AccessEd ZA2018

AccessEd ZA Impact Report 2018

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Executive Summary

Simon Coyle

Dr Rajbir Hazelwood

We are delighted to present the second AccessEd ZA programme summary and impact report. This outlines our partnership over 2018.

Our second year saw us scale up the programme to support 121 pupils across 10 placements. We recruited and trained 8 PhD tutors , each of whom created course handbooks based on their research.

There have been a number of successes from this year's programme, which you can read about further in this report. To give a few highlights:

- We saw an increase across our three key competencies: Meta-Cognition, Self- Efficacy and Motivation
- We saw an increase in the University Readiness of our pupils by the end the programme
- 100% of our pupils completed their final assignment to a good standard
- We worked with researchers from across four universities across South Africa

As our inaugural school partners, we greatly value hearing your feedback and receiving your input into the evaluation of our second year AccessEd programme.

We look forward to continuing the conversation on how we can improve the programme in the future to best support pupils to increase fair access to higher education.

Yours sincerely,

Simon Coyle
Co-Founder and Director, AccessEd
Co-Founder, The Brilliant Club

Dr Rajbir Hazelwood
Co-Founder and Board Member, AccessEd

About Us

The Brilliant Club is an award-winning and independently-evaluated UK charity that is building a movement that mobilises the PhD community to increase fair access to highly-selective universities. Supported by The Sutton Trust, Teach First, Challenge Partners and other sector leaders, The Brilliant Club is now active across the UK. It works with over 30 leading universities and over 500 state schools.

By 2021, it will reach more than 60,000 young people, supporting 6,500 pupils from under-represented backgrounds to progress to highly-selective universities.

AccessEd is a non-profit organisation established by the co-founders of The Brilliant Club. AccessEd supports education leaders to start-up and then scale Brilliant Club-style programme overseas.

AccessEd is currently establishing programmes in the USA, South Africa and Hong Kong, with a pipeline of applications from prospective partners across Europe and Asia-Pacific. AccessEd aims to have a global-level impact by helping to develop fair access organisations in 10 countries over the next five years.

University Access

In South Africa today, there is an entrenched link between household income and educational success.

12 in 100 of all students in South Africa access university.

More students attend university from the richest 10% of the income distribution than from the poorest 80% of the income distribution.

A university education can be transformative. Graduates have better employment prospects and earning power, better health and wellbeing, and better civic engagement.

Indeed, UNESCO aims that by 2030, all men and women will have equal access to high quality, affordable technical, vocational and tertiary education, including university.

Despite the benefits for individuals and societies, inequalities in university access are pervasive across both the developed and developing world.

We believe that addressing this problem is both an economic imperative and a matter of social justice.

AccessEd ZA

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of all students in South Africa access university

Following interest from education leaders in South Africa in the Brilliant Club model, AccessEd ZA was established in September 2016.

The programme was designed by AccessEd in collaboration with school and non-profit partners.

AccessEd ZA exists to increase the number of learners from under-represented backgrounds progressing to university. It does this by mobilising the research community to share its expertise with schools.

Year Two Reach

Partnerships

In 2018, AccessEd ZA worked with school and non-profit partners:

LEAP SCIENCE & MATHS SCHOOLS

African School *for* Excellence

IKAMVAYOUTH
THE FUTURE IS IN OUR HANDS

Scale

In 2018, AccessEd ZA supported:

8
researchers to become AccessEd ZA PhD/MA tutors

121
young people to complete the programme

90
hours delivered of university-style tutorials

Targeting

In 2018, AccessEd ZA worked with:

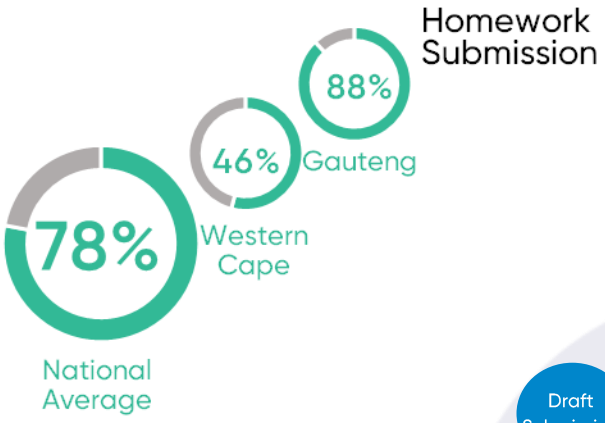
100%
of learners from township communities

Western Cape
Langa
Philippi
Nyanga

Gauteng
Diepsloot
Ebony Park
Ga-Rankuwa
Tsakane
Ivory Park

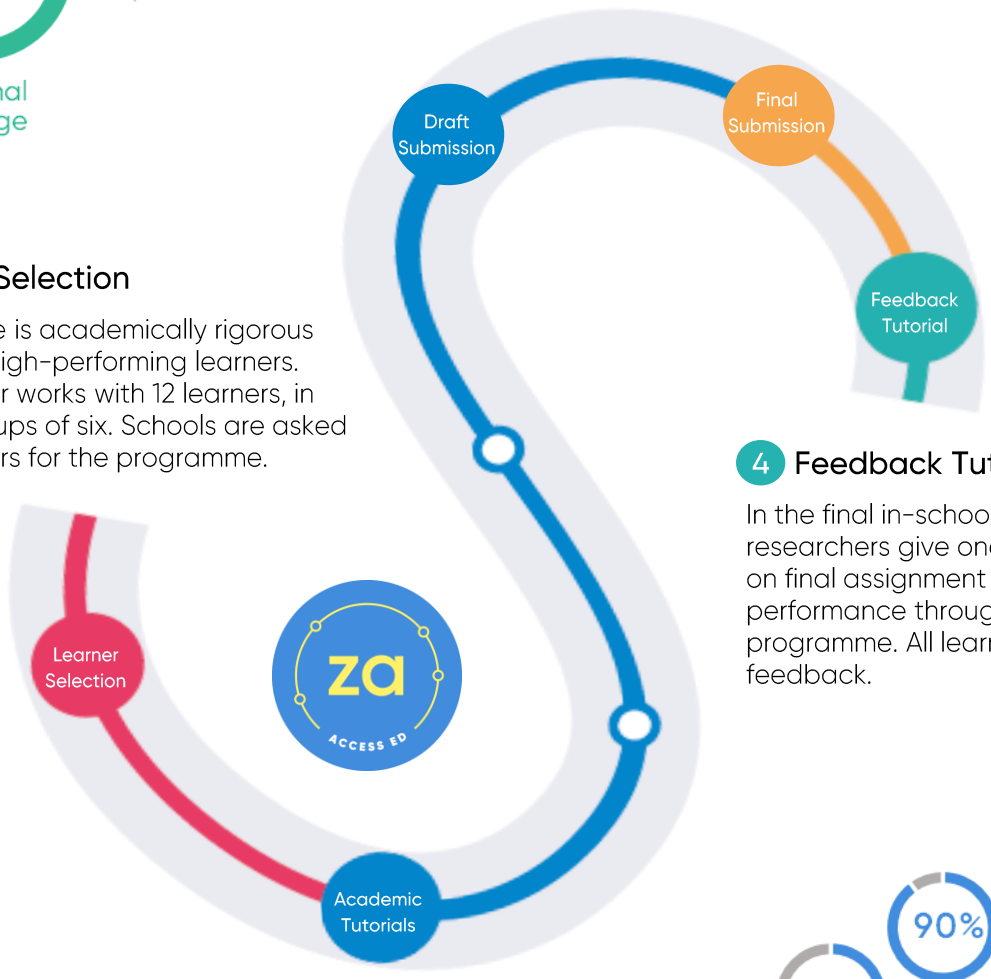
Pupil Journey

AccessEd ZA is designed to give young people an authentic experience of university. From being taught by postgraduate tutors, to studying undergraduate-style topics, we aim to break down barriers to university. The diagram below shows the 'learner journey' through an AccessEd ZA programme.



3 Final Assignment Submission

Learners complete a challenging final assignment that is marked by the researcher and moderated by AccessEd ZA. Grades are given in the style of universities, with learners receiving a 1st, 2:1, 2:2 or a 3rd.



1 Learner Selection

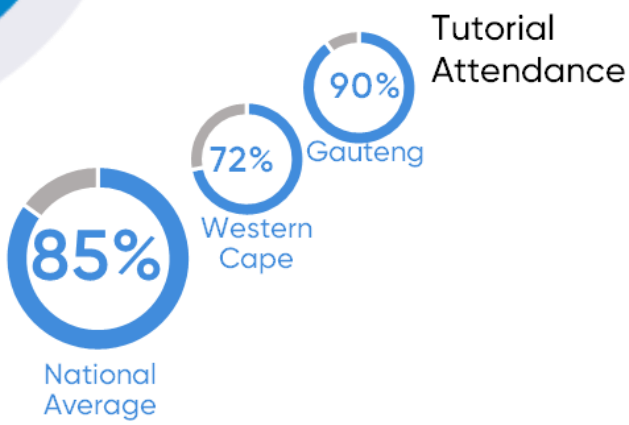
The programme is academically rigorous and aimed at high-performing learners. Each researcher works with 12 learners, in two small –groups of six. Schools are asked to select learners for the programme.

4 Feedback Tutorial

In the final in-school tutorial, researchers give one-to-one feedback on final assignment marks and overall performance throughout the programme. All learners receive written feedback.

2 Academic Tutorials

The PhD/MA tutor visits the school on a weekly basis to deliver a series of 8 university-style tutorials to small groups of learners. Courses are based on the tutor's own academic research.



Researcher Development

AccessEd ZA Researcher Development Training supports researchers to become effective PhD/MA tutors and to develop skills they can use in their wider careers, including teaching undergraduates and public engagement. We are committed to helping researchers make the most of their unique passion for their subject and academic knowledge.

Recruitment, Training and Feedback

Following selection at an assessment centre, all our PhD/MA tutors complete a structured programme of training, designed and delivered by qualified teachers and PhD graduates..

This includes: training sessions on course design; pedagogy and professionalism in the school context; and extensive feedback on their course handbooks.

16 New researcher applications

08 Researchers trained and placed

10 Placements across Western Cape and Gauteng

University Engagement

At AccessEd our mission is to train and support researchers across the globe to support young people from under-represented backgrounds access university. We do so by mobilsing the researcher community and working with a large number of institutions worldwide.

Universities across South Africa at which our AccessEd ZA tutors are completing their research

UNIVERSITEIT STELLENBOSCH UNIVERSITY

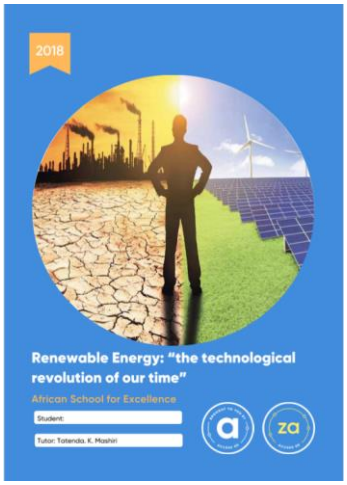
University of Cape Town · Universiteit van Kaapstad · Yunivesithi yaseKapa

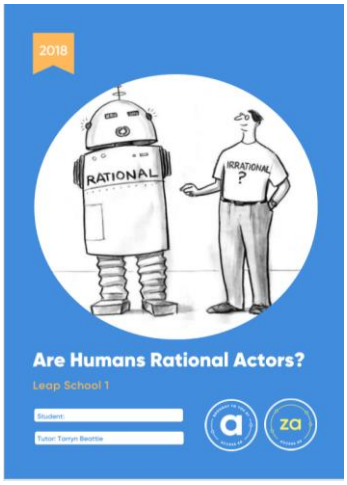
UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

UNIVERSITY OF JOHANNESBURG

Course Handbooks

All AccessEd ZA tutors are supported to create a unique course handbook based on their research. These handbooks are carefully structured to ensure that pupils learn effectively and engage with higher-level material.





Programme Evaluation

Programme Overview

121 Learners on the Programme

85% Average National Tutorial Attendance

76% Final Assignments Submitted

78% Average National Homework Submission

Pupil Evaluation

AccessEd is committed to data-driven evaluation. Building on the work of The Brilliant Club, we use an outcomes framework that includes four key competencies that have been shown to support access to university. These competencies are measured validated surveys from the academic literature, which pupils take before and after the programme.

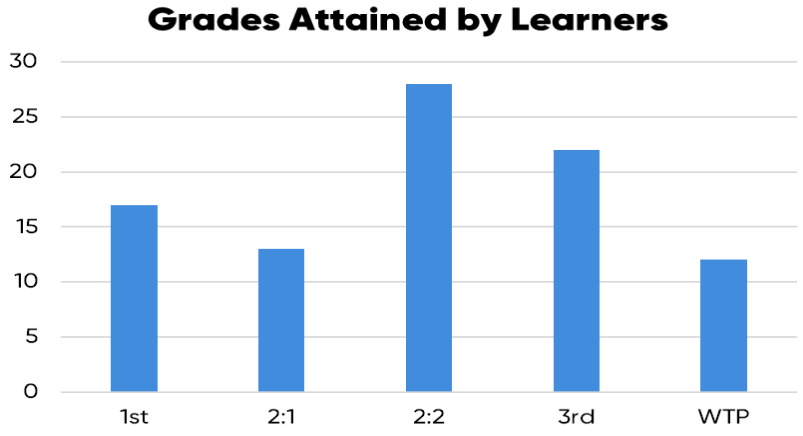
The numeric shifts on standardised Likert scales for pre- and post-assessments can often be small (e.g. less than 1.0). This is typical for these types of tests, and in many instances small numeric differences are statistically significant.

	Pre-assessment	Post-assessment	Average change	Percentage change
Meta-Cognition	5.4/7	5.7/7	+0.3	+ 3%
Self-Efficacy	5.9/7	6.1/7	+0.2	+ 3%
Motivation	6.3/7	6.4/7	+ 0.1	+ 1%
University Readiness	3.8/7	4.3/7	+0.5	+ 7%

Pupil Attainment

Assignments are marked by PhD tutors in line with mark schemes that reflect the assessment criteria for pupils who are one level above. Assignments are then moderated by qualified teachers.

Assignments that do not meet passing requirements are marked as working toward pass ("WTP").



Impact Data

The following data is for select self-efficacy, motivation, meta-cognition and university readiness questions from the pre- and post-assessment. The change shows the percentage difference in pupils answering that they agreed with the statement before and after completing the AccessEd ZA course.

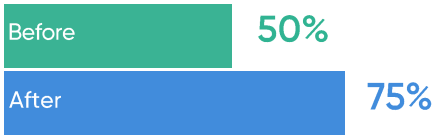
Self- Efficacy

Q2. I'm certain I can understand the ideas taught in my lessons

Q8 Compared with others in my school I think I know a great deal about my subjects

Motivation

Q14 I often choose topics I will learn something from even if they require more work

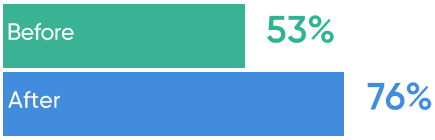


Q15 Even when I do poorly on a test I try to learn from my mistakes

Meta-Cognition

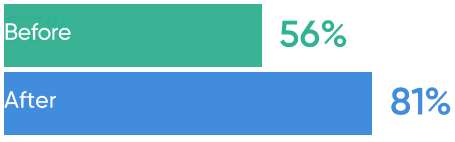
Q29: When I read material for my lessons, I say the words over to myself to help me remember

Q30: I outline the chapters in my book to help me study



University- Readiness

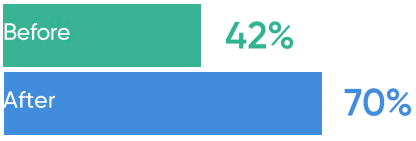
Q41: I have a good level of knowledge in the subject that this course focuses on



Q42: I can complete written work to the same standard as a learner two years above me at school

Q44: I understand why and how people study when they are at university

Q45: I plan to go on and study at university when I am older



Pupil Feedback

"It got even more interested in Sciences and Mathematics, which are the main subjects I need to focus on for my career as I want to work in engineering"

"The one thing I learned from the programme is to be more observant.... There's always a lot of things that are going on around us, but we never make the time to notice them... I focus more in class now!

Being part of the programme really helped me to think about what courses I might want to take in the future. I really liked working with my tutor to think about my choices.

PhD Tutor Case Study

"As a registered Industrial Psychologist, I am passionate about people and their development. For this reason, I decided to work with AccessEd in order to join an active and growing community of researchers that develop and deliver university-style academic enrichment programmes to pupils in underprivileged communities. The work I completed through the programme enabled me to transfer knowledge that I had gained through my tertiary studies, specifically my doctoral studies, to pupils from previously disadvantaged communities and to observe how these pupils developed.

I was fortunate enough to be placed at two schools: LEAP 4 in Diepsloot and the African School for Excellence in Tsakane. I enjoyed interacting with students, teachers and principals in order to create an environment that is conducive to learning and development.

Nicola Vermooten

Stellenbosch University

Department of Industrial Psychology and Graduate School of Economic and Management Sciences

Personal Resources: A Silver Bullet?

The students at both schools were ready and willing learn, while the teachers and principals were supportive of the programme and showed a genuine interest in students' needs and progress.

Communicating research to members of the public is increasingly recognised as a responsibility of researchers. While my doctoral studies taught me how to communicate scientific concepts to other researchers, it did not teach me how to communicate such concepts to pupils in Grade 8 to 10. By developing and delivering university-style academic enrichment programme to pupils in Grade 8 to 10 from LEAP 4 and the African School for Excellence, I was able to hone this important skill."

Final Assignment Excerpt

Esona Ndala

Leap School 1 Langa

Are Humans Rational Actors?

Tarryn Beattie

Grade = 1st

Are Humans Rational Homo Economics and Behavioural Economics

Humans act in an irrational manner and we are no more like homo economicus and the way that behavioural economics describes human beings is the more accurate way.
Homo economicus is a rational decision maker and classical economists assume that humans are rational decision makers like homo economicus. Behavioral economics describe humans as irrational decision makers. This differentiates the two theories.

The classical economic man who is also homo economicus is described as a rational decision maker who is calculating and he is predictable as we predict that he would do anything at the lowest possible cost as long as it benefits him only because he is a rational decision maker.

Classical economists assume that humans behave in the same manner as homo economicus but behavioural economics gives us a different theory of how humans act: they describe humans as irrational decision makers who do not only tend to maximise their own personal utility. According to behavioural economics, humans are biased, emotional, unpredictable and they are not always selfish. Whether humans act rational or irrational this is tested in game theories which is the prisoner's dilemma and the investment game. We know that homo economicus is a rational decision maker who only maximises his own personal utility and as he is rational we know that he would do anything and everything that benefits him.

We have the game called prisoner's dilemma, this game is about two platers who are prisoners. They have both committed a crime and they are placed in separated rooms in a police station. The interrogator comes to them and tells them that if they confess and agree to testify against the other player or prisoner and the other does not confess the interrogator would let the prisoner who confessed do and if it happens that both prisoners confess they will get an equal sentence in jail and if no one amongst the two prisoners confess they will get an equal sentence in jail and if no one amongst the two prisoners confesses they will be sent to jail as the interrogator has enough evidence to send them to jail. Both these prisoners do not know what the other is thinking or doing but if it was homo economicus in this situation he would have confessed as we can predict his actions and he is more calculating but for human beings they would consider emotions.

Final Assignment Excerpt

Basetsana Masela
Ikamva Youth Ivory Park

Should we care about the circular economy?

Collins Tatenda Saguru

<u>Between hydrometallurgical recycling and pyrometallurical recycling; which technology do you think is better for recycling precious platinum group metals?</u>

Write your argument up as a paragraph:

Metals are important to us because they are used for a lot of things that can benefit our economy. Metals like platinum are used in cars, electronics and jewelries. Platinum is used in jewelries to make people look beautiful, and it is used in cars for the exhaust which is a catalytic converter and is useful because it reduces toxic gases like Sulphur dioxide, carbon monoxide and carbon dioxide. Metals harm the environment because they are mined and mining causes a lot of environmental damage like human resettlements, air, water and sound pollution, by human resettlements it means moving away of people when mines need to be opened, air pollution, which is caused by the machines when they explore, water pollution caused by chemicals being mixed up with the water underground, and sound pollution caused by the noise from the machines. We can reduce the effect of mining by using the 3Rs which are: re-using, recycling and reducing.
Re-using means using old materials again just as they are. Reducing means recycling and re-using in order to reduce the need for mining again and recycling means using old materials to make new things out of them. The technologies that we use for metal recycling are hydrometallurgy and pyrometallurgy. Hydrometallurgy is the process of using aqueous chemistry for the recovery of metals from their ores and Pyrometallurgy is a process that uses high temperatures to transform either metals or their ores. The advantages of hydrometallurgical recycling are they take less time and money and the disadvantage is that the chemicals may be too strong and very toxic. Advantages of pyrometallurgical recycling is it works quitter than other methods and the disadvantage is that it uses very high temperatures in which the systems can go out of control and cause a lot of damage, which is very danger. I think the best technology which works better is the hydrometallurgical recycling because it's not as dangerous as the pyrometallurgical recycling and it uses less money and doesn't take up a lot of time.

Grade = 1st

Final Assignment Excerpt

Khensani Ntombela

African School for Excellence

Renewable Energy: The Technological Revolution of our Time

Tatenda K. Mashiri

Grade = 1st

Thesis Statement: 'Discuss the hybrid electricity generating systems implemented in Northern Cape'.

How can hybrid systems be made to meet the energy demands for this area?

Northern Cape is one of the places that is familiar and exposed to the following: the sun (solar energy source); the wind (wind energy source); and water (hydro energy source), which would exactly suffice a hybrid system.

The hybrid system should be designed to carry lots of the landscapes of rural areas and neighbouring towns in the province. Constructing a hybrid system (microgrid) is rather relatively expensive. As it has a variety of sources, it would demand a cost that cannot be simply estimated for different types of components.

Yet once the system is fully installed after construction, it would suffice the energy demands for the areas in Northern Cape. Energy demands will decrease because of the continuous and excess electricity that will be produced from the system.

Hybrid systems can produce more energy effectively compare to a system that is conclusive of only one renewable resource. It can be storied and used when necessary, e.g. when seasons change and the resources in which the system is designed for is unavailable. In this way the energy demands would be met at an even better level. Therefore, the areas in Northern Cape will be provided with sufficient energy.

A hybrid system, also known as 'microgrid', is designed to use various renewable resources to generate continuous electricity. The system supplies energy from more than one source of energy simultaneously.

Hybrid energy can combine the energy produced from the different sources in its design to generate electricity non-stop. The microgrid can generate enough energy, so how is it maintained? Is it wasted? No. The excess electricity or 'electricity that is more than enough' is stored in the batter bank of the system. The batter bank is one of the components the system should consist of.

List of Schools, Tutors and Courses

School	Province	Tutor	University	Subject	Course Title
African School for Excellence	Gauteng	Ayokunle Familua	University of the Witwatersrand	Electrical and Electronic Engineering Science	Power Line Communication: Is communication over existing electric cables possible?
African School for Excellence	Gauteng	Tatenda K. Mashiri	University of Witwatersrand	Electrical Engineering	Renewable energy: The Technological Revolution of our Time
African School for Excellence	Gauteng	Nicola van der Westhuizen	Stellenbosch University	Industrial Psychology	Personal Resources: A Silver Bullet?
Ikamva Youth Ebony Park	Gauteng	Mokesioluwa Fanoro	University of Johannesburg	Electrical and Information Engineering	Principles of Wireless Communication
Ikamva Youth Ivory Park	Gauteng	Collins Tatenda Saguru	University of Witwatersrand	Electrical and Information Engineering	Should we care about the circular economy?
Ikamva Youth Nyanga	Western Cape	Tarryn Beattie	University of Cape Town	Economics	Are Humans Rational Actors?
Leap School 1 Langa	Western Cape	Tarryn Beattie	University of Cape Town	Economics	Are Humans Rational Actors?
Leap School 2 Philippi	Western Cape	Moroesi Malebo	University of Cape Town	Social Policy and Management	Does it Matter if a Non-Profit Organisations Fail?
Leap School 4 Diepsloot	Gauteng	Nicola van der Westhuizen	Stellenbosch University	Industrial Psychology	Personal Resources: A Silver Bullet?
Leap School 6 Ga-Rankuwa	Gauteng	Nick Nonofo Tshilwane	University of the Witwatersrand	Metallurgical and Materials Engineering	Why is My Roof Corroding?


Explaining
Ideas
Practicals
Images
pictures
graphs
Simple
Language
Relatable
Examples
Links


FEEDBACK
PRINCIPLES
Constructive
Point out
Coat It

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