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South Africa and Finland Education Collaboration and Market Opportunities

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EXECUTIVE SUMMARY

This study was implemented with the aim of describing the South African education landscape, identifying the needs and priorities of the sector not only nationally, but also in two regions: Gauteng and the Western Cape. It also identifies the opportunities for collaboration in the public and private sector and matching them to Finnish stakeholder interests. In addition, the study aimed to highlight key operation and funding models that can be utilised by South African and Finnish stakeholders in the education sector within their envisaged collaboration.

The results are based on online questionnaires sent to South African and Finnish stakeholders that were sent directly to various organisations identified and through mailing lists of several member organisations to whom stakeholders belong. A total of 65 responses were received from Finnish organisations and 21 responses were received from South African organisations. In addition, interviews with 14 Finnish organisations and 27 South African organisations were conducted.

Questionnaire respondents in Finland were from universities, universities of applied sciences, TVET institutions, private enterprises and a few NGOs/CSOs, with the majority number of respondents being from enterprises (31%). Sector representation was well varied from the arts to law, teacher training to consultancy and social work. The interviewees were of a similar organisation representation, but also included government authorities and agencies. In South Africa, the questionnaire respondents were almost equally both from public and private sector, with almost equal representation from the Western Cape and Gauteng and with the majority being business enterprises and NGO/CSO sectors. Interview respondents were mostly from the private sector and NGO/CSO sector and a slight minority of university and government representation and mostly from the Western Cape. Only a few interviews were managed in Gauteng, due to the peak holiday season in South Africa, during the study.

There is little collaboration in education between Finland and South Africa, compared to scientific research collaboration. Finnish and South African higher education institutions are on an equal level parring in terms of quality, which makes research collaboration easy to implement. Finnish organisations mostly collaborate with South African public education, which is well-aligned with South African interests. There is a high interest in collaborating in research and in education capacity development using external funding from both the Finnish and the South African perspective.

Student mobility between the two countries has been on a constant decline, whereas researcher and other academic mobility is not well-documented. There are also very few South African degree students in Finland, only 19-20 on average.

There is little commercial activity in education between the two countries. Finnish education offerings and services are relatively unknown to the South African community. While there is also a high interest from the Finnish education community to engage in commercial product and service provision in education, the same interest is not apparent from the South African responses. Finnish interest in collaboration with the South African TVET sector is surprisingly low. Also, no TVET representatives in South Africa contributed to the questionnaire or interviews. Since the development of TVET is an area of priority for South Africa, it is advised that possible collaboration opportunities between Finnish and South African TVET institutions are explored further.

Finally, Finnish organisations mostly do not have a strategy or work plan for their activities in South Africa and have many false perceptions or assumptions about the market. Many fail to research and do their due diligence on legislation, regulations and operations.

South African organisations are interested in long-term relationships with partners who share their values and interest in developing education, in and for the South African context. They seek holistic, inclusive and affordable solutions. South African entities in the education sector have a large variety of partners from national and provincial government to NGOs and CSOs. Private sector engages widely in South African education through corporate social responsibility activities, either through their own organisations and affiliates or through NGOs/CSOs. Up to 70% of private-sector funding for education development in South Africa is directed through NGOs/CSOs. Partnerships between the private for-profit sector and the not-for-profit sector are common and target every sector of education from early childhood development to higher education. Public and private entities, for-profit and not-for-profit, on a local, regional and international level are thus intertwined in a complex web of engagement, whose outcome is measured in terms of the successes these partnerships can achieve in terms of education, in the areas where they operate.

Gauteng and the Western Cape are two of the most well-resourced provinces in the country, also in terms of education, and both have a large resource base in terms of private sector willing to engage in corporate social responsibility activities. These two provinces, however, are facing challenges in terms of increasing migration from other provinces, which increases the demands for education resources. 12 main needs were identified in the development of South African education, ranging from mathematics skills to literacy, teacher and school administrator training and counselling skills. The five priorities identified cover: language literacy skills, computer and digital literacy, teacher training, human resource training and work-readiness skills. There is hardly any variation in needs identified, across education levels. A need to bridge education with the world of work was very imminent.

The study recommends a focus and deepening of research collaboration between Finland and South Africa, and on finding solutions to increase student mobility between the two countries. The study recommends that the Ministry of Education and Culture of Finland takes the initiative on deepening science, technology and innovation (STI) collaboration between Finland and South Africa. Furthermore, the recommendation is for Finnish entities in education interested in collaboration with South Africa, to work with the Team Finland Knowledge network to increase awareness of Finnish education in South Africa, for example through very well focused networking events and webinars.

It is important for the Embassy of Finland in Pretoria and the Embassy of South Africa in Helsinki, to jointly work together to increase awareness about the South African market and also for Finnish enterprises to do proper market studies and establish their due diligence, in terms of market entry options, legislation and operation. We also encourage the establishment of innovative partnerships between Finnish enterprise with Finnish higher education, NGOs/CSOs and with South African education organisations, NGOs/CSOs and private enterprises. Examining past research and education collaboration between South Africa and Finland can be key for gaining a good insight into the possibilities for future collaboration, be it research or education, either not-for-profit or commercial.

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ABBREVIATIONS

AIMS	African Institute of Mathematical Sciences
ARWU	Academic Ranking of World Universities
ANC	African National Congress
AU	African Union
AusAID	Australian Aid Agency
AZAPO	Azanian People's Organisation
BBBEE Act	Broad-Based Black Economic Empowerment Act
BRICS	Brazil, Russia, India, China and South Africa.
CAIE	Cambridge Assessment International Education
CAT	Computer Application Technology
CEM	Council of Education Ministers
CET	Community and Training Colleges
CESA	Continental Educational Strategy for Africa
CIMO	Center for International Mobility
CHE	Council for Higher Education
CJCP	Centre of Justice and Crime Prevention
COSATU	Congress of South African Trade Unions
CSI	Corporate Social Investment
CSR	Corporate Social Responsibility
CSO	Civil Society Organisation
CWUR	Centre for World University Ranking
DAAD	German Academic Exchange Service
DBE	Department for Basic Education
DCI	Development Cooperation Instrument
DHET	Department of Higher Education and Training
DSD	Department of Social Development
EC	European Commission
ECD	Early Childhood Development
EDUFI	Finnish National Agency of Education
EF	Education Finland
EGD	Engineering Graphics and Design
ELRC	Education Labour Relations Council
EQUIP	Education Quality Improvement Programme
FDRS	Finnish Development Research Society (FDRS)
FinCEAL	Developing Finnish Science, Technology and Innovation Cooperation between Europe, Africa, Asia and the Latin American and Caribbean (LAC) Region

FOCAC	Forum of China-Africa Cooperation
GDE	Gauteng Education Department
GDP	Gross Domestic Product
HEIs	Higher Education Institutions
HEI ICI	Higher Education Institutes' Institutional Cooperation Instrument
ICT	Information and Communication Technology
IFAS	Institut Français in South Africa
IFP	Inkatha Freedom Party
IFRE	French Research Institute Abroad
IGCSE	International General Certificate of Secondary Education
iNGO	International non-governmental organisation
IMS	Integrated Manufacturing Strategy
IT	Information Technology
JET	Joint Education Trust
JSE	Johannesburg Stock Exchange
LDC	Least Developed Country
MFA	Ministry for Foreign Affairs of Finland
MTSF	Medium-Term Strategic Framework
MOU	Memorandum of Understanding
NACTU	National Council of Trade Unions
NAI	Nordic Africa Institute
NBI	National Business Initiative
NEEDU	National Education Evaluation and Development Unit
NEPAD	New Economic Partnership for Africa's Development
NDP	National Development Plan
NGO	Non-governmental organisation
NORHED	Norwegian Programme for Capacity Development in Higher Education and Research for Development
NPO	Not-for-profit organisation
NQF	National Qualifications Framework
NRDS	National Research and Development Strategy
NRF	National Research Foundation of South Africa
NSC	National School Certificate
NSDP	National Skills Development Plan 2030
NSFAS	National Student Financial Aid Scheme
NSS	North-South-South Network Programme
NUFFIC	Dutch Organisation for Internationalisation in Education
NWO	Dutch Research Council
PAC	Pan Africanist Congress
PBO	Public Benefit Organisation
PAEPL	Provincial Average Estimate (of cost) per Learner
PPPFA Act	Preferential Procurement Policy Framework
PSET	Post-School Education and Training

QCTO	Quality Council for Trade and Occupations
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
RSA	Republic of South Africa
SACE	South African Council for Educators
SADC	Southern African Development Community
SADTU	South African Democratic Teachers Union
SAGA	South African Grant Makers Association
SAIS	Southern Africa Innovation Support Programme
SANBio	Southern Africa Network for Biosciences
SANORD	South Africa Nordic Centre for Research and Development
SASUF	South Africa Sweden University Forum
SETAs	Skills Education Training Authorities
SCAC	Cooperation and Cultural Action Service
SDGs	Sustainable Development Goals
SIDA	Swedish International Development Agency
SKA	Square Kilometre Array
SMT	Science, Mathematics and Technology
SOE	State Owned Enterprise
STI	Science, Technology and Innovation
STINT	Swedish Foundation for International Cooperation in Research and Higher Education
SWAPO	South West Africa People's Organisation
THE	Times Higher Education
TSI	Tshikululu Social Investment
TSP	Technology Stations Programme
TVET	Technical and Vocational Education and Training
UMALUSI	Council for Quality Assurance in General and Further Education and Training
UniPID	University Partnership for International Development
UF	Urban Foundation
USAID	US Agency for International Development
WCDED	Western Cape Department of Economic Development
WCDE	Western Cape Education Department
WSE	Whole School Evaluation

1. BACKGROUND

Education has been identified as one of the top priorities for the Team Finland South Africa Action Plan 2020, amplified by the posting of an Education and Science Counsellor, as a member of the Team Finland Knowledge Network, to the Embassy of Finland in Pretoria. The aim of these actions is to strengthen ties with South African universities, colleges, private schools and government entities, as well as to provide support to Finnish private sector aiming at entering the South African education market.

This report is aimed at describing the South African education landscape, identifying the priorities and needs of the sector, nationally as well as in two regions: Gauteng and the Western Cape. It also identifies opportunities for collaboration in the public and private sector, consolidating the South African stakeholder interests with Finnish stakeholder interests. In addition, the report highlights key funding models and examples on modes of operations that could be utilized by South African and Finnish stakeholders within their envisaged collaboration. Finally, the report makes recommendations for future steps that can be taken by South African and Finnish entities in order to enhance their collaboration.

2. METHODOLOGY AND LIMITATIONS

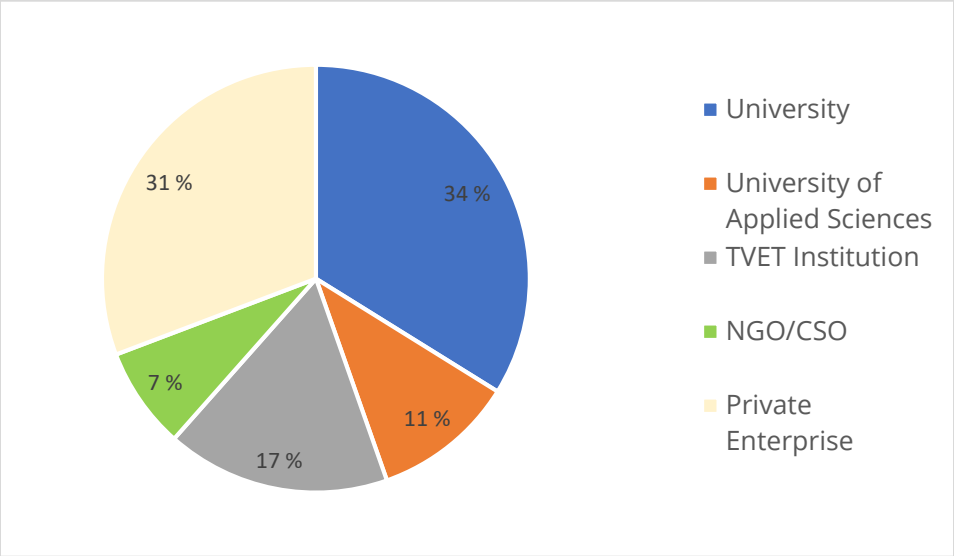
The findings in this report are based on a document and content analysis of national and sectoral policy and strategy documents in South Africa. Further, a stakeholder mapping was conducted to identify key players in South Africa: nationally, in Gauteng and Western Cape regions. In addition, a stakeholder mapping of actors in the education sector in Finland was also conducted.

Two online questionnaires were sent to stakeholders in South Africa, one for education sector stakeholders and another for private sector stakeholders. The questionnaires were sent directly to the various organisations and through different mailing lists of various member organisations. An online questionnaire was also sent to stakeholders in Finland, directly, and through various mailing lists e.g. University Partnership for International Development (UniPID), Finnish National Agency of Education (EDUFI), Education Finland (EF), Finnish Development Research Society (FDRS) etc. In addition, face to face interviews, skype and telephone interviews were conducted with stakeholders both in South Africa and Finland.

The biggest challenge was the timing of the survey, which was implemented during the start of the South African peak holiday season and Finnish Christmas holiday season. There could have been more responses and wider coverage had the survey been implemented at a more convenient time for both the South African and Finnish community.

Respondents in Finland

The total number of respondents to the questionnaire amounted to 65. The respondents represented a large variety of actors in Finland (Figure 1), with university representatives comprising 34% of the respondents, followed closely by private sector representatives at 31%. Technical and vocational education and training (TVET) institutions followed at 17% and universities of applied sciences comprised 11% of the respondents. Non-governmental organisation and civil society organisation representatives made up 7% of the respondents.



69% of the respondents have not collaborated with South African entities before, but 31% have.

Of those that have collaborated with South African entities, the majority are universities and universities of applied sciences (n= 15/20 ~ 75%) and only 4 private sector companies that responded, have collaborated with South African entities.

Figure 1. Organisations in Finland that responded to the questionnaire regarding collaboration with South African institutions

In addition, there were 14 interviews conducted, with the following sectors involved: schools, government, government agencies and private sector. Interviews were conducted face to face, over skype and telephone and 3 interviewees sent their answers over email due to time constraints**.**

The questionnaire respondents represented a large variety of fields (Table 1). The highest representation was in teacher training (9/65), followed by primary and high school education (7/65), and internationalization of higher education (6/65) followed by entrepreneurship education and educational technology representatives (each 4/65). Art and design, health and law sectors each had 3/65 respondents, whereas consultancy, social work, university training and early childhood education sectors were each represented by 2/65 respondents. All other sectors mentioned had 1 respondent representing their sector. There were no significant differences in responses by organisation or by sector in Finland.

Table 1. Fields represented by questionnaire respondents in Finland

Field	Number of Respondents
Arts and Design	3
Border Studies	1
Cleaning and Property Management	1
Consultancy	2
Disability Studies	1
Early Childhood Education	2
Education Technology	4
Educational Travel	1
Energy	1
Entrepreneurship Education	4
Food Security	1
Futures Research	1
Gaming	1
Health	3
Internationalisation	6
Law	3
Logistics	1
Management and Business	1
Music	1
Other	3
Pharmacy	1
Primary and High School Education	7
Publishing of Education Material	1
Religion/Theology	1
Rural Development	1
Social Work	2
Teacher Training	9
University Training	2

Respondents in South Africa

There were two questionnaires delivered in South Africa: one targeted at educational institutions and the other at industry representatives. In total, there were 21 responses with 10 responses from education organisations, and 11 from industry representatives. Considering that the questionnaires were sent out during the South Africa peak holiday season, this can be considered a reasonably good result. The results of the questionnaires have been collated since questions on the questionnaires were mostly the same, and there were no significant differences between responses of education institutions and industry.

A majority of the South African respondents represented private sector (52% n=11), whereas public sector was represented by 48% (n=10) of the respondents (Figure 2). Business enterprises were represented by 38% (n=8) of the respondents and the NGO/CSO sector by 29% (n=6) of the respondents. Universities were represented by 19% (n=4) of the respondents. No TVET institution representatives responded to either questionnaire.

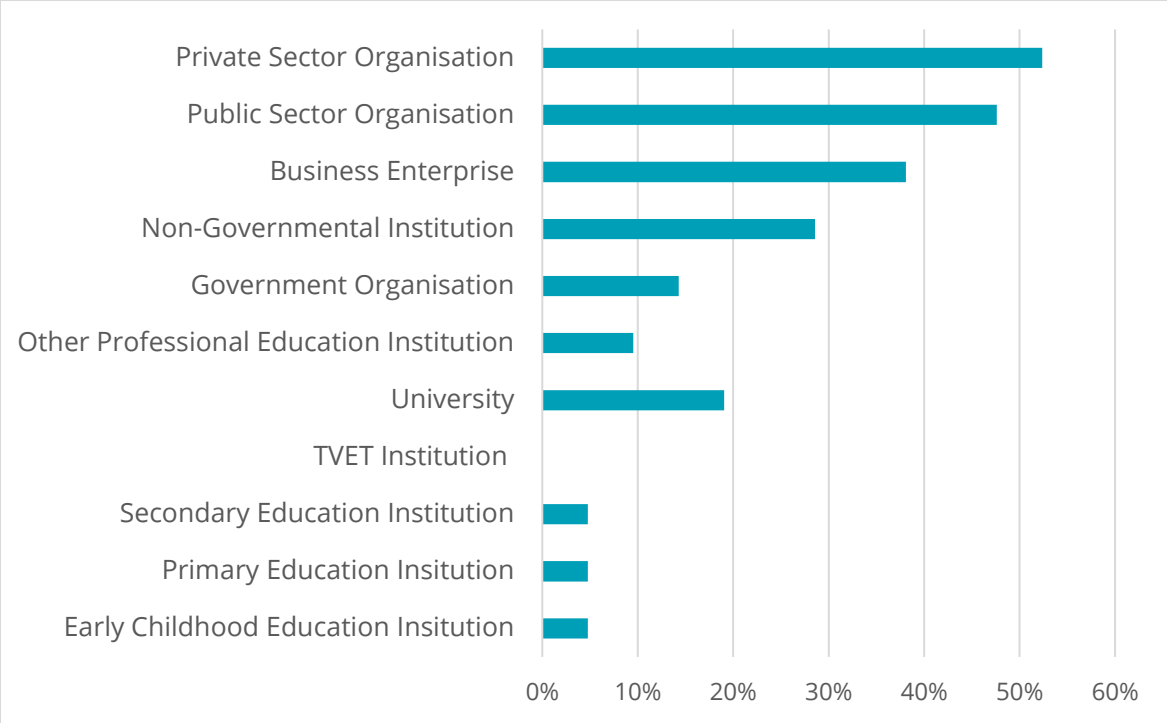


Figure 2. Organisations represented by South African respondents to questionnaire

Geographically, 57% (n =12) of the respondents operate nationally, whereas 33% (n=7) operate in Gauteng, 24% (n=5) operate in the Western Cape, and 5% (n=1) in Mpumalanga provinces. In addition, there were 27 interviews conducted with representatives from the education sector, local governments, NGOs and the private sector. Interviews were conducted face to face, over skype and telephone. Most of the interviews were conducted in the Western Cape. Few interviews were granted in Gauteng, due to the holiday season. However, there were no significant differences in the responses by region or by sector.

3. SOUTH AFRICA IN A NUTSHELL

The Republic of South Africa (RSA) is the southernmost country on the African continent, which with a surface area of 1.2 million square kilometres, makes it the 24th largest country in the world, the ninth-largest in Africa and the fifth-largest country in the southern hemisphere. To provide perspective, South Africa is larger than every country in Europe and every state in the USA except Alaska and is twice the size of France and 5 times larger than the UK and 4 times larger than Finland. The population of South Africa is 56.5 million, compared to Finland's 5.5 million. South Africa is bordered by Namibia to the northwest, Botswana and Zimbabwe to the north and by Mozambique and Eswatini (Swaziland) to the northeast and east. Lesotho, an independent country, is an enclave in the eastern part of South Africa and is surrounded by South African territory (Figure 3).

Figure 3. Map of the Republic of South Africa

Source: United Nations, 2007.

South Africa has 9 provinces: Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, Northern Cape, North West and Western Cape. South Africa has 3 capitals: Pretoria (executive), Cape Town (legislative) and Bloemfontein (judicial). Johannesburg is the largest urban area in the country and the centre of commerce in the heart of Gauteng, whereas Durban, a major industrial centre, is also a major port on the Indian Ocean.

South Africa is the second-largest economy in Africa and largest in Sub-Saharan Africa, comprising almost 20% of Sub-Saharan Africa's GDP with the highest GDP per capita (World Bank, 2019; BusinessTech, 2018). The region is largely driven by the services sector that accounts for nearly 70% of GDP (World Bank, 2019). However, South Africa remains one of the most unequal countries globally with 10% of the population controlling 90% of the wealth in 2016, and with the economy not generating sufficient jobs, the unemployment rate stood at 27.7% in the third quarter of 2017 (World Bank, 2019).

On a **political** level, the South African government has identified the following priorities: economic transformation and job creation; education, skills and health; consolidating the social wage through reliable and quality basic services; spatial integration, human settlements and local government; social cohesion and safe communities; a capable, ethical and developmental state and finally, a better Africa and world.

Economically, South Africa remains an African powerhouse and offers a unique combination of developed-world infrastructure and logistics networks and a diversified emerging market economy, offering low sectoral concentration risks. South Africa has a sophisticated banking sector, is the continent's financial hub and has Africa's largest stock exchange by market capitalization (Young, 2018). The Johannesburg Stock Exchange's (JSE) All-Share Index has outperformed other emerging market indices since the start of the new millennium. It is the largest in Africa and one of the world's top 20 exchanges (Seery et al., 2019).

South Africa's current growth is slow with high inflation and increasing government debt. The nominal GDP in the 3rd quarter of 2019 was 1.29 trillion ZAR. After rebounding by a revised 3.2% in the second quarter of 2019, it contracted by 0.6% in the third quarter. Mining, manufacturing and transport were the biggest drags on growth in GDP. Unadjusted

BOX 1. COMPETITIVE SOUTH AFRICA

Population: 56.6 million
Population under 25: 26 million
Open Budget Index: 2nd out of 102 countries for its transparent state governance system.
World Economic Forum Global Competitiveness Index (WEF GCI):
- 1st out of 141 countries for Budget Transparency.
- 19th in the Finance pillar.

Good Country Index:
- 3rd out of 153 countries for its contribution to International Peace and Security
- 18th for Science and Technology
- 31st for its contribution to World Order

World Bank Logistics Performance Index:
33rd out of 160 countries
EY Africa Attractiveness Survey (2019):
5th largest source of FDI in pan-African economy
Ease of Doing Business Ranking (2019): 82
(World Bank, 2019; Young 2018)

real GDP growth in the 3rd quarter was 0.1% year-on-year (Statistics SA, 2019a). Standard & Poor's credit rating for South Africa stands at BB with a negative outlook, Moody's credit rating is at Baa3 with a negative outlook and Fitch's credit rating was last reported at BB+ with a negative outlook (Trading Economics, 2019). Government spending continued to increase, in 2018, because of free higher education for poor communities, poorly performing state-owned enterprises (SOEs) and government intervention to minimize the impact of slow economic growth. Confidence in the economy has been low because of poor governance, high levels of corruption, skills mismatches and issues surrounding land expropriation.

Major initiatives to stimulate the economy have been launched such as a job summit and an annual South Africa Investment Conference. Other government measures to boost the economy include a commission of inquiry into state capture, restructured state-owned enterprise boards and new tax measures (Young, 2018).

Examining South Africa through a **social** lens reveals that the majority (66%) of South Africa's 56.5 million population is under the age of 35. About 37.7 million of its population is of working age. With 66.4% of the population living in urban areas, the country represents concentrated markets (Seery et al., 2019). South Africa is considered one of the most unequal countries in the world, and fourth on the list of unequal nations in Africa (Seery et al., 2019).

However, South Africa is also doing the most to reduce inequality (Seery et al., 2019). South Africa is in second place, in Africa, for social spending, with a strong record of investing in health, education and social protection (Seery et al., 2019) and is also first among African countries when it comes to tax progressivity and third globally (Seery et al., 2019). While 54% of southern Africa's population lives in rural areas, in South Africa it is only 35%. 17% of South Africa's population live below the poverty line of $1.90 a day. South Africa's Human Development Index value for 2018 was 0.705 – positioning it at 113 out of 189 countries and territories.

South Africa has notably high levels of crime which mainly affects poorer members of society. Poverty, poor service delivery and disparities between rich and poor are reported to directly impact crime levels. However, South Africa has achieved tremendous progress in social cohesion and reconciliation since the official end of apartheid in 1994. The country has a unique geographic, linguistic, cultural, economic and religious diversity that inspires vibrant creativity (Young, 2018). Largely peaceful and secure, southern Africa is the most stable region in Africa (African Development Bank Group, 2019)

Technologically, South Africa has hi-tech developments in agriculture, agro-processing and mining. It has advanced automotive, chemical and fuel technologies industries. The country has a great track record in the development of technologies around mining, energy storage, medical devices and telemedical instrumentation, biotechnology, additive manufacturing, transport, financial technology and digital banking. South Africa is among the pioneers of technology in the fuel cell industry. There is strategic government support through the National Research and Development Strategy (NRDS) and Integrated Manufacturing Strategy

(IMS) to boost the development of advanced technologies to enhance competitiveness in the manufacturing sector. In addition, a Technology Stations Programme (TSP) is being implemented in partnership with leading local universities and the government is also supporting Industry Innovations programmes and a Sector Innovation Fund (IDC and SAINVEST, 2019).

68% of the South African population has access to mobile phones and 54% access to the internet. There are 147 mobile subscriptions per 100 inhabitants (IDC and SAINVEST, 2019). Communications is one of the fastest-growing sectors in the South Africa economy. There is a massive opportunity for growth in ICT applications, inter-device communications technology, big data tools, data centres and frontier ICT technology skills development (IDC and SAINVEST, 2019). South Africa's hosting of the Square Kilometre Array (SKA) – the world's largest radio telescope - is putting it on the international map as the very latest in radio telescope technology is coming to the Northern Cape and is set to be completed by 2028, facilitating the biggest scientific collaboration the world has ever seen (Young, 2018).

During 2020, South Africa will chair the African Union (AU), making it an excellent time to explore opportunities both in South Africa and the rest of the continent. At the same time, the African Continental Free Trade Area Agreement, of which South Africa is a signatory, will be operationalized, creating a market of over one billion people and a combined GDP of US$ 2.2 trillion (Seery et al., 2019).

3.1. South African education policy

The African Union's Agenda 2063: The Africa We Want is the masterplan and strategic framework for transforming Africa into a global powerhouse for the future, aiming at the delivery on Africa's goal for inclusive and sustainable development and is a concrete manifestation of the pan-African drive for unity, self-determination, freedom, progress and collective prosperity (Agenda 2063). Agenda 2063 was borne from the realization by African leaders that there was a need to prioritise Africa's agenda to promote inclusive social and economic development, continental and regional integrations, democratic governance, peace and security (Agenda 2063). At the heart of the long-term 50-year development trajectory, is the education-development nexus, which demands that Africa invests in skills, science, technology, engineering and mathematics to ensure that the peoples of Africa drive the development of the continent into a growth pole.

The Continental Education Strategy for Africa 2016-2025 (CESA-16-25) drives to establish a qualitative system of education and training to provide Africa with efficient human resources adapted to African core values and therefore capable of achieving the vision and ambitions of the AU. There is a call to reorient Africa's education and training systems to meet the knowledge, competencies, skills, innovation and creativity required to nurture African core values and promote sustainable development at the national, sub-regional and continental levels. Over the last two decades, national governments, regional communities and continental groupings have heavily invested in the schooling and training of African children and youth, articulated strategic policy frameworks and plans to achieve accessible,

dynamic and relevant education development (CESA 16-25). Gains have not, however, been fully optimal and there still is a vast and urgent need to improve access, quality and relevance (CESA 16-25). Educational development that is meaningful requires a clear, defined vision and strategic framework, owned and articulated around the socioeconomic and cultural aspirations of people (CESA 16-25). Education programmes designed and financed from the outside unavoidably lack coherence and their impact remains limited (CESA 16-25).

In this wake, CESA16-25 identifies ten priority areas for the region: (1) equitable and inclusive access to education for all; (2) inclusion, equity and gender equality; (3) teachers and teaching; (4) educational quality and learning outcomes; (5) science, technology and skills development; (6) education for sustainable development (ESD) and global citizenship education (GCE); (7) youth and adult literacy; (8) skills and competencies for life and work; (9) financing, governance and partnerships; and (10) education in crises situations.

The Continental Strategy for Technical and Vocational Education and Training for Youth Employment aims to revitalise TVET in Africa. The main objective of the strategy is to revitalise, modernise and harmonise TVET to ensure it transforms into a mainstream activity for African youth development, youth employment and human capacity development. Furthermore, it aims at positioning TVET programmes and institutions in Africa as vehicles for regional cooperation and integration, and socio-economic development. Moreover, the strategy aims to mobilise all stakeholders in a concerted effort to create synergies, and share responsibilities for the renewal of TVET policies, programmes and strategies in Africa.

The Southern African Development Community (SADC) is an inter-governmental organisation that aims to promote sustainable and equitable economic growth and socio-economic development among its 15 southern African member states (SADC, 2020). Member states of SADC have committed to promoting regionally integrated and harmonised educational and training systems in line with the AU's plans of actions and through their Protocol on Education and Training have identified priorities, thus:

- Early childhood education and care
- Gender and culture
- Education management information systems
- Teacher education and development
- Higher education and training
- Technical and vocational education and training
- Curriculum development including teaching and learning materials
- Quality management
- Cross-cutting activities related to HIV/AIDS and ICT

The central government of South Africa is, as a whole, responsible for education in the country, making national policy and issuing national education guidelines and aligning these to the AU Agenda 2063, CESA-16-25 and the priorities identified by SADC. After apartheid ended in 1994, South Africa focused on providing large-scale access to free education, resulting in

the continent's largest public system with government spending on education amounting to nearly 20% of the budget, with 60% allocated to K-12 while about 25% is allocated to higher education (Ferreira and Featherston, 2017).

The basis for education policy is rooted in the **National Skills Development Plan 2030 (NSDP).** The NSDP aims to ensure that South Africa has adequate, appropriate, and high-quality skills that contribute to economic growth, employment creation and social development. The NSDP derives from the National Development Plan (NDP) whose framework stems from 'building the capacities of citizens to make the future work'. The NDP sets several ambitious objectives to be met by 2030 (Box 2).

The **Medium-Term Strategic Framework (MTSF)** 2019-2024 indicates the priorities for South Africa in achieving vision 2030 and sets targets for the implementation of priorities and interventions also stating outcomes and indicators to be monitored.

Priority 2 on the MTSF is education, skills and health and aims at achieving the following education targets related: (1) expansion of access and improving quality of education by 2024, (2) every 10-year old will be able to read for meaning (3) South Africans should have access to education and training of the highest quality by 2025, number 1 in Sub-Saharan Africa in 2024 and number 1 on the African continent by 2030, (4) replace unsafe school buildings and sanitation service by 60% by 2024 and make all schools comply with school infrastructure norms by 2030, (5) fund TVET and community colleges to respond to country skills need and high level of unemployment by 2024 (6) improve access to post-school education from the current 1.2 million to 2.1 million by 2024 and 3.1 million by 2030, (7) increase efficiency of the Post-School Education and Training (PSET) system, (8) increase and improve education outputs by 2024.

BOX 2. AMBITIOUS DEVELOPMENT GOALS TOWARDS 2030

Increase TVET enrollments to accommodate 1.25 million enrollments.

Provide 1 million learning opportunities through Community Education and Training Colleges.

Improve the throughput rate to 80%.

Produce 30 000 artisans per year by 2030.

Increase enrollments at universities by at least 70% (increase by 1.62 million from 950 000 in 2010).

Increase the number of students eligible to study towards math and science-based degrees to 450 000

Increase the number of PhD qualified staff in HEIs from 34% to 75%

Produce more than 100 doctoral graduates per million per year; from 1420 in 2010 to over 5000 a year.

(NSDP 2030)

Action Plan to 2024: **Towards the realization of schooling 2020**, with its 27 goals, aims at the transformation of schools in South Africa and is targeted at a myriad of stakeholders: parents, teachers, school principals, district government officials, the provincial governments, and national government, members of parliament, civil society leaders, including teacher unions, private sector, researchers and international agencies like the World Bank and UNICEF.

3.2. Stakeholders in South African education

Education in South Africa is a challenging landscape to navigate because of the sheer number of systems within systems. While there is a public sector in education, there is also a private sector with a myriad of operators, whose provision of education services is on the rise. The government plays a role in both the public and private sector.

South Africa has two ministries responsible for education. the **Department for Basic Education (DBE),** which is responsible for all school education and the **Department of Higher Education and Training (DHET),** which is responsible for tertiary education. The DHET also administers 21 **Skills Education Training Authorities (SETAs)** that are responsible for learnerships, internships, unit-based skills programmes and apprenticeships in different industry sectors. One of the primary functions of the SETAs is to collect skills development levies from employers within each sector and these funds are then made available for education and training in each sector. The funds are directed to employers, training bodies and learners in the form of discretionary grants and bursaries. Each of the 9 provinces in South Africa have an education department, responsible for implementing national policy.

Private provision can be for-profit or not-for-profit (charitable, non-governmental, faith-based or community). Policy in South Africa is supportive of private education with for-profit operations and foreign ownership allowed across all education segments. Having local ownership, however, helps in attaining government contracts.

Before we describe the landscapes for each of the phases in South African education (section 3.3), it is worthwhile looking at the main stakeholders in the South African education space (Figure 4). These are the organisations whom any education provider in South Africa should expect to work with.

At the pre-primary stage, the DBE registers and monitors all early childhood development (ECD) centres, whereas the **Department of Social Development (DSD)**, registers and monitors all ECD centres that offer Grade R. In primary education, the **provincial Department of Education** licenses and registers education providers, whereas the **Council for Quality Assurance in General and Further Education and Training (UMALUSI)** is the body responsible for quality accreditation. Umalusi means “herder or shepherd”, in the Nguni languages: the person who is the guardian of the family’s wealth.

In higher education, the **Council on Higher Education (CHE)** is responsible for quality accreditation, and the **South African Qualifications Authority** is responsible for oversight of the National Qualifications Framework (NQF). For TVET, licensing and registration is managed by the **DHET** and **UMALUSI** is responsible for quality accreditation.

South Africa has a **Council of Education Ministers (CEM)** that consists of the Ministers of Basic Education, Higher Education and Training and the nine provincial members of the executive councils of education that promote the national education policy and share information and views on all aspects of education in South Africa.

The **National Education Evaluation and Development Unit (NEEDU)** ensures evaluation of educators at the school level, and the Education Labour Relations Council (ELRC) is a statutory council that maintains labour peace within public education through processes of dispute prevention and resolution.

The **South African Council for Educators (SACE)** is a professional council aimed at enhancing the status of the teaching profession and promoting the development of educators and professional conduct. SACE has several programmes to promote the development of educators and enhance the status and image of the teaching profession, including:

- Professional Development Portfolio Project
- Teacher education and development research activities
- Continuing Professional Teacher Development System
- Celebration of World Teachers' Day
- Ensuring that educators adhere to the SACE Code of Professional Ethics

South Africa also has six educator unions (National Professional Teachers' Organisation of South Africa, National Teachers' Union, South African Teachers' Union, Professional Educators' Union, Cape Professional Teachers' Association and South African Democratic Teachers' Union).

The **National Student Financial Aid Scheme (NSFAS**) is a bursary scheme funded by the DHET for South African students who do not have the financial means to fund their studies and cannot access bank funding, study loans or bursaries (NSFAS, 2020). Financial aid is given to eligible students at public TVET colleges and public universities and covers accommodation (at university residence costs, and for TVET college students set amounts depending on if accommodation is in an urban, peri-urban or rural area), transport (up to 40 km from the institution), living allowance, book allowance and incidental/personal care allowance). Students must already have a study placement before applying. In 2019, NSFAS received 216748 applications, mainly for studies at public universities), whereas only 10% of funding applications were for studies in TVET colleges (NSFAS, 2019). Region-wise, the highest number of funding applications in 2019 came from KwaZulu Natal, Limpopo and Gauteng provinces, whereas the North West, Western Cape and Northern Cape generated the lowest number of funding applications (NSFAS, 2019).

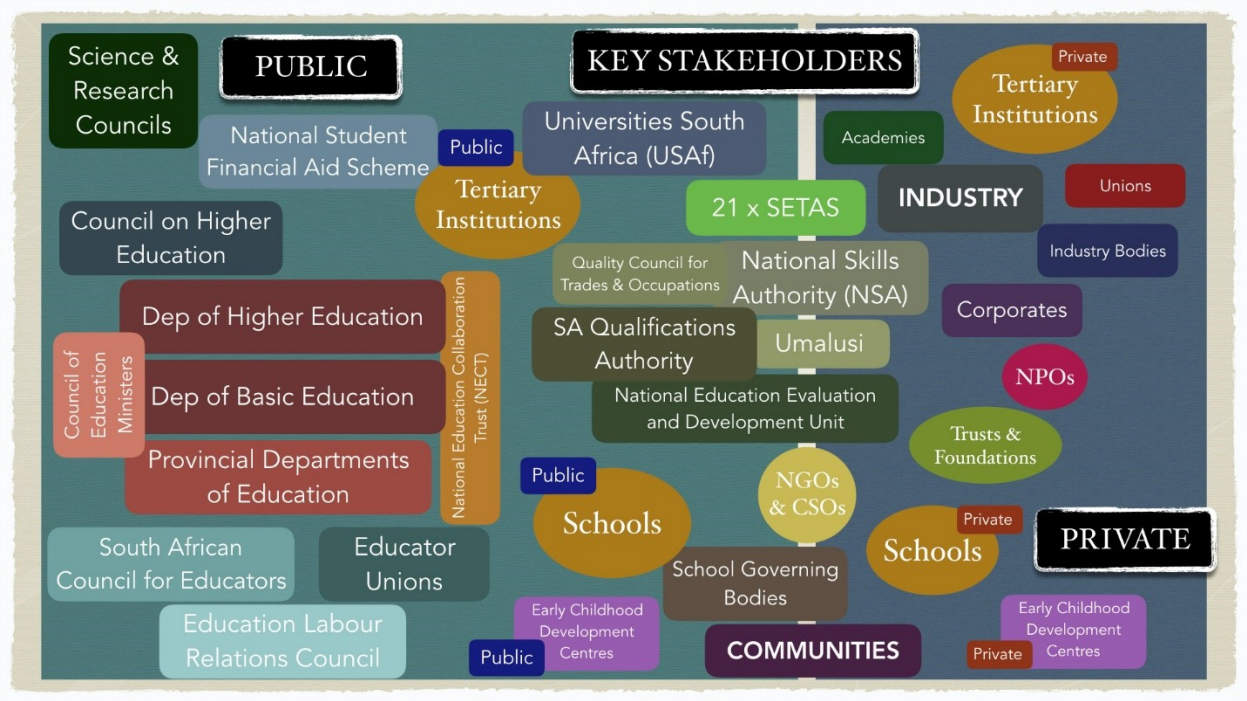


Figure 4: Main stakeholders in South Africa's education space

3.3. The education system in South Africa

Education in South Africa is divided into pre-primary (preR-R); primary (grade 1- 9), further education (grade 10-12, intermediate vocational colleges and community colleges); and higher education (Figure 5).

General Education and Training (GET): grade R up to 9

Pre-primary education consists of grades pre-R and R, the latter being compulsory. Public provision of Grade R is estimated at 95%, but private provision is growing. Pre-R provision is typically given by stand-alone community-based centres (Ferreira & Featherston, 2017). Pre-primary operators cite challenges in complying with quality and safety requirements.

Private schools can choose their curriculum, can be for-profit or non-profit, and must meet the requirements for provincial registration to be legal. For private non-profit registered schools, provincial government subsidies of up to 60% of the Provincial Average Estimate (of cost) per Learner (PAEPL) in a public school are available. The subsidy is awarded on a sliding scale (16-60%) according to the fee-level of the school. Schools must meet strict quality criteria, apply for a subsidy annually, and submit audited financial statements. Primary school pupils have the right to be educated in their home language, and from grade 3, take an additional language. From grade 4, education is in English or Afrikaans (NUFFIC, 2015).

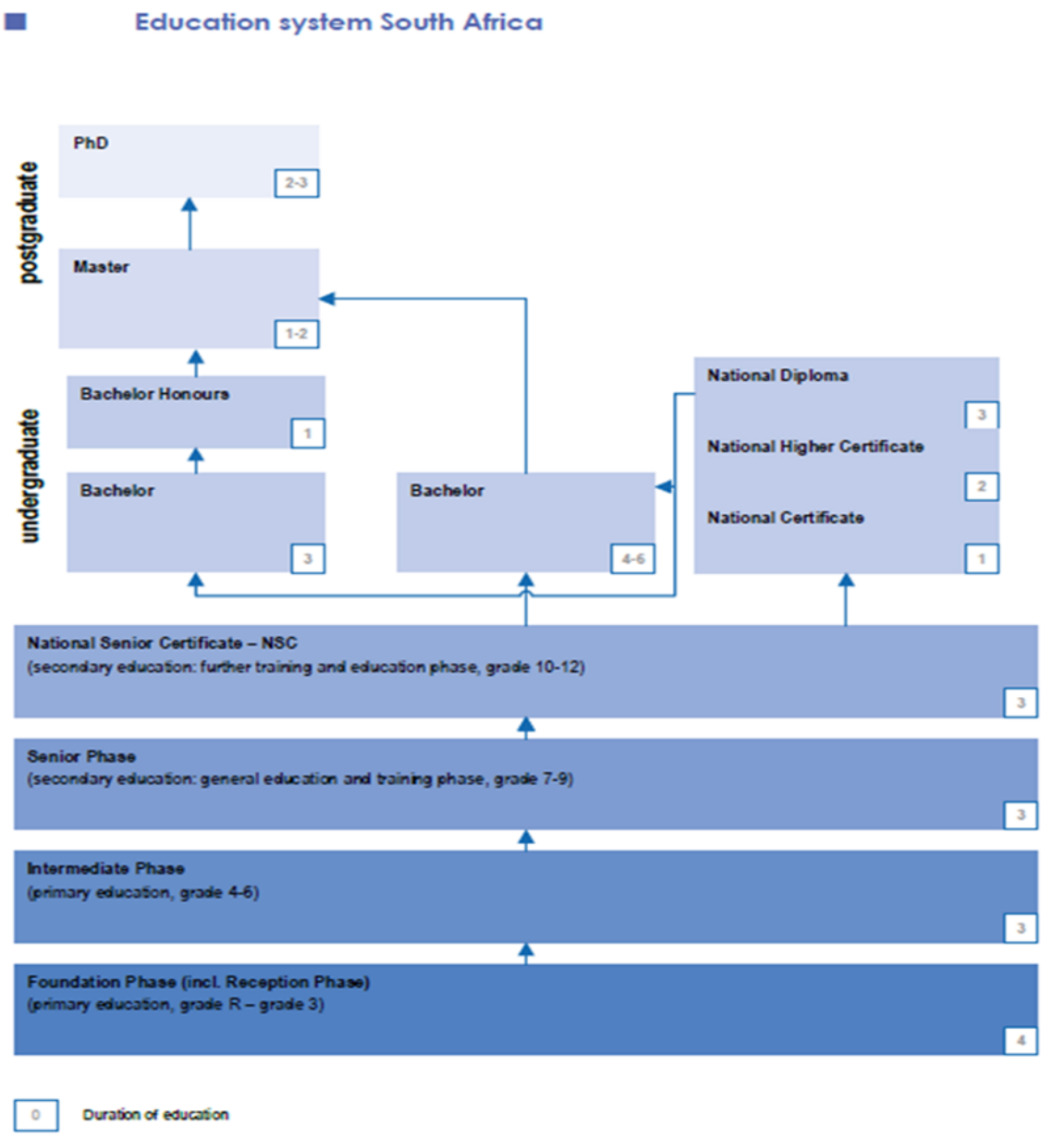


Figure 4: Education in South Africa
Source: NUFFIC, 2015

Further Education and Training Grade 10 up to grade 12, and intermediate vocational education at technical colleges, community colleges, and private colleges

There is a high variation in K-12 education provision in South Africa. The big disparities between people, schools and regions result in a harsh reality, described by Spaull (2019) where the life-chances of the average South African child are determined by the colour of their skin, the province of their birth and wealth of their parents. Ferreira and Featherston (2017) describe that public schools are grouped into quintiles with the first three having no fees and enrolling nearly 80% of all the students, with government spending being about 1000 USD/ student.

Quintile 4 and 5 schools are priced higher and offer a quality of education similar to high-quality private schools. Private education with fees greater than 2000 USD is inaccessible to most, but reaches about 5% of the population, mostly in the wealthier regions such as the Gauteng region, which accounts for 45% of all K-12 provision in South Africa. Spaull (2019) demonstrates that between 2010 and 2017 there was an 8% decline in per learner expenditure in purchasing power terms, which is now manifesting itself in student performance.

Public schools are evaluated through the **Whole School Evaluation (WSE)** framework and private schools are accredited by UMALUSI through a comprehensive, rigorous and costly process. Any education system is as strong as its teachers. There is a serious lack of qualified teachers in South Africa (Spaull, 2019; Ferreira and Featherston, 2017). For instance, Venkat and Spaull (2015) demonstrated that up to 70% of Grade 6 mathematics teachers could not score 60% or higher on Grade 6 or 7 level questions.

Whereas there are many challenges within the education system, there are also successes. In 2019, the matriculation results revealed that the average pass rate for the National School Certificate (NSC) was 81.3%, an improvement from the past year's 78.2% (DBE, 2020), and the matriculants produced 156 884 distinctions. These were the highest pass percentages recorded in the last 25 years (DBE, 2020). The top-performing province was Free State, followed closely by Gauteng Province, North West and Western Cape (Figure 6). Spaull (2014) however cautions against comparing provincial averages as disparities between learners even in one province may be huge. It is more meaningful therefore to compare the performance of quintile 1 learners across the provinces or quintile 2 learners across the provinces (Spaull, 2014). The matriculation exam is used extensively as a selection criterion for university admissions and thus has important consequences for individual learners (Spaull, 2014).

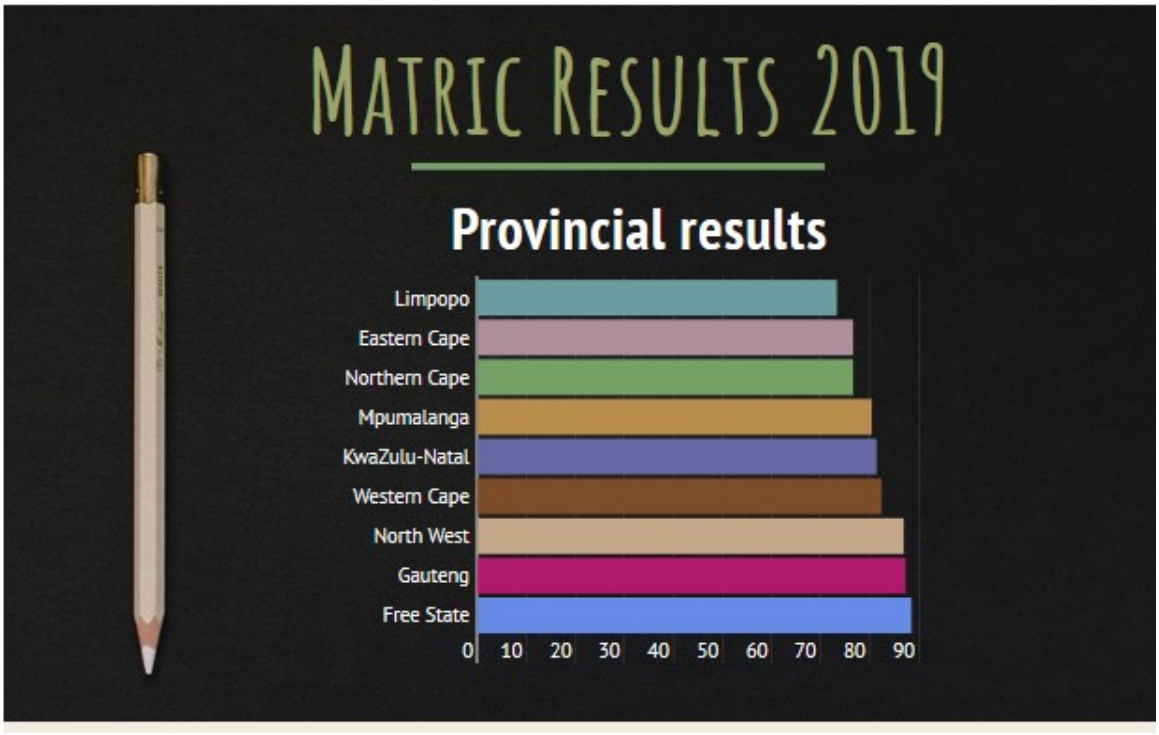


Figure 6: South Africa's matric results in 2019 by province
Source: DBE, 2020

There is cause for concern in terms of certain skills subjects in the matriculation results of 2019. In 2019, there was a drastic reduction in numbers of students that sat mathematics, accounting, English, economics, physical sciences and life sciences (Figure 7). It is logical to expect a huge reduction in students studying STEM subjects at university, in the future. History, on the other hand, seems to attract a lot of students.

Subjects	Entered 2015	Entered 2016	Entered 2017	Entered 2018	Entered 2019	Difference 2019 - 2018
Accounting	**143 962**	137 808	**116 149**	104 553	**91 581**	-12 972
Agricultural Sciences	**106 183**	113 119	**108 756**	108 794	**107 068**	-1 726
Business Studies	**254 188**	248 730	**225 100**	216 217	**211 134**	-5 083
Economics	**169 937**	165 782	**144 793**	133 198	**125 536**	-7 662
English FAL	**554 565**	564 814	**521 306**	515 937	**506 050**	-9 887
Geography	**310 300**	321 829	**306 474**	308 014	**310 705**	2 691
History	**158 451**	165 294	**159 108**	167 289	**178 963**	11 674
Life Sciences	**355 614**	368 191	**352 594**	351 377	**345 209**	-6 168
Mathematical Literacy	**398 632**	389 163	**353 019**	342 976	**349 338**	6 362
Mathematics	**269 253**	285 406	**276 084**	270 516	**256 338**	-14 178
Physical Sciences	**197 047**	204 695	**197 960**	193 869	**186 366**	-7 503

Figure 7: NSC subject enrolment 2015-2019
Source: DBE, 2020

While grade 10-12 are not compulsory, students are required to complete a minimum number of years to receive the **NSC or a National Certificate (Vocational) I, II or III**, after which they can continue further schooling/training at universities or intermediate vocational education at technical colleges, community colleges or private college (UNESCO=UNEVOC, 2014).

Those who do not sit the NSC after grade 10-12, have alternative routes to further education, for instance, they may sit the International General Certificate of Secondary Education (IGCSE) offered by Cambridge Assessment International Education (CAIE) or the American General Education test (both are very expensive and thus inaccessible to most) or attain a qualification registered on the NQF, for example, National Certificate: Bookkeeping (Grade 10, NQF, L3), National Certificate: Information Technology: End User Computing (MICT SETA, Grade 10 NGF L3), Further Education Certificate: Project Management (Services SETA, Grade 11 NQF L 4), etc. These certificate courses are offered at most TVET colleges.

Adult basic education and training takes place in community and training (CET) colleges or community colleges; as well as in technical vocational education and training (TVET) colleges. CET colleges provide both basic and further education and training qualifications or part qualifications such as the National Senior Certificate for adults, while TVET colleges offer trade and occupational qualifications or part qualifications.

Partnerships between the government, business, labour unions and communities are critical to the functioning of TVET institutions. Credible standards are ensured by the Occupational Qualifications sub-framework of the NQF, UMALUSI and the Quality Council for Trades and Occupations (QCTO) (UNESCO=UNEVOC, 2014).

The TVET sector in South Africa is facing an increased focus, similar to global trends. The DHET aims to increase TVET enrolments from 800 000 to three million by 2030 (Ferreira and Featherston, 2017) and has established the SETAs to coordinate skills development across sectors (Ferreira and Featherston, 2017) but these have been dysfunctional and inefficient in utilising funds according to industry participants (Ferreira and Featherston, 2017).

There are 50 TVET public institutions in South Africa (8 in Gauteng province and 6 in the Western Cape province (TVET Colleges South Africa, 2020). The government steers TVET through policy development, formulation of the national curriculum, staff development, student and programme targeting; and funding. Private TVET institutions are governed by their Director Generals but are required to have the necessary infrastructure and resources for quality assurance. The programmes are registered and governed by the DHET. The private TVET market is growing at 21%, although it is highly fragmented (Ferreira and Featherston, 2017).

Higher education and training

Universities in South Africa offer undergraduate courses of study leading to certificates, diplomas, bachelor's degrees as well as qualifications programmes leading to advanced degrees. South Africa has 26 public universities: 11 general academic universities, 6 universities of technology and 9 comprehensive universities (combined academic universities and universities of technology). In 2015, the student headcount for all the 26 universities was 985 212 (DHET, 2015/16-2019/20). In 2016, the private higher education sector consisted of 125 private HEIs (Statistics SA, 2019b).

Private HEIs are autonomous but they must all register for a license with the DHET and have courses accredited by the CHE and completing these processes can take up to two years in total. Accreditation can cost as much as 23000 USD for a single course (Ferreira and Featherston, 2017). Although it is easier for an existing provider to add a new campus than a new course, it still takes two years to accredit the new campus. For a new provider, these processes can take even longer. It should be noted that foreign providers cannot award degrees in South Africa without being registered and having all courses accredited locally.

Higher education is highly inaccessible, with an applicant to seat ratio of 3:1 in public institutions (Ferreira and Featherston, 2017). While four of South Africa's public institutions are in the global top rankings, most HEIs struggle to deliver high-quality education. Ferreira and Featherston (2017) estimate that public university drop-out rates are over 50% during the first year of study, whereas in private institutions, drop-out rates amount to about 10%, which can be attributed to better student support systems at private institutions. Private enrolments are growing at 8% compared to public enrolments at 1% (Ferreira and Featherston, 2017). Distance education is also growing in popularity in South Africa and is estimated at 8% and attributed to greater affordability and flexibility especially for working professionals (Ferreira and Featherston, 2017).

Examining university world rankings, 13 HEIs from South Africa feature in the 2019-2020 list of top universities compiled by the Centre for World University Ranking (CWUR), led by the University of Cape Town (252) and followed by the University of the Witwatersrand (254) (BusinessTech, 2019a; CWUR, 2019). Finland's University of Helsinki is at number 132 on the same ranking, followed by Aalto University at number 310, after which Finnish universities appear more steadily (CWUR, 2019). South African and Finnish HEIs are clearly in the same calibre in terms of rankings on both the Academic Ranking of World Universities (ARWU) in 2019 and the CWUR 2019-2020 rankings (Table 2).

Table 2. South African and Finnish universities in world rankings in 2019

Academic Ranking of World Universities 2019		CWUR University Rankings 2019-2020	
63	University of Helsinki	**132**	University of Helsinki
201-300	University of Cape Town	**252**	University of Cape Town
201-300	University of the Witwatersrand	**254**	University of the Witwatersrand
301-400	Aalto University	**310**	Aalto University
301-400	University of Oulu	**354**	Turku University
301-400	University of Turku	**376**	Tampere University
401-500	Stellenbosch University	**405**	Oulu University
401-500	University of Eastern Finland	**419**	University of Eastern Finland
401-500	University of KwaZulu-Natal	**424**	University of KwaZulu-Natal
401-500	University of Pretoria	**556**	University of Pretoria
501-600	University of Jyväskylä	**568**	University of Jyväskylä
501-600	University of Tampere	**761**	University of Johannesburg
601-700	North-West University	**869**	North-West University
601-700	University of Johannesburg	**963**	Åbo Akademi University
801-900	University of South Africa	**1012**	Lappeenranta University of Technology
901-1000	Lappeenranta University of Technology	**1034**	University of the Western Cape

According to the funding framework of government grant allocation to public HEIs in South Africa, funding flows are as follows: national budget through the DHET (on average 50%), tuition fees (on average 25%) and other private income (on average 25%) (DHET, 2004). Over the years, this has changed somewhat with other revenues making up the bulk of HEI income (BusinessTech, 2019b; Statistics SA, 2019b). According to the 2019 Allocations Act, all the 26 public universities and universities of technology received transfers and subsidies up to 36.7 billion ZAR, in the form of direct subsidies and block transfers. Actual subsidies transferred to each HEI are detailed in the 2019 Appropriations Act (de Wet, 2019). According to de Wet (2019), university subsidies range from 21000 ZAR to 64700 ZAR per student, depending on the institution, as follows:

- 72 000 to 80 000 ZAR: Rhodes University, the University of Cape Town, Stellenbosch University, and the University of the Witwatersrand.
- 60 000 to 67 000 ZAR: University of KwaZulu-Natal, University of Pretoria, Vaal University of Technology, University of Fort Hare, University of the Western Cape, University of Johannesburg.
- 52 000 to 58 000 ZAR: University of Venda, Nelson Mandela University, University of Limpopo, Durban University of Technology, Cape Peninsula University of Technology, Tshwane University of Technology, Mangosuthu University of Technology.
- 37 000 to 48 000 ZAR: Central University of Technology, University of the Free State, North-West University, University of Zululand, Walter Sisulu University.

These figures include student housing infrastructure grants but not academic clinical training grants (de Wet, 2019). In addition to these state subsidies, South African HEIs also get income from tuition fees. On average, tuition fees per year were about 64200 ZAR, depending on the university for a bachelor's degree (BusinessTech, 2019c). In 2018 South African HEIs had revenues amounting to 83 billion ZAR, an increase of 9.3 billion ZAR compared to the previous year 2018 (BusinessTech, 2019b; Statistics SA, 2019b).

The increase is attributed to an increase of subsidies from the DHET to the University of the Witwatersrand, the University of Johannesburg and University of KwaZulu-Natal as well as an increase in tuition fees received by the University of KwaZulu-Natal, the University of South Africa and the University of the Witwatersrand (BusinessTech, 2019b; Statistics SA, 2019b). However, other receipts (44.4 billion ZAR) are the largest contributor to HEI income, followed by grants (38.6 billion ZAR) and tuition fees (27.5 billion ZAR) (BusinessTech, 2019b; Statistics SA, 2019b). Other receipts refer to revenue derived from interest, dividends, sales of goods and services and transfers not classified elsewhere (BusinessTech, 2019b; Statistics SA, 2019b).

The University of South Africa had the largest amount of total revenue (8 billion ZAR) among all South African HEIs (Figure 8), followed by the Universities of Pretoria (7 billion ZAR) and Cape Town (6.7 billion ZAR) (BusinessTech, 2019, Statistics SA 2019b). University of South Africa is also the biggest earner in terms of tuition fees, which is logical as it has the largest number of registered students in the country. The University of South Africa also is the largest receiver of government subsidies (3.69 billion ZAR), whereas the University of Cape Town had the biggest portion of revenue from other receipts (2.65 billion ZAR) (BusinessTech, 2019b; Statistics SA, 2019b).

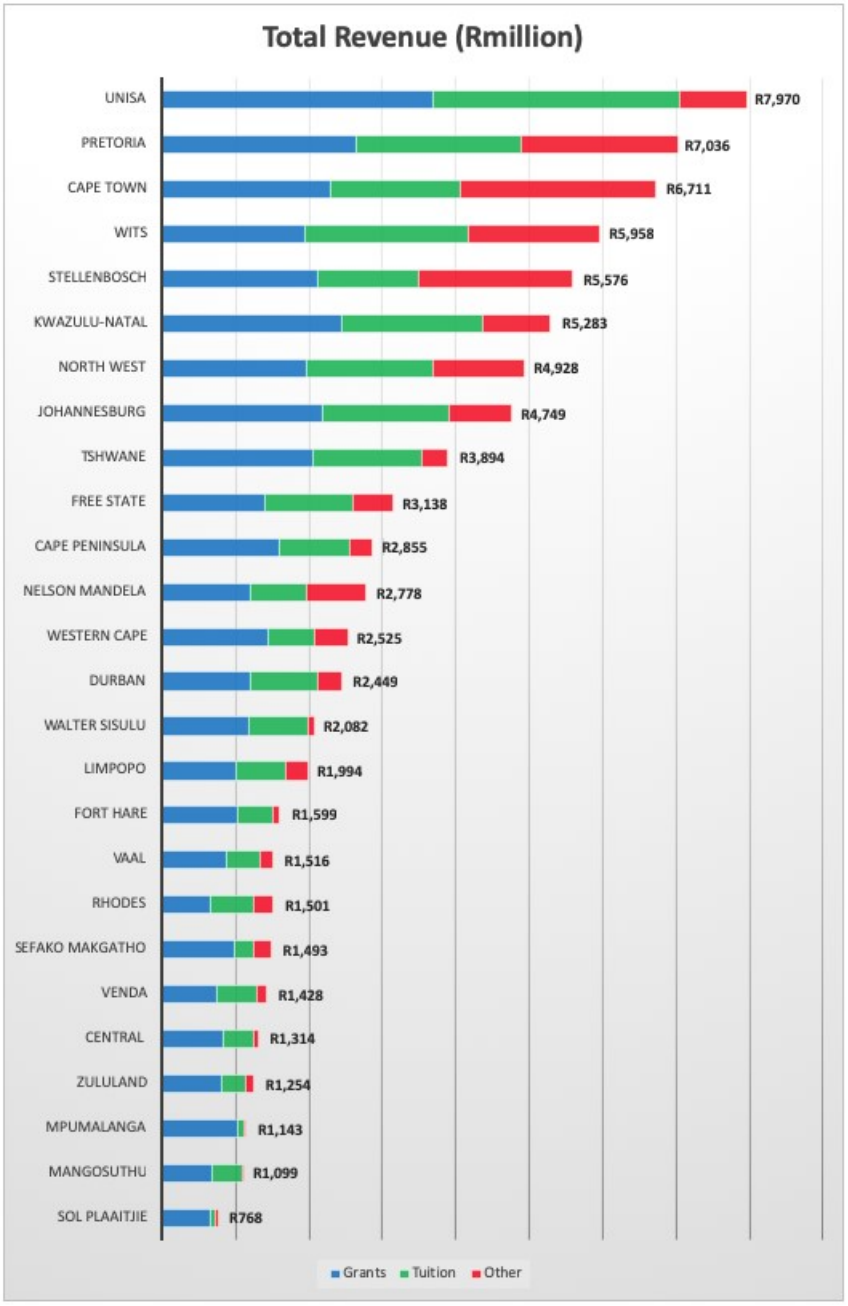


Figure 8. Total revenues of South African universities in 2019
Source: BusinessTech, 2019b; Statistics SA 2019b).

3.4. From a national outlook to a provincial level

In South Africa, education is decentralised to Departments of Education in the nine provinces. The roles of each Department of Education is to ensure provincial strategies are aligned to national policies. Provincial Departments of Education are responsible for the financing and managing of its schools. Provincial Departments of Education also organise training for personnel, handle bottlenecks and solve labour-relations disputes.

In this study, the focus is on two provinces, Gauteng and the Western Cape, which are representative of urban, wealthy regions in South Africa. Noting the diversity of South Africa and the huge disparity between regions, the reader will do well to remember that the descriptions and situations described in the following sections on Gauteng and the Western Cape, are particular only for these two regions and do not depict the situation in rural areas of South Africa, nor all of South Africa.

3.4.1. Education in the Gauteng province

Gauteng is a Sesotho word meaning "Place of Gold". Gauteng is the smallest province in South Africa but is the most urbanized and most populated province with a 14.7 million population. More continue to migrate to the region, signifying that there will be increased pressure on the education sector in the region, with a need for more classrooms, teaching materials and teachers. Gauteng is divided into 5 regions: Ekurhuleni, Johannesburg, Sedibeng, Tshwane and West Rand; and has 15 districts with 2071 public ordinary schools, 218 independent subsidized and 590 independent non-subsidized schools and a total of 2.48 million learners of whom 89% are in public schools (GDE, 2019a). Gauteng remains the best educated in the country with 52% of the population having reached Grade 12 (Prew and Maringe, 2014).

Gauteng generates over 33.8% of South Africa's and 10% of Africa's GDP and thus remains the economic and business hub of South Africa (Statistics SA, 2019b) and is the choice location for many large international organisations that have offices or branches in Africa. Gauteng's economy is based on export of precious stones and metals.

Education in the Gauteng Province is under the mandate of the **Gauteng Education Department** (GDE). The Gauteng Legislature is focused on developing the creativity of Gauteng's young and working people by building their skills and capacities with the following key priorities:

1) Prioritise policies and strategies that target the achievement of quality teaching and learning outcomes by enhancing skills and competencies of educators, including the school management team comprising the school principal, deputy principal and the subject heads
2) Prepare to make 2 years of early childhood development compulsory for all children
3) Appoint adequately qualified educators whose subject content is at the required levels, develop their skills and enforce accountability
4) Replace unsafe and inadequate school buildings and sanitation facilities

5) Implement a mass apprenticeship programme
6) Work to achieve the universal access to two years access of ECD, including two years of compulsory quality pre-school enrolment for 4-and-5-year-olds before Grade 1
7) Implement the new innovative way of assessing learners through the National Assessment Framework for Grades 3, 6 and 9
8) Amend the curriculum and promote the necessary resources to prepare learners for the Fourth Industrial Revolution
9) Continue to replace inappropriate school structures and sanitation facilities

In 2019-2020 the GDE has a budget of 49.8 billion ZAR compared to 45.2 billion ZAR in 2018-2019, signifying a 10.1% increase, and the budget is estimated to increase by 8.4% in 2021-2022 to 57.5 billion ZAR. Public schools receive 74.9% of the total allocation budget, whereas special education receives 7%, infrastructure development receives 3.9%, early childhood development 1.7% and independent schools' subsidies also have an allocation of 1.7% of the budget. The remainder of the budget goes to examinations and education-related services (3%) and administration (7.7%). (GDE,2019b).

The GDE also transfers payments to SETAs for skills levies in support of the Master Skill Plan. The GDE also supports professional services that include psychological services and counselling as well as school visits by health professionals to conduct health assessments of learners, in collaboration with the Department of Health. Resource allocations for curriculum delivery, school management systems are also made. Furthermore, independent schools are also monitored to check their registration status, physical environments and to ensure subsidized schools use state funds to achieve educational outcomes identified in the curriculum framework. Special schools are also monitored for proper resource allocation and supported with curriculum implementation. (GDE, 2019a).

Gauteng has the most efficient education system in South Africa (Spaull, 2014), with the province performing best out of all the provinces in South Africa, since 2004. Spaull (2014) has assessed outcomes of mathematics and science across provinces and concludes that there was no improvement in the Grade 8 mathematics and science outcomes in 1995-2002, nor was there improvement in the 2000-2007 Grade 6 numeracy or literacy outcomes, for the average student in any province in South Africa. The 2002-2011 performance of Grade 9 learners however shows national improvement with Gauteng recording large improvements in mathematics and science education, whereas the Western Cape, although scoring the best nationally, among all the provinces, did not show improvements (Spaull, 2014). The average Grade 9 student in Gauteng in 2011, was approximately two years of learning ahead of the Grade 9 student in Gauteng in 2002 (Spaull, 2014).

While the matriculation exam pass rate in Gauteng has risen, the percentage of learners sitting for subjects like mathematics has declined as shown earlier in Figure 7, reiterating the findings in (Prew and Maringe, 2014) who say that these are the base subjects for accessing most technical, professional and commercial degrees and jobs in most economic sectors such as mining, the medical profession, construction and financial services and

thus this situation should be reversed. Whereas Gauteng performs well in comparison to other provinces in the matriculation exam, this is also true of its conversion ratio (the ability to convert Grade 2 enrolments into Grade 12 passes 10 years later), which is the best indication of the quality of education in a province (Spaull, 2014).

Indeed, Gauteng can be said to be faring very well. Over 60% of learners complete the schooling cycle without repeating a year or dropping out (Prew and Maringe, 2014). The budget devoted to education has also grown annually.

Multi-stakeholder partnerships are important in South African education as will be explained later in this study. There are three agencies in Gauteng that have had a profound impact on the quality of education in Gauteng (Maringe, 2014):

The Sci Bono Discovery Centre brings private business and commerce into partnership with the education department to drive improvement in the teaching and learning of the science, mathematics and technology (SMT) curriculum in the province. The centre provides support to schools in challenging circumstances in terms of educator education (staff development) and in creating access for learners to state-of-the-art science and technology equipment, discussion groups, debates etc.

The Matthew Goniwe School of Leadership and Governance focuses on developing school leadership to address school improvement, for example, through training and staff development for principals, members of senior management teams and school governing bodies.

The Gauteng City Region Academy enables young people to make the transition from school to further education and work that provides further training opportunities. They do this through counselling, support and provision of information to facilitate decision-making and to support learner choice.

However, while the population in the province has grown and consequently, the number of learners, the number of educators in the province has not grown in the same proportion, leaving the gap being filled by larger classes (Prew and Maringe, 2014). Prew and Maringe (2014) stress that Gauteng education planners are under pressure as they have to predict the flow of learners year on year, due to the huge flow of learners into the province every year.

The funding system for schools in Gauteng where quintile 1-3 schools are no-fees schools and the GDE pays a full subsidy to these schools, is exceptional nationally, as is allowing quintile 4 and 5 to voluntarily become no-fee based (Prew and Maringe, 2014). The increased access to a school meal has improved the school experience for many poor learners and inadvertently, Gauteng has managed to allow most learners to experience schooling similarly. The biggest challenge is, however, closing the gap in the school experience for those that attend a formerly white school (quintile 5, charging over 20 000 ZAR per year), and for those that attend a no-fee school in a township or rural area (Prew and Maringe, 2014).

The 8 TVET colleges in Gauteng are increasingly catering for the education needs of the province's 19-23-year olds, mainly those who have completed their matriculation examination or dropped out in Grades 10-11, rather than as an alternative to the academic school system, by those in Grade 9 (Prew and Maringe, 2014).

Amnesty (2020) found that Gauteng had several schools with badly maintained buildings, hazardous buildings, unhygienic conditions and poorly maintained and unsafe sanitation, overcrowded classrooms without basic equipment and materials and a lack of security and was thus in breach of the government's policies. Continued vandalism and theft are frequent in township schools. All the computers in a school could be stolen, with little that the schools can do to combat this.

3.4.2. Education in the Western Cape province

The Western Cape lies on the southern tip of Africa and its symbol is a flat-topped mountain called Table Mountain. The Western Cape is where the Atlantic Ocean and the Indian Ocean meet and is the fourth largest province in South Africa, roughly the size of Greece and covers 10.6% of the land area of South Africa and has a population of 6.6 million, just slightly above the population of all of Finland (Statistics SA, 2019b). The Western Cape contributes about 14.5% to South Africa's GDP, of which Cape Town is the largest contributor at 9.9% (Statistics SA, 2019b). The economy of Cape Town is based on the export of agricultural products and wine as well as hi-tech industries such as international call centres, advertising and television (Statistics SA, 2019b). The Western Cape has 8 districts with on average 1445 public ordinary schools, 101 independent non-subsidized schools and 66 special needs schools and about 1.02 million learners (Statistics SA, 2019b; WCDE, 2019a).

A challenge faced in the Western Cape is the lack of adequate sanitation facilities especially in the poorer communities where the population is mostly black and mixed-race. Chetty et al. (2016) say that 100% of the population in the Western Cape do have access to an electricity grid, piped water and a sewerage system but access to these services remains difficult for at least 8% of the population who may have gone without water and electricity. 19% of the population in the Western Cape do not have a post office within easy walking distance and 5% do not live in an area where a school is within easy walking distance of their homes, a problem faced only by black or mixed-race persons, 13% do not have access to a police station within easy walking distance nor was there a health clinic nearby for 15% (Chetty at al., 2016). The racial divide, although apartheid is formally gone, is real.

The **Western Cape Education Department (WCDE**) is responsible for public schooling in the Western Cape from Grade 1 to 12 and aims to improve language and mathematic skills of learners, improve matric results and improve access to quality education in poor communities (WCDE, 2019a). WCDE operates in 8 education districts. The Western Cape is established as the leading province in South Africa, in mathematics and sciences results (WCDE, 2019a). Many of the schools in the Western Cape are classified as Quintile 4 and 5 schools meaning they are fee-based, but the reality is that they are attended by an increasing number of poor learners.

A huge constraint is the net migration rate into the region, projected at 9.7% (WCDE, 2019a), which mounts pressure on resource provisioning and planning due to spikes in learner enrolment.

In 2019-2020 the estimated budget is 23.7 billion ZAR, compared to 22.1 billion ZAR in 2018-19, signifying a 6.8% increase. Public schools receive the largest share of the budget (75%), followed by infrastructure development (7.43%), administration (6.6%), special needs 5.66% and early childhood development (2.76%). (WCDE,2019a). In 2018-2019, The WCDE rolled-out a Game-Changer approach (WCDE, 2019a) including (1) e-learning programme and (2) an after-school programme. The e-learning programme focuses on:

1) Wide Area Network (WAN): provision of all schools in all quintiles with connectivity to the internet and interconnectivity between schools, district offices and head office

2) Local Area Network (LAN): provision of wireless access to connectivity and interconnectivity of the internet connectivity throughout schools

3) Computer Applications Technology (CAT), Information Technology (IT) and Engineering, Graphics and Design (EGD) Computer Refresh Project: ensuring that schools offering the subjects CAT, IT and EGD have the requisite technology for teachers and learners offering these subjects

4) Slim Lab Computer Refresh Project: provision of available and appropriate technology to schools by providing learners and teachers direct access to the internet connectivity, digital resources and media in an ICT suite environment and teacher work-area

5) Smart Classroom Project: provision of available and appropriate technology (wireless and pack-up-and-go mobility) to schools for the use of teachers within their classrooms

6) e-Portal Project: provision of access to an online, service-oriented portal for digital and learning resources

7) e-Culture stream: engagement with curriculum-based stakeholders to digitize material and lessons to contribute to the e-Portal

The Transform to Perform (T2P) strategy of the WCDE has four pillars: (1) Values in Education including activities that aim to address the attitudes and values which influence the actions and behaviours of individuals to shift the organisation to become a values-driven organisation through living our values across all layers of the organisation; (2) Leadership and Development including coaching and mentoring sessions, ethos leadership and change mindsets, directed at all layers of leadership (3) Change Mindset to positively impact teachers to prepare them for change, and shifting them towards a willingness to experiment, learn and apply innovative ways of thinking and working within continued pressures (4) Growth Mindset focusing on transforming the mindset of learners from a state of believing that one is born with certain abilities that cannot be changed, to one where they believe that effort and work can grow one's abilities.

The Western Cape has been criticised for the fact that these programmes are implemented in schools in the region that mostly benefit the middle-class and the wealthy, leaving the poorer schools out- those that have a mostly black and mixed-race population (Chetty et al., 2016).

The Western Cape also has a school feeding programme to ensure that poorer learners receive two nutritious meals at school every day. WCDE allocated R385 million in 2019-2020 to feed 401 657 learners in 691 schools and further, 78 140 learners in 317 Quintile 4-5 that serve poor communities as well as 26 507 children in the after-school programme to ensure that poorer learners can participate.

One of the biggest costs for the WCDE is learner transport, where a learner transport scheme has been established to assist those without the means (finance or mechanisms) to get to school. In 2019, 61 602 learners were being transported to 473 schools in the Western Cape.

The WCDE also has a big focus on the professional development of teachers and school managers and the WCDE Professional Development Strategy 2016-2020 (WCDE, 2019b) proposed 5 phases of teacher development: Professional Preparation, Professional Identity, Professional Competence, Professional Accomplishment and Professional Leadership. These are supported through a range of courses, seminars and conferences at the Cape Teaching and Leadership Institute, as well as through localized support groups and participation in professional learning communities, addressing topics and specific needs through school-based or area-based programmes on the district level.

The Western Cape Department of Economic Development (WCDED) is mandated to facilitate growth in the Western Cape economy and over the past 5 years has been responsible for about 70% of the new jobs created in the country. The WCDED has organized several training programmes including software development and has provided incentives for enterprises to mentor graduates, for instance, by covering salaries for 1 year. In another example, the WCDED has worked on promoting artisanal skills by partnering with a vocational institute. They also co-founded the African Institute for Financial markets and Risk Management, which is a school at the University of Cape Town that provides financial services degrees and diplomas

The establishment of public-private-partnerships which has been more widely piloted in the Western Cape, whereby private actors play a key role in the governance and management of public schools including directing parts of the curriculum, recruiting of teachers and managing finances and other school affairs, has come under critique for both the model and way it has been rolled out in the Western Cape (Amnesty, 2020) The critique is particularly on its being contrary to South Africa's laws which place the governance of a public school in the hands of a majority of the parents and school community itself and only permit third parties to be co-opted without voting rights (Amnesty, 2020).

The Western Cape has the second-largest share of all crime in South Africa (22%) after Gauteng (29%) (Chetty et al., 2016), but the Western Cape has by far the highest rate of crimes per person in the country with 81 reported crimes per 1000 people which is twice the national average. Crime is concentrated in the poorer regions of the Western Cape. Violent crime like murder and violent assault has been on the increase, which impacts on the safety of the community at large and also on school-goers and children. 46% in Chetty et al.'s (2016) study, feared crime in their own home or community and 21% felt unsafe walking in their neighbourhood. The dangers children, in particular, experience when going to and returning from school, affect their ability to learn and this undermines their right to education (Chetty et al. 2016). Two in seven learners in the Western Cape experience violence encompassing assault, sexual assault, robbery and verbal abuse (Chetty, 2016). Violence in the Western Cape has been attributed by the Centre of Justice and Crime Prevention (CJCP) to an increase in gang and drug-related crime in the province. School safety has been therefore called on as an item of priority for many entities working in the Western Cape education system.

3.5. Education partnership models in South Africa

According to the South African respondents and interviewees, there are four main partnership sectors and sources of funding they can access, mainly: (1) government, (2) private sector, (3) iNGOs and international donor organisations and (4) foundations and trusts. Partnerships have been forged to introduce new ideas and solutions, technologies and services for the advancement of South African education.

Achieving the vision of the South African entities active in the education sector is dependent on the successful partnerships they have. Partners have sponsored and funded activities in education, for instance, school infrastructure, provision of placements for students and to create better linkages between business and education. Curated content and company/project-specific training helps to align industry support to skills development action plans. Expertise and resources have been bridged together to help build better schools, education and training, and thriving communities.

Partners also co-create the context for scaling of the work in education, not only in South Africa but also in other African states. External funding also enables reach-out to remote locations that are in desperate need.

Our local partners have helped us to develop a realistic programme that complies with criteria such as affordability, desirability to the end-users, replicability and sustainability.'

RESPONDENT FROM SOUTH AFRICA

Ensuring employability is high on the South African agenda. For the respondents and interviewees, partnerships are important to achieve employability of graduates and placement of skilled workers into the industry. This has been achieved for instance by creating a successful pipeline of talent into entry-level jobs through learnerships and internships, as well as through bridging programmes. Coaching and mentorships are also important pathways that have been created through partnerships, as are specialised course offerings.

When forming partnerships, the respondents emphasised the need for a clear vision of their objectives and formulation of a strategy or plan of action, which are then matched with different entities. The critical factor is that partners have an aligned vision.

Partnering locally is critical for localisation and all South African respondents and interviewees expressed that relationships are the most important factor in the success of collaborations. They also underlined the importance of co-creating with partners, versus having people coming into a community and telling them what to do. The right partnerships go a long way to ensuring sustainability.

The role of community in creating sustainable partnerships is emphasised by the respondents and interviewees. An eco-system support approach to school support and improving the circumstances of learners is important and success in this is dependent on being able to work with multiple other education and community development partners.

Experience, knowledge and ability to achieve goals that have been set, were also deemed important. The respondents and interviewees expressed that to be successful in the education sector in South Africa, an in-depth knowledge of the context of South African education and policies is needed. This includes addressing the social justice discourse, covering issues of diversity, conflict in transformation and bridging social and economic divides.

To attain impact, the respondents and interviewees emphasised partnering with academics, policymakers and to get buy-in from South African business and citizens. Recognition from the field and authorities is extremely important in ensuring the required buy-in to get established and to upscale operations and activities. Furthermore, holistically structured, robust programmes that allow for positive contribution are sought for.

The South African respondents and interviewees also reiterate that there should be recognition of the right to be different and to be confident in discomfort, and make a reminder that diversity is not just about gender and race.

Commitment of persons implementing programmes is a highly significant factor for a successful partnership in education. Moreover, their dedication and motivation are also important factors. Organisations must be supportive and encouraging of continuous learning and they must be flexible to achieve resilience to the challenges that may fall their way.

3.6. Private sector engagement in South Africa's education sector

South Africa has deep historical roots in terms of private sector engagement in the education sector, which is linked to the role education plays in South Africa's social and political transformation, and in providing the critical skills needed for the country's economic growth (Besharati, 2015). Numerous public-private partnerships have been established over the years to address the weak schooling system and corporations and their affiliated foundations have invested significantly into the sector in support of the public system and through parallel activities. Currently, funding from the domestic private sector to education has reached levels beyond funding from traditional donors (Besharati, 2015).

Back in 1976, in response to tragic urban riots in protest against policies of the apartheid government to force Afrikaans as the medium of instruction in public schools, 180 business leaders gathered to address the plight of the disenfranchised black population, leading to the establishment of the Urban Foundation (UF) which pooled resources from 80 corporations to provide housing and schooling for poor communities (Besharati, 2015).

In the 1980s, American companies that were some of the biggest foreign investors in the country provided USD 18 million through the non-profit sector to implement social and educational activities, leading to South Africa being one of the biggest examples of corporate social investment (CSI) worldwide (Besharati, 2015).

Besharati (2015) and JET (2020) describe how the Joint Education Trust (JET) was formed in the early 1990s by 14 businesses in partnership with the trade unions: Congress of South African Trade Unions (COSATU), National Council of Trade Unions (NACTU) and South African Democratic Teachers Union (SADTU) and black political organisations, the ANC, the Inkatha Freedom Party (IFP), Azanian People's Organisation (AZAPO) and Pan Africanist Congress (PAC), to address the challenges of restructuring the country's dire education sector and between 1992 and 2015 spent over 1 billion ZAR in educational programmes, policy advice and education research, continuously testing and refining school development models.

The South African Grant- Makers Association (SAGA) and the National Business Initiative (NBI) also channel corporate resources into development, for instance, the Education Quality Improvement Programme (EQUIP) implemented in 500 South African schools, the Learning Partnership established by NBI and Sanlam to encourage the collective impact of the private sector in education, and the Business Trust, which had half of the Cabinet and half of the business leaders of the country on its executive board and which invested 400 million ZAR between 1999 and 2005 to improve hundreds of schools, through its Quality of Learning and Learning for Living as well as, the partnership of Basic Education and Partnerships with Schools aiming to achieve 5 million new jobs by this year, 2020 (Besharati, 2015).

South African companies also engage in educational activities through their corporate social responsibility (CSR) programmes or fund-managing firms like Tshikulu Social Investment (TSI) (Besharati, 2015). Indeed, if one looks at the Times Higher Education (THE) university rankings' industry income pillar in 2020, South African HEIs fare very well in receiving income from industry (Table 3).

Table 3. South African and Finnish universities on the Times Higher Education University Rankings Income Pillar 2020

Times Higher Education university rankings income pillar 2020: South African and Finnish Universities	
96	University of Helsinki
136	University of Cape Town
184	Aalto University
194	University of the Witwatersrand
251-300	Stellenbosch University
251-300	Tampere University
251-300	University of Oulu
351-400	University of Turku
401-500	University of Eastern Finland
401-500	University of KwaZulu-Natal
501-600	Lappeenranta University of Technology
501-600	Jyväskylä University
501-600	North-West University
601-800	Åbo Akademi University
601-800	University of Pretoria
601-800	University of Johannesburg
601-800	University of the Western Cape
801-1000	Tshwane University of Technology
1000+	University of South Africa

Among South African universities, the University of Cape Town is the biggest receiver of industry income, coming in at 136th in the world overall, and making it the top African University. University of the Witwatersrand comes in second at 194th in the world overall. Comparing South African and Finnish HEIs in this regard reveals that HEIs in both countries fare equally well. In Finland, University of Helsinki leads the pack at 96th in the world overall and Aalto University comes in second, at 184th in the world overall. Stellenbosch University, Tampere University, Oulu University and the University of Turku fit in at 251-300 on the world overall, whereas the University of KwaZulu-Natal is twinned with the University of Eastern Finland at 401-500, as are Jyväskylä University and North-West University at 501-600 in the world overall.

Returning to South Africa, Besharati (2015) notes that **70% of private-sector funding for education development is channelled through NGOs, not-for-profit organisations (NPOs), charities and affiliated schools**, whereas they are also increasingly directing CSI themselves and also integrate these with other company divisions e.g. procurement, marketing and customer service. CSI activities are, Besharati (2015) says, increasingly aligned to companies' core operations for instance logistics, sciences and technology, and explains how for instance Cell C has provided maths revision applications through mobile phone games to learners, and many South African media outlets provide educational support material such as the Study Mate (SABC), Power Your Future (Sowetan) and Read Right Edition (The Sunday Times). Some companies in South Africa also establish trusts and foundations separately from

their business operations and dedicate these to solely manage their social investments (Besharati, 2015). Many major American philanthropic foundations such as Ford, Soros and Gates operate in South Africa but there are also several local foundations such as the Ackerman Family Educational Trust and Donald Gordon Foundation.

Ferreira and Featherston (2017) note that 21% of African children and young people are being educated in the private sector and numbers are likely to rise to 25% by 2021, meaning that investment needs in private sector education amount to USD16-18 million by 2023. Besharati (2015) points out that concerns have been raised about the sustainability of parallel private provision over the need to invest in strengthening the public system. This is corroborated by Ferreira and Featherston (2017) who point out that engaging with the private sector brings limitations and reinforces inequities in the provision since it is out of reach for most Africans. Furthermore, private provision may be of variable quality and competes with government, which can be a cause of tension (Ferreira and Featherston, 2017).

Whereas private institutions may remain the first choice of the middle-class, Besharati (2015) notes that in South Africa, corporate programmes such as LEAP, Alan Gray Orbis and Metropolitan tend to target persons from disadvantaged backgrounds and place them in high-end institutions and support them. Furthermore, support is offered through supplementary enrichment programmes especially in mathematics, science and other specialized subjects.

There has also been greater private investment in both pre-service and in-service teacher training, says Besharati (2015) and adds that few companies venture into systemic school improvement in curriculum development and school governance and rather support the work of well-established NPOs like READ, Class of Act and Sci-Bono to undertake these issues.

Companies such as General Motors, Zennex and First Rand have in turn explored alternative school development models, governance and accountability systems as well as teacher development and learner support and play an active role in influence national and provincial education policy (Besharati, 2015).

Others like the Shuttleworth Foundation, have developed large series of textbooks that have been distributed to schools around the country, while others support infrastructure and facilities development, for instance, the McCarthy Group's 'Rally to Read' campaign which supplies poor schools in remote parts of South Africa with reading books for their libraries; and Sasol, Caltex and BP which have been providing science laboratories to schools (Besharati, 2015). In another example, Siyavula is a mathematics and science open textbook provider, who has partnered with the government to develop and distribute curriculum-aligned material sponsored by corporates, who in some cases also support the cost of distribution (Ferreira and Featherston, 2017).

An enabling environment is critical for success in these sorts of activities. Ferreira and Featherston (2017) emphasize that governments can be a steward, enabler and partner. In South Africa, the government has lent an enabling arm to private provision, through

legislative and policy frameworks, for instance, Besharati (2015) mentions the Taxation Laws Amendment Act, which provides tax incentives for corporate donations to public benefit organisations (PBOs) in education, and the **Broad-Based Black Economic Empowerment (BBBEE) Act** (2003) which is aimed at transformation and inclusion of previously disadvantaged groups, meaning that companies score extra points for spending on training and community development during awarding of profitable government contracts through the **Preferential Procurement Policy Framework Act**.

In principle, the BBBEE Act addresses the inequalities suffered by black South African citizens as a result of the apartheid regime by supporting the increased participation of black South African citizens in the management, ownership and control of South Africa's economy. This is implemented by measuring the economic involvement of black South African citizens over a range of specified elements that are monitored through Generic Codes of Good Practices. The BBBEE Act also makes provision for the issuance of sector-specific codes of good practice. In practice, if an entity wants to do business with the government or a parastatal, they would have to comply with the generic or sector-specific codes to ensure licenses, quotas, tenders or other permissions are issued or awarded. Procurement policies may require that a supplier has a certain score or level.

To show compliance, verification agencies conduct partial or full audits of activity, spending and contributions on five elements of empowerment: **ownership, management control, skills development, enterprise and supplier development, socio-economic development**.

An entity has to prove that ownership is in the hands of black South African citizens; there are black South African citizens in the top, senior middle and junior management positions; it has sourced goods and/or services from BBBEE compliant suppliers; and it has made contributions towards its employees, the employees' families and the surrounding communities. **Entities aiming at doing business in South Africa, therefore need to evaluate the relevance of the BBBEE Act for their business and ensure compliance from the start**.

The regulatory landscape regarding for-profit operators in education in sub-Saharan Africa has been studied by Ferreira and Featherston (2017). South Africa has one of the most open landscapes in Africa (Table 4) and the not-for-profit sector is also quite permissive (Table 5).

Table 4. Regulatory framework: for-profit education organisations in South Africa (modified from Ferreira and Featherston, 2017)

	Pre-primary	K-12	Higher Education	TVET
Duration	allowed / approvals required	allowed / approvals required	allowed / approvals required	allowed, no approvals required / simple process
Enrolment Growth	allowed, no approvals required / simple process	allowed, no approvals required / simple process	allowed, no approvals required / simple process	allowed, no approvals required / simple process
Non-national Curriculum	allowed, no approvals required / simple process	allowed, no approvals required / simple process	allowed, no approvals required / simple process	allowed, no approvals required / simple process
For-profit operations	allowed, no approvals required / simple process	allowed, no approvals required / simple process	allowed, no approvals required / simple process	allowed, no approvals required / simple process
Foreign ownership	allowed, no approvals required / simple process	allowed, no approvals required / simple process	allowed, no approvals required / simple process	allowed, no approvals required / simple process

Table 5. Regulatory framework: not-for-profit education organisations in South Africa (modified from Ferreira and Featherston, 2017)

Regulation	Characterization
Ease of setting up	Straightforward and rapid
Exemption from income taxes	Straightforward but lengthy
Permissibility of foreign aid	In place
Special legislation for social enterprise	Not in place
Availability of government grants/subsidies	In place

3.7. Extra note on international partnerships

In an international context, South African entities in the education sector also partner with international donor organisations. In addition, South Africa has multilateral state agreements that also contribute to the development of education in South Africa. The OECD (2019) estimates that in 2015, South Africa channelled up to USD 80.4 million through multilateral organisations and also uses several development finance instruments such as loans and equity investments by the Development Bank of South Africa and the Industrial Development Corporation.

South African collaboration with the World Bank and African Development Bank does not currently cover education projects in the country, although the banks monitor developments in South African education policy. Development aid to South Africa from many western countries has been discontinued, since South Africa is now a middle-income country and an increasingly important development actor, in Africa and internationally.

In this section, a few examples of multilateral partnerships in education are briefly described. These examples are not exhaustive and are only meant to act as a short benchmark, showing that South Africa is involved in multilateral collaboration globally. While South Africa also does fund collaboration, there is always more collaboration where the partners also offer funding towards mutually agreed upon activities. Partnering with local foundations, trusts and private enterprises also allows for collaboration that is localised and aligned to the needs in South Africa.

South Africa and the EU

South Africa is one of the EU's strategic partners. It is the EU's largest trading partner in Africa and the EU is South Africa's most important development partner providing for 70% of all external assistance funds (EC, 2018). South Africa benefits from 241 million € EU development funding under the Development Cooperation Instrument (DCI) and focus is on three priority sectors: (i) employment creation (ii) education, training and innovation and (iii) investing in building a capable and developmental state. Specific objectives on education, training and development include (MIP South Africa 2014-2020):

- Teaching and learning at pre-school and primary school level improved
- Access to and quality of TVET and community colleges improved
- HEI capacity and graduate, post-graduate and research output improved
- Capacity for teacher education within HEIs strengthened
- The functioning of a coherent and coordinated National System of Innovation improved

Donor coordination for these actions takes place through the EU Development Counsellor's meetings and in meetings of the '**Education and Training Development Partners Forum'** chaired by the EU Delegation. The EU's coordination with the South African government takes place under the Education and Training Dialogue (MIP South Africa 2014-2020).

EU-South Africa cooperation in science and technology is based on the 'Agreement on Scientific and Technological Cooperation' and the 'Trade, Development and Cooperation Agreement with South Africa'. Furthermore, South Africa receives EU support through the Horizon 2020 programme, and up to October 2018, this support has amounted to 26.9 million euros, through 119 grants. Indeed, South Africa ranks 2nd, after the USA, of non-EU partners benefiting from EU funding (EC, 2018).

South Africa and China

China interacts differently with Africa compared to western countries. China, along with Japan, India and South Korea, has developed a Pan-African mechanism 'The Forum of China-Africa Cooperation' (FOCAC) to address Africa as a whole, rather than define certain long-term partners like Finland does, for example. China also pays considerable attention to short-term training and capacity building in the host country and offers tied aid, with thousands of scholarships offered every year (5000-6000) to study in Chinese institutions, not to mention the implementation of 100 joint research and demonstration projects, provision of research placements for post-doctoral African researchers in China, and the development of Confucius Institutes in African universities, training of doctors and nurses (King, 2014).

Furthermore, China promotes the role of its experts, sent oversees as technical assistance (King, 2014). In South Africa, China has focused on education in energy, computer science and information security, BRICS research ecology and climate change, water resources and pollution control, and economics.

Whereas China has invested in teaching Chinese in South African universities, she is also introducing Tswana, Xhosa and Zulu as elective courses in Chinese institutions (Lin, 2019). The Chinese government has made concessions for African students travelling to China, which are much easier than for western countries, e.g. the UK (King, 2014).

South Africa and France

France and South Africa also cooperate bilaterally. The French cooperation network in South Africa covers all sectors: culture, science, research, health, academic and linguistic cooperation. The cultural cooperation system is mainly structured around the Cooperation and Cultural Action Service (SCAC) at the Embassy (Pretoria), the Institut Français in South Africa (IFAS) and the 14 Alliances Françaises (the main ones located in South Africa's largest cities: Pretoria, Johannesburg, Cape Town, Durban and Port Elizabeth). The French Institute of South Africa (IFAS) also remains a key partner of the main South African festivals in fields including dance, plastic arts, music, books and film.

In the research field, there is a major presence of French public bodies and a French Research Institute Abroad (IFRE). Several solidarity funds (Solidarity Fund for innovative projects for civil society and Priority Solidarity Fund) have been allocated to innovative research projects in various areas: human rights, local governance, agriculture, etc.

The network also includes two French lycées with almost 1500 students in the cities of Johannesburg, Pretoria and Cape Town. (France Diplomatie, 2019).

South Africa and Germany

Germany also supports education in Africa through centres of excellence at African universities through the German Academic Exchange Service (DAAD) where the focus is on microfinance, logistics and law; as well as provision of targeted grants to allow selected students from Africa to take their qualifications further, in Africa (German Africa Strategy, 2018), e.g. the DAAD has an In-Region Scholarship Programme in South Africa, for post-graduate studies in South Africa, and an In-Region Scholarship Programme in southern Africa covering post-graduate studies in Malawi, Mauritius and Namibia. (DAAD, 2019).

Scholarships are targeted at nationals of sub-Saharan Africa and are tied to specific programmes in specific higher education institutions in the countries mentioned. German research collaboration in Africa has been traditionally focused on Egypt and South Africa, and for example, a notable German-South Africa collaboration is the African Institute of Mathematical Sciences (AIMS) which has been operating since 2003, training top African post-graduates in mathematical, statistical and IT skills (German Africa Strategy, 2018).

Worth mentioning is Germany's support of TVET and skills development in South Africa, which includes skills centres for lecturers to deliver better training, partnering with TVET colleges and the private sector to align education with the demand of the job market and promoting digital skills in post-school education (German Missions in South Africa, Lesotho and Eswatini, 2020).

South Africa and the Netherlands

South Africa and the Netherlands have a long history of collaboration in education and research. The two countries have established the South Africa-Netherlands Education and Research Dialogue as an initiative of the National Research Foundation of South Africa (NRF), the Dutch Research Council (NWO), and the Dutch Organisation for Internationalisation in Education (NUFFIC). The focus of education collaboration is on societal needs and inclusion of partners from government, business and society. NUFFIC also has an office in South Africa: The Netherlands Education Support Office (Nuffic Neso South Africa). NRF and NWO have also agreed to focus on the nexus of water, energy and food (NUFFIC, 2019).

The education and research collaboration is supported by the NRF-NUFFIC Doctoral Scholarship Programme targeted at South African citizens and permanent residents to pursue doctoral studies in the areas of science, engineering, technology, social sciences and humanities through two pathways: (i) full-time doctoral studies in a Dutch HEI or (ii) full-time doctoral studies jointly developed by a Dutch HEI and partner South African HEI where the student spends time between the institutions. Scholarships amount to 15000€/year for subsistence and 1310-2410€/year for mobility for a 4-year doctoral programme (NUFFIC, 2019).

The Netherlands also offers the Orange Knowledge Programme Scholarships for Master's programmes as well as for short courses, and the focus for South Africa is on mid-career professionals in the water, food and nutrition sectors. Nuffic Neso South Africa also hosts the Holland Alumni Association South Africa (NUFFIC, 2019).

The Netherlands has also made development aid contributions to the Department of Education, to the University of Pretoria, University of Cape Town, Human Sciences Research Council, South Africa Institute for Distance Education, and several trusts, for example, the Media in Education Trust, JET Education Services, etc.

South Africa and Norway

South Africa and Norway also have a long history of collaboration. Collaboration focused till 2014 on (i) good governance, democracy and human rights, (ii) sustainable development, environment and climate (iii) management of natural resources and (iv) peace and reconciliation (Norad, 2018).

Education, however, featured in this collaboration e.g. Norway has supported the Democratic Governance and Rights Unit at Cape Town University and the Centre for Human Rights at Pretoria University and funded training courses in human rights for judges and lawyers, capacity building in the field of macroeconomics and financial management at the Macroeconomic and Financial Management Institute of Eastern and Southern Africa.

Norway, like Finland and Sweden, has discontinued much of its development aid to South Africa. Higher education and research collaboration feature in Norway's development policy through the Norwegian Programme for Capacity Development in Higher Education and Research for Development (NORHED). In 2018, NORHED funded one project where South Africa was a partner, among 2 other southern African country partners (Norad, 2018).

South Africa and Sweden

Development cooperation activities between South Africa and Sweden came to an end in 2013. However, South Africa does benefit from the support given by Sweden to SADC. In addition, the Swedish Foundation for International Cooperation in Research and Higher Education (STINT) is funding research collaboration between Sweden and South Africa from 2017-2020, through the South Africa Sweden University Forum (SASUF), which is a collaboration of 37 universities in Sweden and South Africa.

SASUF funds researcher mobility and organisational costs for seminars/conferences with an international focus (SASUF, 2020). Furthermore, Sweden also offers South African nationals, scholarships for studies at Swedish universities through the Swedish Institute Scholarships for South Africa Programme. Swedish students are eligible for a grant, from the Swedish International Development Agency (SIDA), to gather thesis research data in South Africa.

The Linnaues-Palme Programme also offers mobility grants, whereas the Swedish Research Council for Health, Working Life and Welfare and the South African Medical Research Council support two-to-three-year projects in the areas of inequality of health, health systems and health systems policies and mental health. STINT also supports the initiation of short-term research projects with researchers outside the EU, and the development of double, multiple or joint degree programmes at the bachelor, master or doctoral level (SASUF, 2020).

The Nordic Africa Institute (NAI), a Swedish public authority and a centre of excellence for knowledge on Africa, is jointly financed by the governments of Sweden, Finland and Iceland (NAI, 2020). NAI contributes to research on Africa, advances Africa studies in the Nordics, contributes to Africa policy agenda in the Nordic countries and contributes to building capacity in the production of knowledge about Africa (NAI, 2020).

South Africa and the USA

South Africa and the USA also have a long collaboration. The USA provides South Africa with support in the education sector through a programme targeting transformation, the School Capacity and Innovation Programme, run by the US Agency for International Development (USAID) that is designed to improve primary grade reading outcomes by building teacher effectiveness and strengthening classroom and school management.

It supports local South African models or interventions that work directly with teachers and school management teams in innovative ways to improve their practice as instructional leaders and managers (USAID, 2019). The ELMA Foundation matches USAID funding on the programme, and another strategic partner is J.P. Morgan.

USAID, the Australian Aid Agency (AusAID) and World Vision are also partnered to establish a multiyear initiative named: All Children Reading seeking to encourage game-changing innovations with the potential to dramatically improve reading skills among primary grade children (USAID, 2019).

4. OPPORTUNITIES AND OUTLOOK

4.1. Training needs, priorities and investments

According to the South African questionnaire respondents and interviewees, there are training needs at all levels of education, from early childhood education to primary, secondary, tertiary education and professional development (Figure 9). The main issue mentioned by almost all the respondents and interviewees is that there is a **gap between qualifications and the world of work.** It is, therefore, deemed that there is a need to better align education to the needs of the work environment and this very much includes non-academic skills like work readiness, managing time and managing finances. Respondents and interviewees mention that the role of schools in teaching these skills seems to have been forgotten and therefore the obligation to teach these skills subsequently falls onto tertiary education and finally, onto the world of work.

The NSC very often does not reflect the ability of a school leaver. One interviewee expressed frustration with '*the focus on matric and certification which really means nothing in the world of work*', and expressed frustration with education policy-makers and the qualifications authorities who take so long to approve and accredit a course or programme that the need for it is gone by the time approval or accreditation is received.

Literacy skills are mentioned by respondents and interviewees as a critical need at all learner levels. **Language literacy (**both reading and writing) is mentioned several times by respondents and interviewees, especially English. **Mathematics and computer literacy** skills are also mentioned at the primary, secondary and tertiary level. While **STEM skills** are almost always mentioned as a training need, at every training level, the respondents and interviewees emphasise that a focus on STEM at the tertiary level does not work, unless the student has a strong foundation in mathematics and science, which many do not. Focusing on these at the basic education level is therefore important. It is also mentioned that it is important to have **practical laboratory exposure** for tertiary science graduates and teaching, tertiary learners, the **essence of research** is likewise seen as a need.

Teacher training and training for school administration are well apparent as training needs, at both pre-service and in-service stages. This not only covers, **subject training** but also the capacity of teachers to **utilise the existing infrastructure for teaching**.

> *The biggest challenge is to let learners take ownership of their own learning, to have creativity and to think critically, problem-solving skills are important*
>
> SOUTH AFRICAN RESPONDENT

Underutilisation of existing infrastructure is also apparent when untrained teachers cannot make use of the facilities. Respondents and interviewees stress that focus on **digital literacy is a challenge** in an environment where the **unavailability of electricity** is an almost everyday challenge.

Leadership development especially focusing on school functionality and administrative training for teachers, principles and administrative support staff is deemed as essential. **Counselling skills** are also mentioned as of great importance. The **role of parents, family and community** are highlighted in the results. Several interviewees and respondents mention that parents need to learn to face traumatic events of the past so that they can help their children. Furthermore, many people, learners and students still suffer from problems that manifest themselves in trauma: violence at home or in the community, lack of safety, alcoholism etc. There is thus a great need for counselling across the board.

The respondents and interviewees draw attention to the fact that South African students, however, have **other needs** that should be addressed, for instance, **accommodation, food, transport** etc. If these needs are not addressed, they cannot focus on academic issues. It is also important to consider the options for **reskilling** people into new jobs. Many leave schools and find they are unaligned to the world of work and need to learn new skills to do something new.

When asked about the training needs of the organisations that they represented, the respondents and interviewees mentioned the following: **(1) curriculum development and transitioning learning into digital spaces, (2) research, (3) human resources training** (organisational change management, team building, financial management, service management, leadership training).

In terms of specific industry skills, the respondents and interviewees mentioned: ICT skills, insurance knowledge and skills, meteorology skills, data analysis skills, future skills and engineering skills.

When asked to prioritise the training needs in South African education and training, the respondents and interviewees focused on **literacy, bridging institutions of learning with the world of work, teacher training, leadership skills development and education in marginalised communities**. Especially the latter came up regardless of the representative organisation of the respondent/interviewee being public or private, government or non-governmental, for-profit or not-for-profit. South Africa sees a priority in providing **access to education to those who cannot get it** and there is a strong spirit of **education for all**, no matter the form.

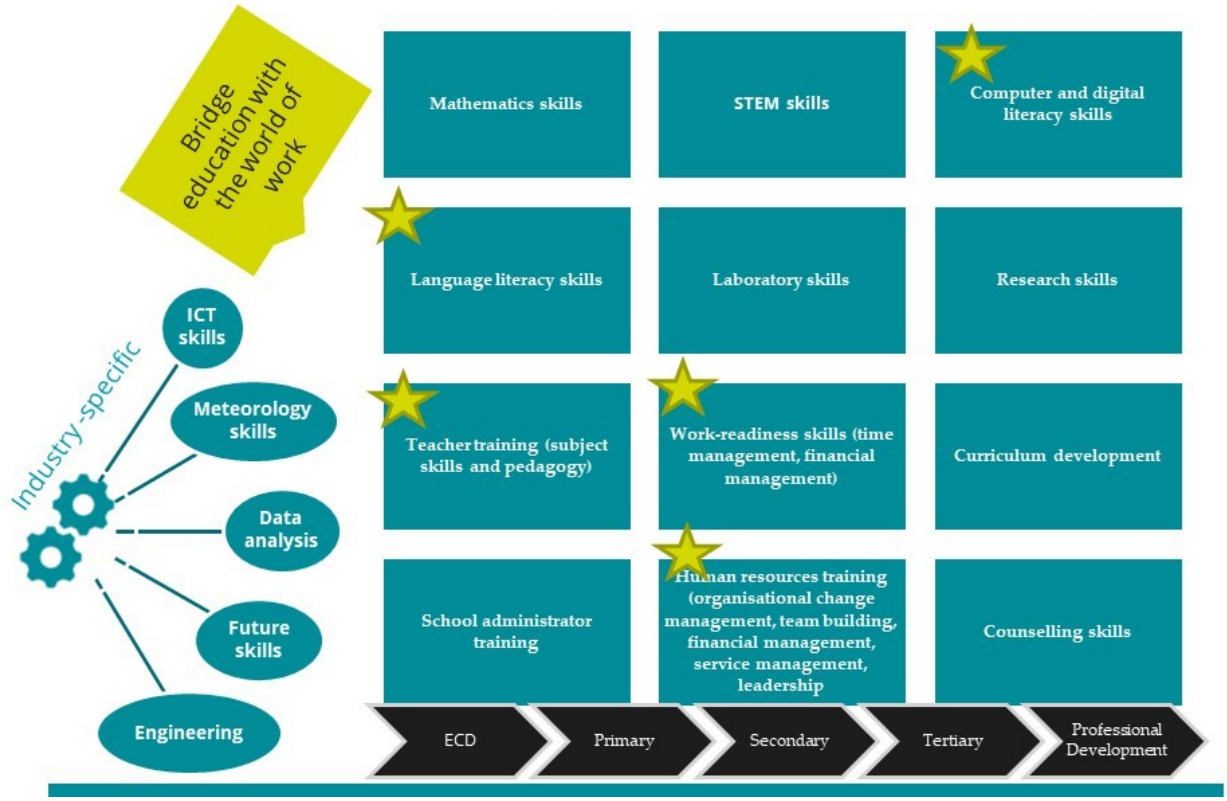


Figure 9. Training needs and priorities in South Africa identified by the South African respondents and interviewees

Investment priorities in education in South Africa have been identified by the South African respondents and interviewees, thus:

- advocacy in terms of addressing government and stakeholder strategy priorities to address the issues of poverty, rural development and equity
- capacity building in research and academia
- curriculum development
- building and expanding networks and partnerships
- fundraising activities
- upscaling existing activities for example through increased female participation, expansion of schools
- developing solutions to meet the identified training and education needs and industry-specific skills.

4.2. Education collaboration between South Africa and Finland

4.2.1. Looking back in time

Finland and South Africa have collaborated on many fronts since diplomatic relations were forged in 1949. Finnish-South Africa collaboration began with Finnish paper companies that were looking for markets in Africa in the 1930s while importing fruit from the country (Soiri et al., 1999). Whereas trade relations began to expand in the 1960s and whereas paper, pulp, machinery and other technology were exported from Finland to South Africa, fruit formed the majority of imports to Finland from South Africa (Soiri et al., 1999). The situation surrounding trade between Finland and South Africa (and the rest of Africa), has not evolved much since those early times to the present day (Kagiri and Avento, 2018).

Soiri et al. (1999) describe how the Finnish government, Lutheran Church and Finnish NGOs were, through the 1960s to the 1990s, instrumental in supporting and strengthening African liberation movements including those in South Africa. After Finland joined the United Nations in 1955, the question of apartheid could no longer be ignored, but it took her 4 years before she spoke out against apartheid (Soiri et al., 1999). Soiri et al. (1999) in their account, also explain how the late Vice-President Nickey Iyambo, of Namibia, was the first representative of the South African national liberation movements to reside in Finland as a scholarship student in 1964. He was instrumental in laying the ground for Finnish attitudes towards liberation movements in southern Africa and the South West Africa People's Organisation (SWAPO).

In principle, Finland's foreign policy towards South Africa did not change to any great extent in the 1970s and while Finland supported the ANC, it was mostly in the form of in-kind medical and transport equipment to camps in Tanzania and Angola and it only expanded, at the beginning of the 1980s, when education collaboration began with one student from South Africa being supported to study at Tampere University (Soiri et al., 1999). In the mid-1980s, Finland finally joined in boycotting trade with South Africa and upon the release of Nelson Mandela and the unbanning of the ANC in the mid-1990s, Finland began to widen its contacts with democratic non-racial forces in South Africa.

Fast-forwarding to the present, South Africa has become a well sought-after partner country for research and innovation-related activities. In 2016, the **Department of Science and Technology of South Africa and the Ministry of Economic Affairs and Employment of Finland** signed a memorandum of understanding (MOU) on science, technology and innovation cooperation (STI). Several meetings have been held between the two entities and some delegation visits have taken place and some projects funded by the Academy of Finland, under the remit of this MOU. The Academy of Finland is a research funding organisation, which works under the Ministry of Education and Culture. The Academy of Finland finances diverse basic research, paving the way for innovative applied research and administers EU research programmes and international research organisations in cooperation with Business Finland. In support of the intergovernmental MOU mentioned above, the

Academy of Finland and the National Research Foundation of South Africa have an MOU, signed in 2011, to enhance scientific relations between Finland and South Africa and have since had two separate calls for funding, funding a total of 9 projects (Children and the Youth, 5 projects, 2.2. million€ in 2013; and Mineral Resources, 4 projects 1.2 million€ in 2015).

While the validity of the intergovernmental MOU came to an end in 2019, consultative discussions were held in early 2019 by the two governments to exchange information on their priorities. A new agreement has not been signed but discussions regarding continuing support for research were discussed.

It may be useful to involve the Ministry of Education and Culture of Finland in a more focal role in the future, since the Academy of Finland is under its remit, and most collaboration between Finland and South Africa has revolved around education and research as is described further in this section.

The Academy of Finland also funds research in South Africa through development research, which is supported through ODA from the Ministry for Foreign Affairs of Finland (MFA), 20 projects in the years 2011-2018. Furthermore, the Academy of Finland also supports funding of research in South Africa together with other multilateral funding partners, for instance, the **ERAfrica** and **Leap-Agri** projects. Finally, the Academy of Finland has also supported researcher mobility between the two countries.

In Finland, most collaboration with South Africa has been enacted by HEIs and focuses on capacity building and research. Between 2009 and 2015, no less than 40 projects were implemented involving Finnish and South African partners under the **North-South-South** network programme (NSS), which was administered by the former Center for International Mobility (CIMO), now assimilated into EDUFI and funded by the MFA. There have been several projects funded under the **Higher Education Institutes' Institutional Cooperation Instrument (HEI ICI**) also formerly administered by CIMO and now administered by EDUFI and funded by the MFA. While South Africa is not mentioned as a partner country for education in Reinikka et al. (2018), HEI ICI projects are all related to capacity building and thus education and training are all integral to the projects, regardless of sector focus.

Research projects have also been funded, through the **Southern Africa Nordic Centre for Development (SANORD).** SANORD supports multilateral academic collaboration, especially focused on the sustainable development goals (SDGs) and provides seed-funding for collaborative research. SANORD also organizes an annual conference, alternating between the North and South, where Finnish and South African researchers have been able to present research results to their peers in other Nordic and Southern African countries as well as network on implementation of various research projects.

As a knowledge-broker and intermediary, the **University Partnership for International Development** (**UniPID)** has been instrumental in Finland and South Africa collaboration, working on a policy and advocacy level, informing universities about events and opportunities for collaboration and facilitating that collaboration as well. UniPID is a critical voice

to education and science policy and amplifies the voice of the Global South in Finland. UniPID also supports doctoral students doing development research through its DocNET network. UniPID also coordinates projects with South African partners and coordinates the "**Developing Finnish Science, Technology and Innovation Cooperation between Europe, Africa, Asia and the Latin American and Caribbean (LAC) Region**" (**FinCEAL**) initiative funded by the Ministry of Education and Culture of Finland.

FinCEAL has supported research between Finland and Africa by funding workshops, providing travel grants, provision of information, establishing an InfoBank to enhance the connectivity of researchers in different regions etc. FinCEAL's InfoBank has at least 10 projects with Finnish-South African collaboration listed. Researchers add their information into FinCEAL's infobank directly and thus this list may not be exhaustive.

FinCEAL has also funded several research and event mobilities between South Africa and Finland, 46 in total. FinCEAL (2018) reports that most research mobility from Finland to Africa was specifically to South Africa. FinCEAL also organized a side-event at the South African Innovation Summit in 2016, where a delegation of 8 researchers from Finland showcased their innovations to a South African audience. Several collaborations were initiated as an outcome of the event.

In addition, Finland has implemented **Horizon 2020** projects and a project with South African partners. Cooperation in STI is also supported by the MFA through different multilateral programmes, for instance, the **Southern Africa Network for Biosciences** (SANBio) **BioFiSA I and II** (SANBio, 2019) and the **Southern Africa Innovation Support Programme, SAIS I and II** (SAIS, 2020).

SANBio is a bioscience research and development innovation network, tackling health and nutrition issues in agriculture and environment in southern Africa. SANBio has strengthened the formation of regional research networks and in 2013-2018 its research, development and innovation portfolio was worth 40 million dollars. Support from the MFA to SANBio was channelled through the BioFISA programme in 2009-2012 (3 million €) and 2015-2019 (6 million €) and the main partners were the Department of Science and Technology of South Africa (now Department of Science, Technology and Innovation) and the New Economic Partnership for Africa's Development (NEPAD). BioFISA has supported the commercialization of innovations in health and nutrition.

BioFISA and FinCEAL have collaborated on workshops connecting Finnish and South African researchers. In addition, BioFISA has also funded collaborations between Finnish and South African institutions, for instance, PT Consulting, the Tshwane University of Technology and the University of Eastern Finland collaborated on delivery of a food product development workshop focused on indigenous foods and targeted at the SADC region, resulting in the commercialization of food product innovations co-created during the workshop.

A list of these projects implemented between Finland and South Africa, funded by various entities, is attached as Appendix 1. We have attempted to collate extensive information about projects that have transpired between South Africa and Finland but ask the reader

to recognize that this information is by no means exhaustive since not all entities report or record their collaboration to different member organisations or authorities. Finnish and South African HEIs and research institutions have, between 2014-2018, co-authored over 1800 journal articles, with the most being co-authored with Cape Town University, the National Research Foundation, University of KwaZulu-Natal and University of the Witwatersrand (Appendix 2).

Between 2015 and 2019, a total of 21 Finnish organisations have received funding for operations in South Africa from the **BEAM with Impact programme**. Of these, only 6 have been HEIs while the rest are companies, reflecting the change in the BEAM programme in 2015 where funding for research institutions was discontinued and was directed primarily to business organisations. In 2015, 9 organisations received funding from BEAM for South Africa operations, and out of these only 2 were companies and 1 was a foundation, with the rest being HEIs. In 2016, 3 companies were granted project funding, whereas in 2017 the number of funded projects amounted to 7. In 2018, no companies were granted funding for projects in South Africa, whereas, in 2019, 1 company was granted funding (Palmberg and Avento, personal communication 10.01.2019).

Mobility of students, staff and teachers between Finnish and South African HEIs has been funded through the Erasmus Global Mobility programme as well as through different bilateral agreements between institutions. While there has been a considerable amount of mobility between South Africa and Finland, due to the projects mentioned above, short-term credit student mobility between South Africa and Finland has some curiosities. Student mobility from Finland to South Africa has consistently decreased, except for 2010 where there was a 63% increase in Finnish student mobility to South Africa (Table 6).

The increase was due to a project implemented by Metropolia University of Applied Sciences, which was borne out of an informal discussion of the EU Commission's working group: "Strengthening e-Skills for Innovation in Europe". As a result of this discussion, Metropolia University of Applied Sciences collaborated with enterprises in South Africa on 6 mini-projects that were implemented by 30 Finnish students and the South African companies. The projects included: gamification and e-learning, establishing of an IT business incubator, business planning for an e-Health living lab, ICT for health solutions, market segmentation of mobile services and cultural exchange and localization (Insinööri, 2010).

Since 2010 the decrease in mobility has been significant, with only 24 Finnish students visiting South African institutions compared to 42 in 2008. The decreasing trend is also apparent in South African student mobility to Finland. In 2018, only 6 students from South Africa visited Finnish institutions, compared to 20 in 2008. Student mobility from South Africa to Finland is quite variable between 2008 and 2010, ranging from 6-20 students/year. It is interesting to note South African mobilities to Finland increases and decreases every other year, except in 2014-2015 and 2017-2018. The decreases in mobility are in general, most likely, due to the termination of the NSS programme in 2014.

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Student Mobility											
FIN to S/A	42	28	77	47	30	28	30	32	31	15	24
S/A to FIN	20	10	16	13	20	13	17	26	15	8	6

Table 6. Short-term student credit mobility between South Africa and Finland

source: Finnish National Agency of Education

The number of South African degree students enrolled in Finnish institutions is very low, in total 105 student between 2014-2018 (Table 7). On average, between 2014-2018, the total number has been 19, nationally (EDUFI, 2019), This signifies that per institution in Finland, the number of South African students is really very low. In comparison, the total number of Nigerian and Ghanaian students for the same period 2014-2018 amount to the thousands, with 2770 Nigerian students and 1640 Ghanaian students (EDUFI, 2019).

Year	2014	2015	2016	2017	2018
No. of South African Students enrolled in Finnish institutions	19	19	17	27	23

Table 7. South African degree student enrolment in Finnish higher education

Source: Finnish National Agency of Education

4.2.2. Exploring the present

The responses from the questionnaire targeting Finnish organisations corroborates information in the previous section. Existing collaboration between Finnish and South African entities, as described by Finnish respondents is very much centred around research collaboration (Figure 10) involving active field-work, joint supervision of doctoral scholars, joint publications and events around research collaboration such as symposia, conferences, book launches and so forth.

Finnish respondents also mentioned student and staff mobility activities. Teaching collaboration was also mentioned where universities have collaborated on joint study programmes and training module delivery. These are mainly funded via different funding schemes in Finland or the EU. Also, one institution has delivered commissioned training. Other than these, several short study visits have been realized and there have been contacts between South African and Finnish entities, and an offer for services has been submitted but no further concrete commissioned training was reported. Furthermore, three Finnish respondents also mentioned collaboration on innovation and product development in the gaming and food industries, planning for the commercialisation of products, has taken place. On the NGO/CSO level, grass-roots collaboration has been realised by training informal sector small-scale entrepreneurs.

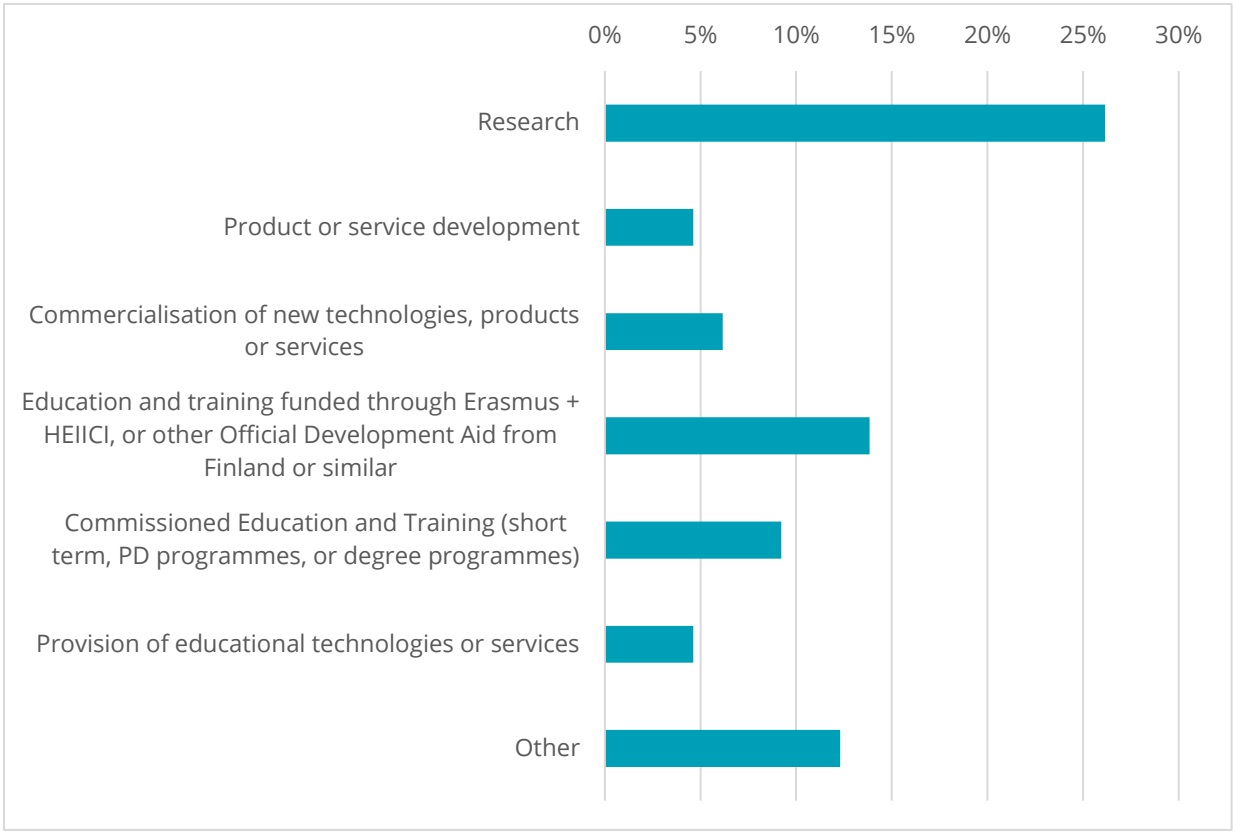


Figure 10. Type of collaboration between Finnish and South African organisations over the past 5 years till present

Transnational education collaboration has taken place between South Africa and Finland mostly based on visiting scholars for varying amounts of times from between one week to one-to-two-year missions. These have mostly been from Finland to South Africa, through different research projects which have combined teaching into the activities. In 2010, the University of Eastern Finland explored the establishment of distance campuses in South Africa and Mozambique, but these were not implemented due to the lack of a finance, human resource and subject-related analysis; and the decision to strengthen the educational and research operations of the university in its home campuses and cities. The university had just been founded as a merger of Joensuu and Kuopio universities and there was a need to build and strengthen operations on the domestic front. The University of Eastern Finland has no current plans to establish a distance campus but instead is further developing its international training programmes and offerings in Finland and developing commissioned international education in cooperation with the company Finland University, which they co-own with the University of Tampere, the University of Turku and Åbo Akademi University.

Commissioned education activities between Finland and South Africa have not been widely reported. There have been two ministry-led export promotion delegations from Finland to South Africa, one in 2017 and the other in 2018. Education providers exploring commissioned education have been part of these delegations. Furthermore, education providers may also have explored opportunities for commissioned education separately, as well with the support of Business Finland and the Embassy of Finland in Pretoria. For example, the University of Eastern Finland, University of Tampere, University of Turku and Åbo Akademi representing their co-owned company for commissioned education, Finland University, have visited South Africa on separate occasions.

Haaga-Helia University of Applied Sciences has successfully implemented a commissioned education programme with the Tshwane University of Technology, focused on vocational teacher training, training of managers and trainer to trainer programmes and is continuing their collaboration. Helsinki University has also collaborated with the University of Johannesburg on the development of a teaching practice school. The two universities are also collaborating on research in teacher education. Some private sector entities in Finland have also individually been studying the South African market.

When asked about their familiarity with Finnish educational offerings, only **2/21 of the South African respondents were familiar with educational offerings from Finland,** whereas 19/21 were unfamiliar with these.

According to the Finnish respondents, Finnish organisations mostly collaborate with public institutions of higher learning in South Africa (34% of the Finnish responses) (Figure 11). This is in line with the responses showing that most collaboration between Finnish and South African entities is research. There is relatively little collaboration with private HEIs (9% of the responses) as compared to public higher education. Data indicate a reasonable amount of collaboration with NGOs and CSOs (17% of the responses) as well as with

research institutions (14%). Private sector collaboration is also apparent from the responses (15%). Interestingly, the data shows that **at lower levels of education TVET, Primary and Early Childhood Development, Finnish organisations collaborate more with the South African private sector than with the South African public sector**. The proportion of 'other' organisations is quite high. The respondents did not specify what other organisations they collaborate with.

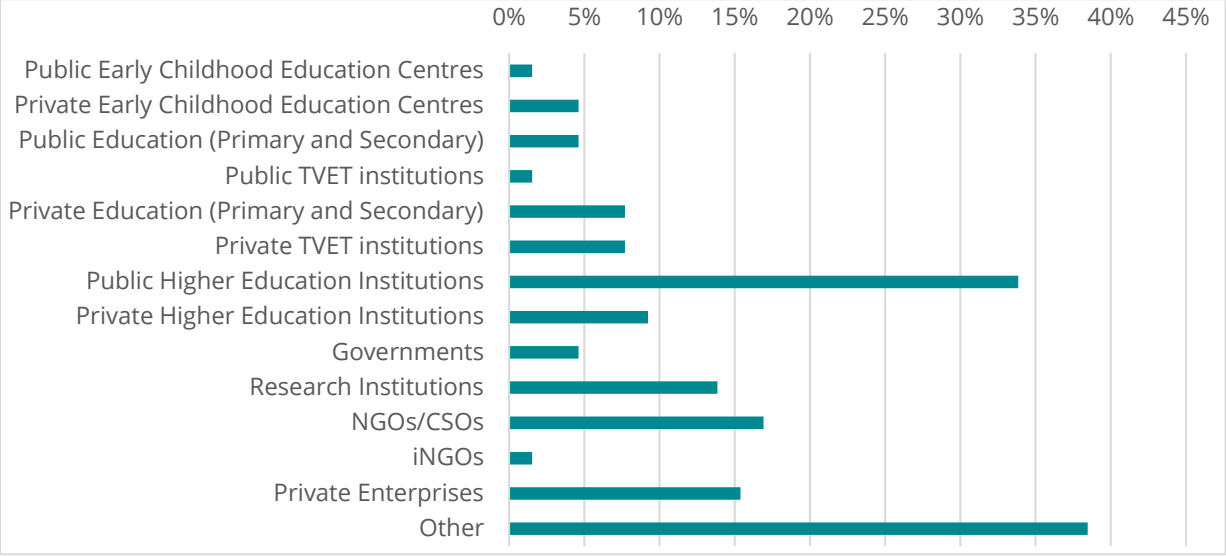


Figure 11. South African organisations that Finnish education organisations collaborate with

Collaboration is, according to the respondents of the questionnaire, generally short-term ranging from one to three week periods to longer periods of one to three years. Only one respondent indicated a long research collaboration ranging up to five years. Collaboration results are generally disseminated through published research articles, talks at conferences and other academic events. Development of competencies of persons participating in the collaboration either from Finland or South Africa is also mentioned, by the respondents, as an impact of Finnish-South African collaboration.

South Africa Strategy or Action Plans in Finnish Organisations

88% (57/65) of the Finnish questionnaire respondents' organisations **do not have a strategy or action plan for their activities in South Africa**, whereas a mere 12% (8/65 respondents) have some sort of strategy in place. Several respondents mention EU policies and Finnish development policy as guiding their work with South African entities, as are the policies that guide different funding instruments. Only the NGO/CSO representatives mentioned that their work is aligned to South African policies. This finding is consistent with results from Kagiri-Kalanzi and Avento (2018), which showed that the **Finnish development policy guides much of the collaboration** between Africa and Finland. This holds true, no matter the type of collaboration involved: business, STI or education. A paradigm shift is needed to enhance collaboration.

While development cooperation is important, South Africa is not on the OECD's Least Developed Country (LDC) list and while Finland has reduced official development assistance to South Africa, it is incoherent that development policy continues to guide the cooperation between the two countries. A call is made to **enhance cooperation through science and innovation as well as education policies and develop funding instruments** to cater for initiatives under these types of collaboration.

One interviewee expressed that partnering with a South African entity came after several visits to different countries and clarifying their vision. A turning factor was the learner-centred approach used by their partner and that their partner could use digital tools. The respondents to the questionnaire underline that their organisations are looking for global markets or international partners and this guides their work. The same trend was visible from the interviews. Several respondents expressed that their products or services are suitable globally and thus suitable for South Africa. Some mention that they are working or starting to work with other countries in Africa and as such, they are looking towards establishing collaboration with South Africa.

Africa comprises 54 countries and they are all very diverse and different. The notion that offerings targeted at countries in the north of Africa are suitable for countries in the east or south is a fallacy. One interviewee expressed that their company aims at establishing operations widely in Africa: '*Why not try to work in each of the 54 African countries*?' Whereas ambition seems to exist, a reality check is needed. This is corroborated by Ferreira and Featherson (2017) who observe that '***a window exists for proven global education providers to enter the African education market, with the proviso that they must contextualise their approach to Africa*.'**

Most of the Finnish interviewees (64%) did not know that legislation and requirements of African organisations, not to mention governments or even local governments may highly differ, even within countries. It was clear from the interviews that very **few organisations have done their due diligence in terms of market studies, legislative and standard requirements or even competitor and financial risk assessment**, which are needed in

any internationalization plan, especially for businesses. Some respondents and interviewees were not aware of the local regulations or if their product or service could be legally offered in South Africa, or of due process needed for being legally on the market.

> *We tend to think that since we are well-known for education that we are awesome and the rest of the world must do business with us, because of that. That is simply not true. We occupy a space that is highly competitive and should invest not just finances, but also time. Therefore, focus is important, and why my company is highly selective of partners and the African countries we operate in. Without focus, it is just hustling everywhere!*
>
> FINNISH RESPONDENT

Three of the interviewees made it clear that in their opinion, a **focus is lacking in terms of Finnish organisations and their international collaboration**, especially in terms of commissioned education. Start-up companies, especially, tend to work in an ad-hoc manner, without much focus on specific markets, which is very risky as they very often are low on human resource base as well as finances. *´South Africa has a very clear idea of what they want, we should listen'*, emphasized one interviewee.

Most Finnish organisations rest on the notion that Finland is recognized for high-quality education. Two of the respondents pointed out that this is not enough and expressed that a lot of hard work must be put into **building relationships** with partners who share a common vision. **Market-readiness** is also important as one interviewee expressed: '*The African go-to countries, for the Finns, seem to be Nigeria, Kenya and South Africa, which are among the toughest and most competitive markets on the continent*'. Another interviewee expressed that it is important to research partners carefully and consider goals before entering the area, making sure you have the right partners for what you need to do: *´Have a clear idea why you are there, the collaboration landscape is very full. There must be a two-sided investment and interest. Be aware of South African policies, history and what is going on. Do your homework*'.

Experiences regarding South African – Finnish Collaboration from the Finnish Perspective

Collaboration between South African and Finnish organisations is deemed positive by several respondents, who mention that their **partners are enthusiastic, interested and motivated** and have lots of good energy. The Finnish respondents also mention that participants in their South African-Finnish projects are eager to learn: '*They really believe that education can change peoples' lives and they are highly motivated to change the learning environment to be more student and learning centred*'. They mention that South Africans have a positive attitude towards Finnish services and products.

They mention that it has been exciting to collaborate with partners with whom one can continually learn something new. An interviewee mentioned that it is important to remember that teachers have different challenges compared to Finland and that their partners **localize the systems and processes that are most useful** for them. Most important is that the South African partners oversee the change process. Furthermore, respondents also highlighted the high level of skill in South African research organisations, and **collaborations are defined as high quality and intellectually driven**. A common language for communication, English, was also deemed as a positive for collaboration.

> *It has been great to work with positive and committed partners*.' and '*it has been positive to find suitable (motivated, critical, reflexive and knowledgeable) partners who are enthusiastic over their work, which builds a good basis for future collaborations*.' and '*South Africa has high level and insight into particularly health inequalities. The setting allows for teaching students about the impact of political and historical forces on the current health and wellbeing status of individuals*.' *There's a real sense that what you are doing here is really making a difference*
>
> RESPONDENTS FROM FINLAND

South Africa is also deemed more developed and organized than many other African countries. Especially where companies offering education technology services and products, are concerned, the environment is considered more conducive and attractive, although data is more expensive than in other African countries. The costs have been dropping, however. Those respondents who have collaborated with South Africa generally mentioned that their experiences had been positive. Several challenges to collaboration between South African and Finnish entities in the education space are cited by Finnish organisations and grouped into three: (i) different work culture (ii) contacts (iii) funding (iv) political issues and (v) infrastructure. These are described further below.

(i) <u>Different work culture</u>

Several respondents mentioned the differences between the work culture of South Africa and Finland as having been a challenge to collaboration.

- **Time**

The conception of time varies between South Africa and Finland. The Finnish community complains that collaboration moves too slowly, and decisions are made too slowly due to bureaucracy in South African organisations. One respondent, for instance, cites '*slow responses'* as a challenge. Meanwhile, some Finnish organisations mention that South African organisations want to move more quickly than the Finnish organisations can.

- **Hierarchy**

The South African work culture is more hierarchical than in Finland and the processes in South Africa are perceived as very bureaucratic by the Finnish community. This can hinder work as seen from one response which describes a challenge in proceeding with teaching

practice of their project participants, which was often stopped in favour of more important issues by Heads of Departments in the partner institution because they (Heads of Departments) were not well aware of the collaboration. The situation changed eventually, and Heads of Departments have even now participated in the training.

- **Language and communication**

The respondents mention language as a barrier. Several Finnish respondents have challenges understanding 'South African' English. South Africa has 11 official languages and a myriad of English accents. Furthermore, the differences in communication culture between Finns and South Africans can cause misinterpretations. Media also has its part to play here, because many preconceptions are borne out of media communications.

For instance, one interviewee mentioned that many South Africans think that all schoolwork in Finland is project-based and that children are not subjected to tests at all in school, due to issues presented in South African media, but that these perceptions are simply not true.

Also, it is important for Finns to recognize the history of apartheid in South Africa, which can in many ways affect communications, relations and perceptions between persons of different race and cultural background. One interviewee mentions: '*Apartheid messed up the cultural pride and identity of people in South Africa. Sensitivities in South Africa are very different to anywhere else*.' The discourse may be one that Finns prefer to avoid, but it is, however, highly important in the South African context and cannot be avoided.

(ii) Contacts

Several respondents mention making contacts with South Africans a challenge, especially as the region is new to them. Some respondents mentioned that they lack contacts to decision-makers in the education space in South Africa. In contacting South African entities, **Business Finland and Finnish export promotion delegations were criticized** by some respondents.

Experience shows that Finnish organisations may meet one after another with the same South African organisations, or that contact-seeking South Africans are introduced to several Finnish organisations at once, which tends to confuse both Finnish and South African entities. One respondent mentions the following: '*It reflects negatively on the Finnish community when for instance one is met by the following situation: 'When the South African potential partners say at the first meeting' we've met Finns now for the 3rd time and nothing is happening, what is it you want from us now?' and these situations can be quite embarrassing. The Finnish organisation may have no idea what or whom the South African partner is referring to. Business Finland interaction with Finnish organisations and South African organisations needs to be rethought.'*

In terms of export promotion delegations, there seems to be unclarity for some of the respondents into why their organisations (education organisations) are included: '*As a representative of a Finnish university, there is little motivation for us to participate in business/export delegations headed by Ministers. The work we do in South Africa is basically research collaboration and it is working well without these types of contacts*'.

'our own institutions in Finland are very slow especially in decision-making, lack of a strong agenda and focus direction concerning Africa leads to ad hoc and non-commitment on part of leadership, it seems there is interest, but then there are no persons to actually do the work, when opportunities present themselves. South African partners want to work very fast.'

RESPONDENT FROM FINLAND

Time and effort put into forming partnerships is important. One interviewee mentions: '*Forming partnerships is not just meeting people and signing MOUs. We should not just talk to random people but find those persons that are important for you*'. Another interviewee mentions: '*We need to be humble and good at listening. It is important to look, learn and listen. And then share something. This opens doors in South Africa*'.

The **approach** of Finnish **commissioned education providers is critiqued** similarly to other Western countries in developing countries, as **arrogant and disrespectful to local entities**, especially due to assumptions that they may have concerning the local systems. There is a call to learn about South Africa and as one interviewee expressed: '*My opinion based on having spent years in the UAE educational system and now, here, in Finland is that foreign entities seem to want to go in and change systems immediately, assuming their way is going to work and the best way to do things. This results in resistance from the local teachers. In order to provide help, the foreign entities need to first learn about what is going on in the classrooms themselves, see exactly what is needed, where the teachers/schools are needing support, show respect for the system they are wanting to enter and help. Firstly, before deciding one is going to implement whatever system the foreign entity wants, they need to see how things are done in South Africa. Respect the culture of teachers there and their way of doing things. This can be done by spending time within the system, it cannot be done in haste. Change and help needs to be accepted by those providing support. There is an arrogance that results in resistance if one does not. Until one has spent time within a system, listening, watching, talking and showing respect, I have learnt it is futile to go in with the best of intentions and assume your way works best.'*

(iii) Funding

Funding for collaboration is cited as a challenge by several respondents. For universities, short-term collaboration can be maintained through mobility funding, but longer-term collaboration is dependent on external funding and its terms.

There also seems to be a disconnect in terms of expectations when it comes to funding. For instance, one respondent mentions that while their South African partner was willing to collaborate and put in the funding, the Finnish organisation was not willing to collaborate on grounds of the funding being insufficient. The general perception of the respondents is that funding for collaboration is scarce, and more so from South Africa. Alternatively, the respondents deemed it difficult to know how to access South African funding or connect to South African funders.

When it comes to external funders, Finnish organisations find it challenging explaining to their South African partners why certain funders make certain decisions and policies. For instance, concerning the EU's Erasmus + Capacity Building programme, there is frustration and even taking to insult on part of the South Africans who perceive the funder as being ignorant of actual expenses and cost structures of South Africa: *'The rates dictated by the EC fall far below actual salaries of university researchers or senior researchers in South Africa. A South African university partner totally questioned the EC' s thinking in Brussels and found it outright ridiculous, if not offensive. South Africa is a deeply unequal society, so when the EC uses an average, this does not help universities that are islands of excellence and concentrations of expertise in a given domain'.* These can jeopardize future collaborations since South African institutions may well turn elsewhere where funding rates are more realistic.

(iv) Political issues

Student strikes in South Africa are part of the political, economic, and social discourse in South Africa. Operating in South Africa in the education space, obviously makes Finnish organisations also privy to the effects. Thus, when student strikes have taken place, the operations of Finnish organisations together with their South African partners have also had to take a step back and wait for the situation to subside, meaning that schedules are thrown off-course.

(v) Infrastructure

Several respondents mentioned infrastructure as a challenge to their collaboration. However, there was no elaboration on how this was a challenge.

4.2.3. Future Outlook

Despite the challenges faced and perhaps propelled by the positive factors of collaboration, 80% of the **Finnish respondents are intent on increasing or starting a collaboration with South African organisations**, whereas 20% of the respondents aimed to maintain the same amount of interaction with South African organisations.

Finnish organisations **remain interested to work with South African public HEIs** (55%), followed by government (44%), NGOs/CSOs (37%), private enterprises (32%) and finally research organisations, private higher education and public and private primary and secondary education (each 31%).

Only 18% of the respondents are interested in public or private TVET education partnerships.

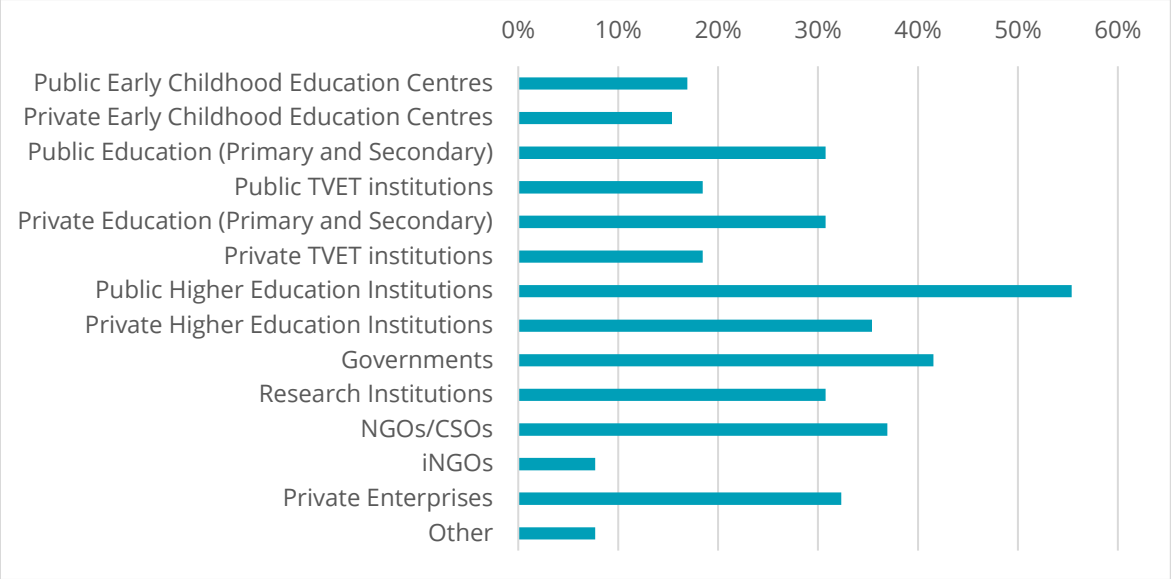


Figure 12. South African organisations that Finnish organisations in education are interested in collaborating with

Different types of activities raise fairly an equal amount of interest from the Finnish community (Figure 13). Finnish organisations seek **education and training** activities mostly funded by the EU or other Official Development Assistance from Finland or similar routes (46%), whereas 38% of the respondents are interested in product or service development and 37% are interested in research.

Of the respondents, 32% are **interested in commissioned education and training** and 32% are interested in providing educational technologies and other educational services. There is also an interest in activities such as summer schools, online course serving both

Finnish and South African students, bridging courses, secondary school mobility, double-degree programmes as well as on programmes on thematic topics like entrepreneurship, innovation, and the Internet of Things.

A call is also made for increased education collaboration between HEIs and Finnish companies operating in South Africa. It is deemed important to utilize existing networks for education collaboration.

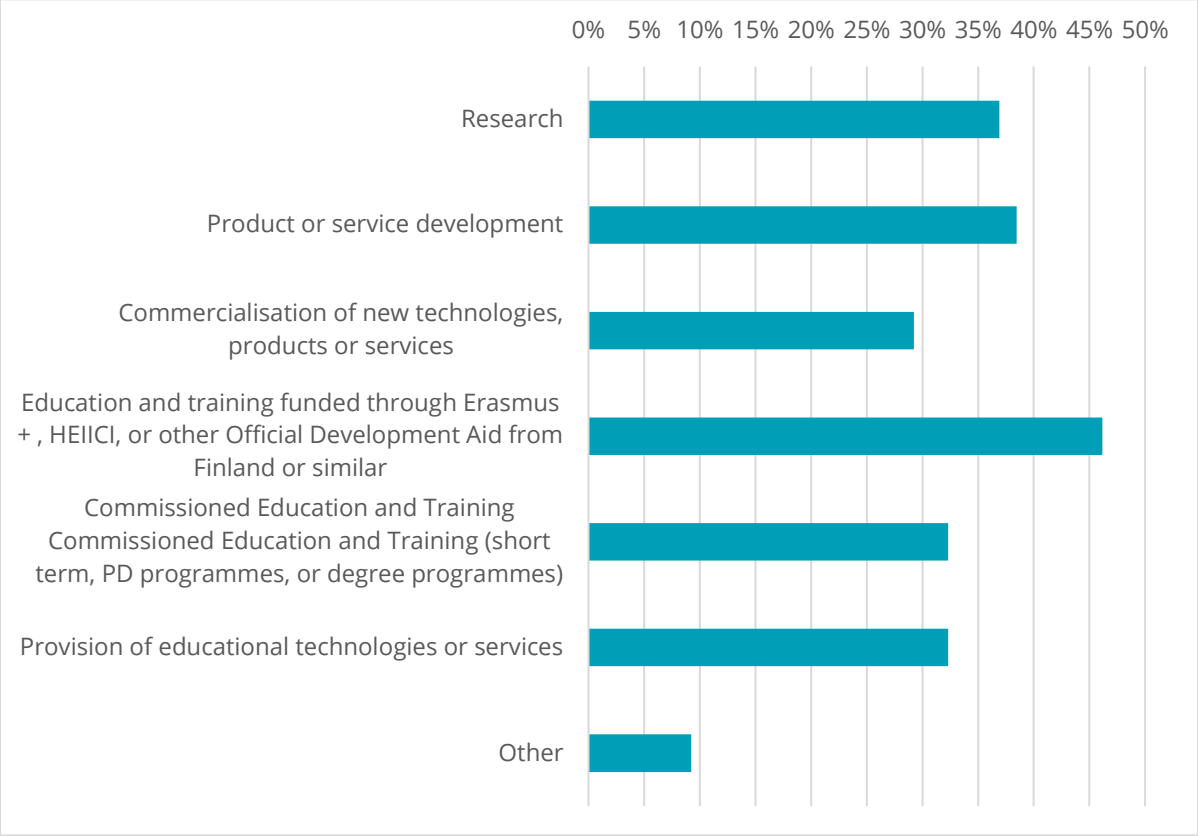


Figure 13. Activities that interest Finnish organisations

Modes of collaboration that Finnish organisations are interested in are those **partnerships funded with external funding** (63%) or from Official Development Assistance (ODA) (45%), (Figure 14). Another interest of Finnish organisations is to achieve **direct sales of education products and services** (43%).

Of the respondents, 28% are interested in busin**ess partnerships like joint ventures or franchises**, and 26% are **looking for distributors of their products or services**. One interviewee mentioned that a joint venture is interesting because it ensures local presence as well as tapping into local funding for the region.

There is little perceived interest in other modes of operation, for instance, setting up companies, affiliates or trusts in the education sector. Interviewees also pointed out that all collaboration should not be based on a commercial basis.

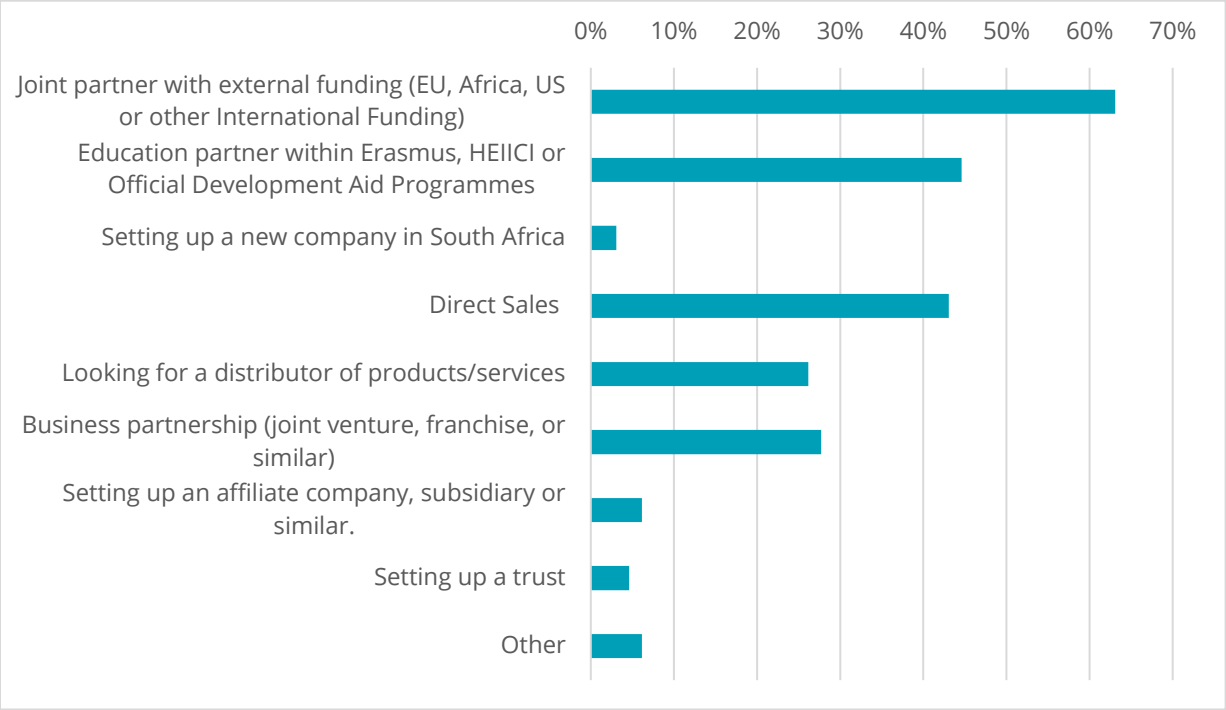


Figure 14. Modes of collaboration interesting for Finnish organisations

South African entities are **even more highly interested** than their Finnish counterparts in collaboration through **joint partnerships** funded **with external funding** from international sources (86% n=18) and ODA (38% n=8) (Figure 15).

Of the respondents, 33% (n=7) are interested in **business partnerships** for instance through joint ventures or franchises or setting up joint trusts (19%, n=4). Running affiliates or being a distributor of products/services is interesting to 14% of the respondents (n=3), whereas interest in **buying education products or services directly is only interesting to 10% of the respondents (n=2)**.

Interviewees mention that whatever the initiative, it must be **inclusive of the community** where the collaboration is established, and education should be **holistic and affordable**. The context of costing and affordability is important to keep in mind, for instance, one interviewee mentioned that for example in one of their partnerships, they are only able to send one student on mobility for every 3 their partner sends them.

It is important to start with **small initiatives**, for instance, start with a collaboration where the partner works as an external examiner for a PhD student. Events like Slush, in Finland, are deemed as interesting, dynamic and exciting. However, some interactions have also resulted in perceptions that Finns were disinterested in forging partnerships. This is especially so when there has been a **failure to revert timely to discussions**.

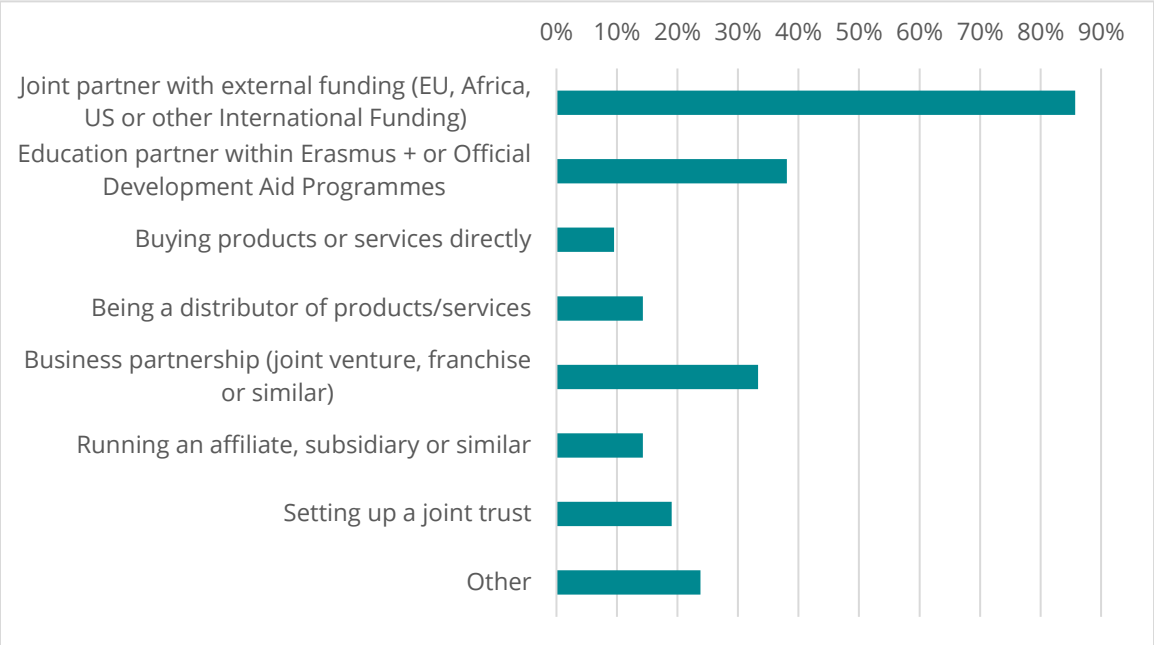


Figure 15. Type of collaboration interesting for South African organisations

The South African respondents mention the following models of operation as suitable for the South African landscape:

- Not-for-profit companies
- NGO models of work
- Participatory models
- Inclusion of government, for example, government-university partnerships
- Locally led contextually relevant models
- Collaborative co-creation models
- Models that include leadership development and entrepreneurship
- E-learning and blended learning
- After class training and on-the-job-training
- Short training courses (1-2 weeks)
- Must be based on mutual benefit and reciprocity, equal partnerships are important
- Context must be remembered especially in terms of affordability

South African interviewees remarked that the **push for export education from Finland, does not work very well** and a critique was made of pushing towards private sector collaboration: '*The approach is narrow and impact, in terms of solving education problems that we in South Africa have, is small. The major challenges are in rural areas where there is hardly any private provision and where the people would not have the financial means to enter into private education*'.

Perceived benefits of and hindrances to collaboration between South Africa and Finland

Perceived benefits of collaborating with South African entities by Finnish organisations vary, but range from the **advancement of science and research** for instance on climate change, contribution to the SDGs as well as to social, ethic and global responsibility**, training of teachers** in specific fields e.g. STEM and law, **employment and networking of doctoral student**s, exchange of experiences through international teaching either in South Africa or Finland or both, improving networks, **internationalization of education organisations**, increasing social and human capital, increased revenues and bigger markets, to developing specific fields like disability studies in both countries, education, social work, automotive industry, hygiene, cleaning and property management and even publishing of educational material.

South African organisations, in turn, see **Finland as a model country with a reputable school-level education** and hope to **learn from Finnish experience** in developing and preparing young South Africans at school level so that they are ready for tertiary education and the world of work.

Expertise on pedagogies surrounding gaming and coding is also welcome in the South African education space. South Africa also sees Finland as a target for employability of coders and developers. Many international companies have had success in establishing themselves in South Africa and employing specially trained staff. South African legislation and policies are supportive of foreign investment and even offer incentives.

Perceived hindrances to achieving the above-mentioned partnerships were addressed by Finnish respondents to the questionnaire. The most cited issue was **funding**, which inferred that if funding was not secured, the collaboration would not materialize. Another issue that was highly cited by the respondents was **contacts and partners**. Most respondents highlighted the importance of finding the right partners for their collaboration and even to localize and market their products. **Lack of time and human reso**urces was another issue cited by respondents as a hindrance to their envisaged collaboration

One of the biggest hindrances to achieving sustainable partnerships, mentioned by the South African respondents and interviewees, is **when Africa is looked at as one single market and one single area**. The respondents also mention **misunderstandings about what the issues and needs are**, as well as **misalignment and requirements of donors**, which is why it is important to have a strong and shared vision. Several respondents and interviewees underlined that the **South African context is important to understand**, and this can take time, thus **short-term partnerships are not of interest**. Impact can only come through long term, strong partnerships.

Financial viability in sending students and staff abroad is a hindrance for many South African organisations since the costs in Finland are so high. Besides, South Africans tend to struggle a lot with visas to Europe.

Furthermore, attending university in Finland is much more costly than in South Africa, whereas the universities are quite similar in terms of ranking, thus another reason why Finland is not as an attractive university study destination for South Africans.

The **utilisation of existing networks** was underlined by several interviewees in both Finland and South Africa. For instance, South Africans in Finland is a diaspora community in Finland who could well be involved in the discussion of South African and Finnish education collaboration. Who better to understand the nuances of both Finnish and South African cultures than people who constantly navigate the two? The South African Embassy in Helsinki has made a call to remember that the years 2015-2024 have been declared as the UN Decade for People of African Descent, with 3 themes: recognition, justice and development. Thus, a call is made to **recognize the voice of South Africa in Finland**, which is the diaspora community. SANORD, UniPID, the FSDR and Finnish South African Society are all existing networks that can be used to build stronger, future collaborations.

South African interviewees, in turn, mentioned that there needs to be an exchange of knowledge and learning from each other and **to recognize the value of the South African voice**: '*There is so much going on in South Africa, we can learn from each other, for all of u*s'.

Also, it is worth considering **what Finland can learn from South Africa**, in order to have win-win partnerships, share vision and work on an equal basis.

While there is not much-perceived interest from South Africa for entering into commercial transactions with Finnish organisations, in either the public or private sector, it should be taken into consideration, that the responses also show that **Finnish offerings are not well known by South African organisations**.

The other aspect that should be recognised is the requirement to register into the public procurement register to provide services to South African public organisations. Further, the BBBEE score is also important in evaluations of public procurements in South Africa. Considering this, better chances for collaboration with South African public organisation exist through research and more traditional partnerships already in play between Finland and South Africa. **Deepening of research collaboration and increasing student mobility between the two countries would be recommended instead**. A good foundation already exists for this type of collaboration.

Alternatively, Finnish education service providers may want to consider affiliate or joint-ventures with South African private organisations in the education space. South African private organisations in education, also receive a fair amount of funding from the public funds and thus similar criteria for public funding are applicable. Private organisations can obviously acquire services and products where they will but are most likely to favour local partners. Private education organisations in South Africa have, as discussed in the previous sections very good quality programmes, thus a competitive edge for Finnish commercial offerings is questionable.

In terms of industry players who are looking to train a skilled workforce, the results do not imply that there is much of a different situation. However, it should be noted that very few industry stakeholders answered the questionnaire or were interviewed and certainly not all industry sectors have been covered, due to the reason that this study was commissioned and implemented during the peak South African holiday period. In this sense, this may be an issue that could be followed up for instance especially by Finnish TVET operators by specific sectors. However, it should again be noted, public procurement and the BBBEE score also affects the industry, public or private, immediately when they use public funding.

5. SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. SOUTH AFRICAN ENTITIES HAVE RELATIVELY LITTLE KNOWLEDGE OF FINNISH EDUCATION OFFERINGS

We recommend that Education Finland and the Team Finland Knowledge Network upkeep a database showcasing Finnish offerings. Education Finland does have a website with Finnish offerings, so it is important to make the site better known in South Africa. Furthermore, it is important for the Team Finland Knowledge Network to investigate how to showcase Finnish offerings of non-members of Education Finland since, for instance, Finnish universities are not members. There are other portals also available, such as Finnpartnership's portal, the Study in Finland portal etc. A one-stop portal would be useful.

We recommend Finnish entities that want to enter the South African market on a commercial basis to explore the possibilities for a focused marketing campaign in South Africa together with the Team Finland Knowledge Network.

2. LITTLE COLLABORATION IN EDUCATION, EITHER NOT-FOR-PROFIT OR FOR-PROFIT, BETWEEN FINLAND AND SOUTH AFRICA

We recommend that the Embassy of Finland in Pretoria and Team Finland, as well as the Embassy of South Africa in Helsinki, facilitate a series of networking events that are very focused by sector and/or theme. These could be for instance:

- Opportunities for collaboration in teacher training for basic education needs in South Africa where entities working in teacher training in South Africa and Finland are brought together in topic-specific workshops (e.g. literacy, STEM, early childhood learning, eLearning).
- A webinar for interested NGOs, coding companies and education institutions for matchmaking and to discuss the development of coding programmes and IT infrastructure for South African schools and provide for and create an exchange of South African coding students to do internships at Finnish companies and Finnish coding students to do internships at South African companies.
- Bring industry and education institutions together for short summer schools and boot camps around specific themes (water, energy, the SDGs).

We recommend partnering with existing local partners for ease of entering the market, creating local presence and meeting pre-set criteria for local procurements, tax and subsidies. Finnish HEIs aiming to offer their programmes in South Africa must consider the timeframe for accreditation and approvals. In general, we recommend doing away with large networking events where there is no focus on sector nor theme.

3. LOTS OF RESEARCH COLLABORATION BETWEEN FINLAND AND SOUTH AFRICA, BUT INFORMATION IS SCATTERED, RESEARCHER MOBILITY IS NOT WELL-DOCUMENTED

We recommend that research collaboration continues to be supported. Networking of Finnish researchers working with South African researchers should be encouraged to enhance information exchange, explore how to work more closely together and to communicate research results coherently to the public and policy-makers. UniPID can be instrumental in this activity, not to mention the FSDR as well as Team Finland Knowledge Network and SANORD. Events, where research results are communicated to policy-makers and the public are of paramount importance. Communication of research results can also be enhanced using social media. South African and Finnish researchers working together can be encouraged to use hashtags on social media that group them together and make it easier to find/locate them for example, #SAFinResearch.

We recommend that UniPID and EDUFI also monitor researcher mobility. Research institutions and HEIs will then be encouraged to monitor their research activity in the region as well as who of their researchers are active in South Africa. Internal networking and information exchange in HEIs is also then better enabled. While the UniPID coordinated FinCEAL initiative is coming to an end, a vacuum will arise in the funding of researcher mobility between Finland and South Africa.

We recommend that the Ministry of Education and Culture of Finland continues to support researcher mobility. While the individual researcher travel grants have been minimal, the impact of these mobilities has been valuable from a researcher perspective.

4. PATHWAYS AND FINANCIAL MECHANISMS TO BOOS STUDENT MOBILITY BETWEEN FINLAND AND SOUTH AFRICA NEEDED

Student mobility between Finland and South Africa has drastically reduced over the last decade. One major contributing factor is the ending of the NSS programme through which much of the student mobility was funded. Furthermore, the high costs in Finland are a deterrent for student mobility from South Africa to Finland. HEIs are now dependent on their bilateral finance or on the EU for funding student mobility. EU funds for student mobility between the EU and SA are not substantial.

We recommend that Finnish and South African HEIs investigate closer collaboration and possibilities for bilateral agreements that allow for and finance student mobility and we also encourage the governments of South Africa and Finland to explore the possibilities of supporting student mobility between South Africa and Finland.

5. **MOST FINNISH ORGANISATIONS DO NOT HAVE A STRATEGY OR WORK-PLAN FOR THEIR ACTIVITIES IN SOUTH AFRICA. KNOWLEDGE ON HOW TO DO BUSINESS IN SOUTH AFRICA INCLUDING LEGISLATION AND OPERATIONAL MECHANISMS LACKING**

We recommend that Finnish organisations make plans for operations in South Africa, like in any international market, and take into account local requirements, legislative and operational frameworks, time needed and risks involved, not to mention estimating the investments required in terms of finance and human resources. Finnish entities aiming to enter the South African education space should be very clear on their vision and what they aim to achieve. These are key for South African organisations and there is little time to spend 'figuring it out'. Clarity is key as is the will and drive to achieve small initiatives first, over larger ones.

We recommend that companies utilise the services of Business Finland and Invest in South Africa in making their plans for operations and to clarify information. Business Finland and Invest in South Africa could also target their services better to reach their potential clients.

We also recommend that the Embassy of Finland in Pretoria, Team Finland Knowledge Network and the Embassy of South Africa in Helsinki, being in key positions to provide information to the Finnish community about South Africa, organize in collaboration with other networks such as Education Finland, the Chamber of Commerce, the Finnish South African Society and the diaspora community, South Africans in Finland, events where people can network and learn about South Africa and her culture and diversity. Collaboration with the Finnish Broadcasting Company, YLE, could also be considered here, for instance by producing ' Voice of Africa' or 'Focus on Africa' inserts targeted at Finnish public.

We also recommend that an orientation guide be compiled for Finnish entities considering cooperation with South Africans, with critical background and information. This should include cultural differences and context, as well as the relevant legal frameworks and processes. It can suggest specific steps to take, assistance (such as one-stop shops) and incentives from national and provincial bodies

We further recommend coordinated action between the Finnish Embassies in Africa, perhaps through the Education and Science Counsellor, to provide accurate, timely and relevant information on education in the countries where they are placed, to the Finnish community. This could take the form of a regular 'Africa'-newsletter circulated at regular intervals to key Finnish and South African stakeholders, webinars and face to face events, for instance, three or four times a year on specific themes. In turn, more coordinated action to inform the host countries of the Embassies about Finnish education offering, opportunities and even opening of application times at Finnish HEIs.

Finally, we recommend that the South African diaspora in Finland is engaged in the above and that active networking is supported by the Embassies and Team Finland. Networking should be purposeful and relevant.

6. **SOUTH AFRICA HAS A DYNAMIC EDUCATION SECTOR WHERE NOT-FOR-PROFITS AND THE PRIVATE SECTOR WORK VERY CLOSELY TOGETHER**

The South African education sector has a lot of challenges and there are many gaps that the national and provincial governments have not been able to fill. The private sector has begun to partner with education actors. Through these partnerships, essential gaps left by the government are filled and new innovative models of training are created. The sector changes very fast, constantly to adapt to the fast changes that occur in society.

We recommend that South African not-for-profits and the private sector are twinned to Finnish entities looking to partner with South Africans and enter the South African education space.

We recommend that Finnish organisations also consider what they could learn from South African organisations, an essential element to creating equal partnerships and shared vision.

7. **SOUTH AFRICA HAS A CRITICAL NEED FOR ARTISANAL SKILLS AND HAS MADE IT A NATIONAL PRIORITY**

South African TVET colleges do not have a good reputation regarding quality and status. There are massive gaps between training provided and industry needs.

We recommend that networking events be organised to get TVET actors in Finland and South Africa (including industry players and science councils), together, and exchange information and explore possibilities for collaboration. South African industry players are already investing large amounts of money, expertise and time to train TVET graduates to reach the required level of knowledge and skill.

8. **GOVERNMENT LEVEL DISCUSSIONS ON STI COLLABORATION BETWEEN SOUTH AFRICA AND FINLAND ARE LED BY THE MINISTRY OF EMPLOYMENT AND THE ECONOMY OF FINLAND AND DEPARTMENT OF SCIENCE AND TECHNOLOGY OF SOUTH AFRICA**

Collaboration seems to mainly concern research and education activities, including the Academy of Finland, and less about industry or enterprise collaboration and investment.

We recommend that the Ministry of Education and Culture of Finland takes the lead on these discussions, on the part of Finland, since research and STI are under its mandate, and that other parties interested in collaboration with South Africa are more deeply involved in the formal discussions and that concrete actions to the MOUs signed are implemented.

9. **PAST INITIATIVES ARE MOSTLY FORGOTTEN, AND A LOT OF POTENTIAL VALUE IS LOST IN THIS WAY.**

A lot of collaboration between South Africa and Finland has transpired over the years. There is little collated information about these initiatives, people change jobs and move on. There are many initiatives, despite their having transpired and come to an end, that people today can still learn from. Information can be reutilized, and the wheel does not have to be reinvented.

We recommend having a focal point for collating information of collaboration between the two countries and making this information accessible. This could be well-coordinated by the Team Finland Knowledge Network, UniPID and EDUFI, for instance.

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APPENDIX 1 LIST OF PROJECTS BETWEEN FINLAND AND SOUTH AFRICA

N-S-S Network Projects

	Project 2014 - 2015	Finnish Institution	S/A Partner
1	Business informatics on the ground	University of Eastern Finland, School of computing	North-West University
2	Culturally responsive education	University of Helsinki	University of Pretoria
3	Documentary and Diversity-Training and Research for Cultural and Socially Viable Media production	Arcada UAS	AFDA-South Africa School of Motion Picture; University of Witwatersrand
4	MECI 2014, Musich Education and Cultural Identity	University of Jyväskylä	University of South Africa, University of Pretoria, North-West University
5	Well-Net Bridge 2	Savonia UAS	Cape Peninsula University of Technology
	Project 2013-2015	**Finnish Institution**	**S/A Partner**
6	Global Network for Performing Arts, GLOPAN	University of the Arts (Sibelius Academy)	University of Cape Town
7	N-S-S LIS Network II	Turku University of Applied Sciences	University of the Western Cape
8	Quality Teacher Education as Cornerstone for Sustainable Development	University of Oulu	University of Cape Town
9	Sustainable Development and Human Rights III	University of Turku	University of Pretoria
	Project 2012-2014	**Finnish Institution**	**S/A Partner**
10	Tourism and MDGs: Pro-Poor Tourism	University of Oulu	University of Johannesburg
11	UFISA-User Centered Design for Innovative Services and Application	Aalto University, School of Science	Cape Peninsula University of Technology
12	UWAS, urban water services in long-term perspectives	University of Tampere	North-West University
13	INDEHELA-Exchange	University of Eastern Finland, School of Computing	Cape Peninsula University of Technology
	Project 2011 - 2013	**Finnish Institution**	**S/A partner**
14	Globalization Knowledge and the Body	Åbo Akademi	Stellenbosch University, University of the Western Cape
15	Sustainable Development and Human Rights II	Åbo Akademi	University of Pretoria
16	FANM3	Sibelius Akatemia	University of Cape Town
17	NSS LIS Network	University of Oulu	University of Western Cape
18	Quality Teacher Education as Cornerstone for Sustainable Development	University of Oulu	University of Cape Town
19	NSS Public Health Higher Education Network, Phase II	University of Eastern Finland, Kuopio	University of Limpopo
20	Music Education and Cultural Identity	University of Jyväskylä	University of Pretoria, North West University, University of South Africa
21	Garage Computing	University of Eastern Finland, Joensuu	North-West University
22	SoilSoc Africa 2010	University of Helsinki	Tshwane University of Technology
23	HAKEMUS 11-12	Arcada University of Applied Sciences	University of Witwatersrand, The South African School of Motion Picture and Live Performance, University of Johannesburg
24	Well-Net	Savonia University of Applied Sciences	University of Limpopo
25	FANHEES 2	Lahti University of Applied Sciences	North-West University
26	Community Based Social Development through Network Partnership in Higher Education (CODE-NET)	Tampere University of Applied Sciences	University of KwaZulu-Natal

	Project 2009-2011	Finnish Institution	S/A Partner
27	N-S-S LIS network	University of Oulu	University of Western Cape
28	Tourism for Development	University of Oulu	University of Pretoria, University of Cape Town
29	The Role of Music in Strengthening Cultural Identity in Southern Africa 2009-2011	University of Jyväskylä	University of Pretoria, North-West University, University of South Africa, UNISA
30	Quality Teacher Education as Cornerstone for Sustainable Development	University of Oulu	University of Cape Town,
31	Globalization and the Body 2	Åbo Akademi University	University of the Western Cape, Stellenbosch University
32	OpenDoors - ICT development for job opportunities	University of Joensuu	University of Pretoria
33	INDEHELA-Education	University of Kuopio	Cape Peninsula University of Technology
34	N-S-S Public Health Higher Education Network, PHEN	University of Kuopio	University of Limpopo
35	FANM2	Sibelius Academy	University of Cape Town
36	SUWAG1	Tampere University of Technology	North-West University, University of Johannesburg
37	Well-Net Avenue continue	Savonia University of Applied Sciences	University of Limpopo
38	Hakemus 09-10 / Training Producers for Ecological Broadcasting	Arcada University of Applied Sciences	University of the Witwatersrand, The South African School of Motion Picture and Live Performance (AFDA), University of Johannesburg
39	Social Well-Being in North and South (SoWeSo)	Pirkanmaa Polytechnic - University of Applied Sciences	University of KwaZulu-Natal
40	FANHEES	Lahti University of Applied Sciences	North-West University

source: Finnish National Agency of Education

HEI ICI PROJECTS

Projects 2011-2012	Finnish Institution	S/A Partner	Other Partners	Field
INDEHELA-ICI: Institutional Collaboration Instrument for Informatics Development for Health in Africa	University of Eastern Finland, Savonia University of Applied Sciences	Cape Peninsula University of Technology (CPUT)	Obafemi Awolowo University (NG), Universidade Eduardo Mondlane (MZ),	Health, ICT
Projects 2013-2015	**Finnish Institution**	**S/A Partner**	**Other Partners**	**Field**
Strengthening Institutional Capacity for Higher Education Leadership and Management in sub-Saharan Africa (LMUU II)	University of Tampere, University of Helsinki	University of KwaZulu Natal	Uganda Management Institute, Makerere University, University of Helsinki	Social sciences
Projects 2017-2020	**Finnish Institution**	**S/A Partner**	**Other Partners**	**Field**
SHUREA Strengthening Human Rights Research and Education in Sub-Saharan Africa	Åbo Akademi University	University of Pretoria	Addis Ababa University (Ethiopia), University of Nairobi (Kenya)	Social sciences, journalism and information
LMEU Building Institutional Capacity in Leadership and Management of Ethiopian Universities	University of Tampere	University of KwaZulu Natal	Addis Ababa University (Ethiopia). Bahir Dar University (Ethiopia), Ugandan Management University (Uganda), Makerere University (Uganda)	Social sciences, journalism and information

Source: Finnish National Agency of Education

HORIZON 2020 PROGRAMME

Ongoing Projects	Finnish Institution	S/A Partner
Research and Innovation Support for Europe and Africa (RINEA)	University of Jyväskylä (UniPID)	Department of Science and Technology
A People-Centred Approach through Self-Management and Reciprocal Learning for the Prevention and Management of Type-2 Diabetes (SMART 2D)	Absetz Sirkku Pilvikki	University of Western Cape
Towards a long-term Africa-EU Partnership to Raise Sustainable Food and Nutrition Security in Africa (PROIntensAfrica)	LUKE	Agricultural Research Council
New Mining Concept for Extracting Metals from Deep Ore Deposits using Biotechnology (BioMOre)	VTT, TTY Foundation	MINTEK
Water Works 2014-2019 in Support of the Water JPI (WaterWorks2014)	Academy of Finland	Water Research Commission
Performance testing, calibration and implementation of a next generation system-of-systems Risk Governance Framework for nanomaterials (caLIBRAte)	Työterveyslaitos, Misvik Biology OY, TTY-Finland, Helsinki University	National Health Laboratory Services
New Mining Concept for Extracting Metals from Deep Ore Deposits using Biotechnology (BioMOre)	VTT, Geological Agency of Finland, TTY-Foundation, VTT	MINTEK
Integrated innovative metallurgical systems to benefit efficiently polymetallic, complex and low grade ores and concentrates	Outotec (Finland) Lyd.,	MINTEK
A long-term EU-Africa research and innovation partnership on food and nutrition security and sustainable agriculture (LEAP-AGRI)	Academy of Finland, University of Jyväskylä (UniPID)	Department of Science and Technology, National Research Foundation

Source: University Partnership for International Development (UniPID)

ERAFRICA PROJECTS

Projects	Finnish Institution	S/A Partner
Contribution of cereal-based fermented foods to folate intake in European and African Countries	University of Helsinki	University of Pretoria

Source: University Partnership for International Development (UniPID)

FINCEAL INFOBANK

Projects	Finnish Institution	S/A Partner
Multimarket Competition Strategies of Mobile Network Operators in Sub-Sahara Africa	Aalto University	
Stability and Change in Language Contact: The Case of Southern Ndebele (South Africa)	University of Helsinki	University of South Africa
RuralVoice - Mobile Voice Based Services for Rural and Unprivileged areas of India and other Emerging Economies	University of Tampere, School of Information Sciences	
Youth music and the construction of social subjectivities and communities in post-apartheid South Africa	University of Helsinki	Human Sciences Research Council, South Africa
Youth and Political Engagement in Contemporary Africa	University of Helsinki, Finnish Youth Research Society	
Meta-communication as facilitation strategy in projects of "massive change"	Aalto University	
Implementing children's right to participation in Africa: an evaluation of the legal and policy frameworks in South Africa and Cameroon	Åbo Akademi, Turku	
PARTY - Participatory Tools for Human Development with the Youth	University of Lapland	Cape Peninsula University of Technology; South African San Institute
Neo-Carbon Enabling Neo-Growth Society - Transformative Energy Futures 20150	University of Turku, Finland Futures Research Centre	
Public and non-motorized transit in sub Saharan Africa	Aalto University	University of Cape Town

Source: University Partnership for International Development (UniPID) / FInCEAL

SANORD PROJECTS

Projects	Finnish Institution	S/A Partner
The "Get A LIFE" simulation tool and the ACG game	University of Turku	Rhodes University, University of Cape Town
Africa at the Crossroads of traditional and clinical medicine	University of Jyväskylä	University of Western Cape

Source: SANORD

APPENDIX 2.

COAUTHORING OF RESEARCH ARTICLES BETWEEN FINNISH AND SOUTH AFRICA INSTITUTIONS 2014-2018
(source:SciVAL)

University in Finland	Number of Co-authoring institutions in South Africa	Number of Co-authored Publications	Top 5 South African Co-authoring Institutions and number of co-authored publications	
			Institution	Number of Co-Authored Publications
University of Oulu	20	141	North-West University	30
			University of Johannesburg	27
			University of Cape Town	25
			Rhodes University	24
			Square Kilometer Array	21
University of Turku	22	231	University of Cape Town	60
			University of the Free State	40
			Stellenbosch University	37
			KwaZulu-Natal University	30
			South African Astronomical Observatory	29
University of Helsinki	39	812	University of Cape Town	359
			University of the Witwatersrand	261
			National Research Foundation	197
			KwaZulu-Natal University	197
			Stellenbosch University	98
Aalto University	19	145	KwaZulu-Natal University	76
			North-West University	19
			Stellenbosch University	18
			University of Pretoria	12
			University of Witwatersrand	10
Tampere University	23	116	Stellenbosch University	52
			South African Medical Research Council	49
			University of Witwatersrand	48
			KwaZulu-Natal University	36
			North-West University	26

University in Finland	Number of Co-authoring institutions in South Africa	Number of Co-authored Publications	Top 5 South African Co-authoring Institutions and number of co-authored publications	
			Institution	Number of Co-Authored Publications
Lappeenranta University of Technology	11	31	Tshwane University of Technology	13
			University of the Western Cape	6
			University of Johannesburg	5
			University of the Witwatersrand	5
			KwaZulu-Natal University	3
University of Eastern Finland	21	85	North-West University	24
			University of Cape Town	24
			University of Pretoria	22
			Cape Peninsula University of Technology	12
			South African Medical Research Council	11
Åbo Akademi University	10	17	University of Cape Town	3
			University of Witwatersrand	3
			Rhodes University	2
			University of Johannesburg	2
			University of Pretoria	2
University of Vaasa	3	13	Nelson Mandela University	11
			Tshwane University of Technology	1
			University of the Witwatersrand	1
Hanken School of Economics	6	8	South African Medical Research Council	4
			University of the Western Cape	4
			University of Johannesburg	4
			University of South Africa	3
			University of Cape Town	1
University of Jyväskylä	20	270	University of Cape Town	220
			National Research Foundation	201
			University of the Witwatersrand	48
			North-West University	25
			Stellenbosch University	13