. AT right, Prof. Joh Volmink, University of South Africa and Ubuntu.



**Figure 2:** Photos of Action based- Leap learning regenerating endemic Spekboom native habitat plant prior to European colonization decimation including with livestock. Spekboom provides Carbon sequestration for Climate change, Biodiversity habitat, soil enrichment, water retention services to citizens. LEAP students in action-based learning projects planting endemic, carbon-sequestering Spekboom – children in regenerative projects as change agents.

## Digital Integration in LEAP Schools in 2020

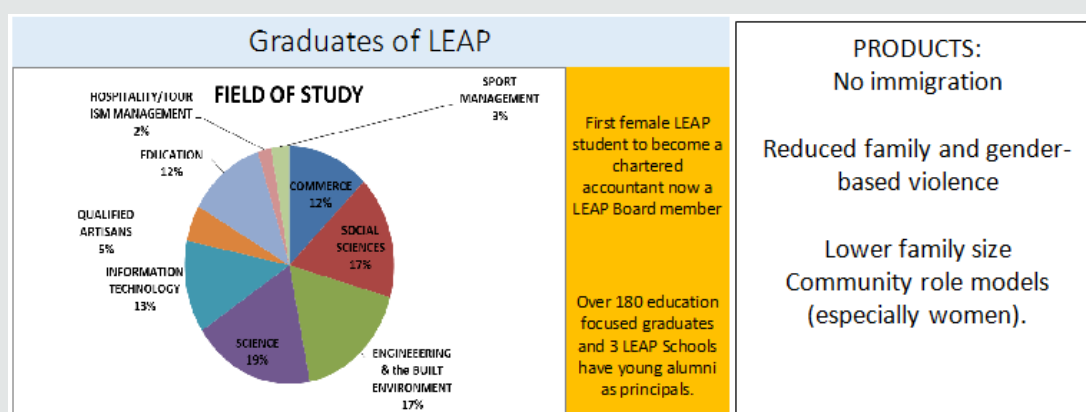
While the bulk of the Western world and privileged schools in South Africa are able to switch to online teaching and learning platforms, most South African schools are in no position to do this given that they are working with children who generally do not have access to suitable devices or connectivity. The reality is that in times of disasters of the nature of Coronavirus, communities served by the LEAP Science and Maths Schools, have been at risk of suffering the consequences most severely. It remains a great challenge within the Sustainable Development Goal framework that the Corona virus pandemic could further widen the digital gap and increase poverty.

All LEAP students come into the school having had limited access to the internet and generally only access via cell-phones. LEAP does not provide or facilitate the acquisition of devices for

the children. This is directly parallel to the children in state public schools. However, when the lockdown commenced, LEAP activated access to cell-phones through communication with families to encourage the sharing of family phones for online communication and learning and the provision of phones for many students where there has been no family access and ensured that these students are able to be connected.

## Results of Cell Phone Support

The results showed very high levels of student engagement throughout lockdown; social emotional support from teachers continued unabated; peer connection and peer learning groups continued and grew; and academic work continued. The Table 2 shows IXL skill progress summary: (Figure 3 and 4, Table 3)

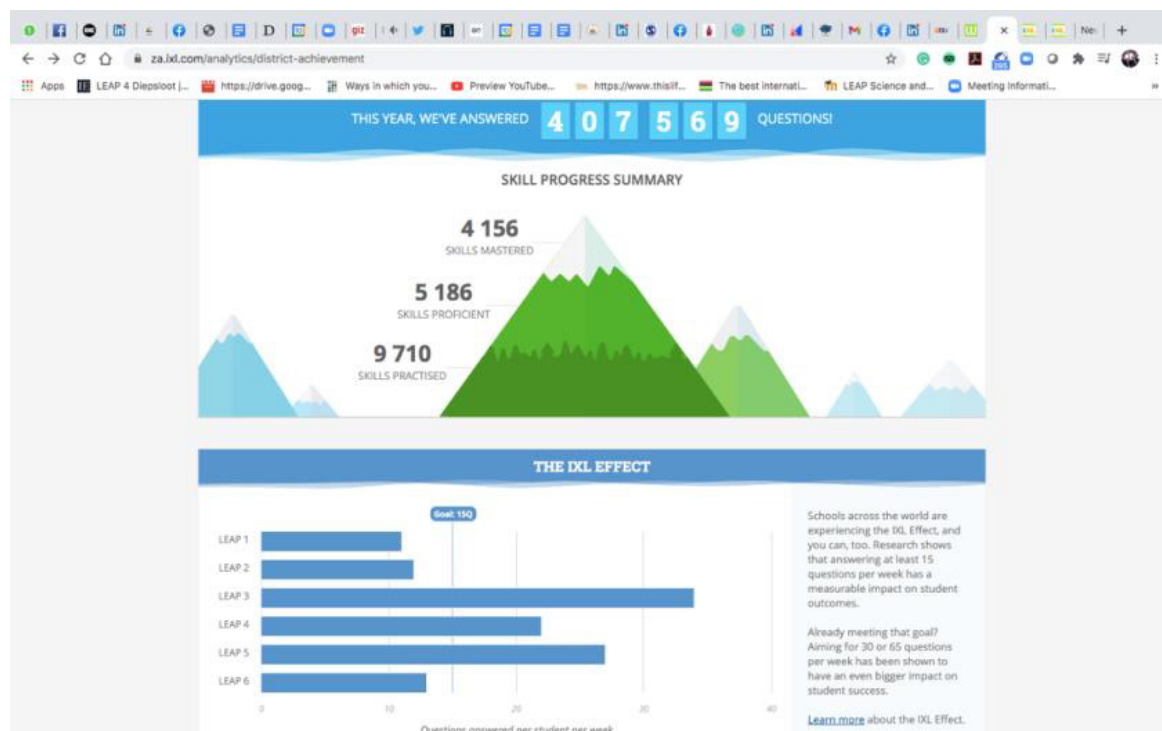


**Figure 3:** LEAP Schools record of disciplinary fields of employment into which former students became engaged after 4 years of LEAP education. Products indicating important social outcomes of LEAP education are listed at left of table.



**Figure 4:** Women form 66% of Leap students and graduates. Photos of recent Graduates, in Maths and in Science and cultural expression activities of music and dance along with Community child-care activities of LEAP.

**Table 2:** L Skill Progress of LEAP students during cellphone learning of COVID-19 full lockdown, and partial lockdown period (12th grade in classrooms, with others by distance learning).(March 2020 through November 2020.)



**Table 3:** The general characteristics of enhancement by LEAP education. And Prediction of intervention in school System of LEAP via its Leap Institute for Teacher training.

LEAP is simultaneously empowering and enabling:	
<b>1. Social Justice:</b>	transforming the learning process for children of South Africa!
<b>2. Scale:</b>	LEAP Institute shares methodology across Sub Saharan Africa!
<b>3. Sustainability:</b>	Support for the sustainability goal achievement in Sub-Saharan Africa – tackling climate change!
<b>4. Stability:</b>	Increased global stability ... reducing migration and international conflict

## Conclusions

The success of the LEAP Science and Maths Schools in South Africa is directly attributable to ensuring cultural coherence and exploring and affirming historical cultural context for all students. During COVID-19 lockdown the students were able to respond creatively using their family cell phones. This was a direct result of

real learning purpose, and their intrinsically driven consciousness, as a consequence of the development of a strong sense of self and the internalised values of the African principles of UBUNTU cultivated through the LEAP pedagogy of self-liberation.

## References

1. Clarke JH (1992) Africans at the Crossroads: African World Revolution.





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