Siyaphumelela
we succeed

Saide
South African Institute for Distance Education

Evaluation Report

SIYAPHUMELELA PROGRAMME 2014-2018

CONDUCTED OCTOBER 2018-JUNE 2019

DEVELOPMENTAL EVALUATION APPROACH

CONDUCTED BY EXTERNAL EVALUATION TEAM

Submitted to: Dr Ephraim Mhlanga, *Saide* - ephraimm@saide.org.za
Version: Final
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Submitted by: Jerusha Govender, Data Innovator – jerusha@thedatainnovator.com

Contributors: Dr Alan Amory, Dr Ephraim Mhlanga, Jenny Glennie, Jerusha Govender, Dr John Butler-Adam, Tania Mazonde, Teboho Letuka

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Executive Summary

The Siyaphumelela[1] Programme began in 2015 supporting five selected universities to increase student success. The approach was aimed at improving institutional capacity to collect and analyse student data and to integrate them with institutional research, information technology systems, academic development, and planning and academic divisions within their institutions. The ultimate aim of these activities is to enhance student success. This programme is managed by *Saide* and funded by the Kresge Foundation.

In 2017, *Saide* commissioned an evaluation to determine the outcomes and lessons of the Siyaphumelela Programme. The Primary Evaluation Question was: How and to what extent have the partner institutions achieved three results: used

models or approaches to optimize student success; implemented systems to manage their data chains; and developed a culture of evidence- based enquiry and analysis? In addition, the secondary questions posed were:

1. In what ways did the Siyaphumelela activities contribute to the three results?
2. What are the enablers and hindering factors which influence the implementation and achievements of the outcomes?
3. To what extent and in what ways did the universities and Kresge benefit from *Saide's* role?

Context of education in South Africa

When the Siyaphumelela Programme began in 2015, the Universities of Witwatersrand, Pretoria, Free State and Nelson Mandela University received the first round of grants from the Kresge Foundation for their participation in the Programme. In 2016, the Durban University of Technology joined the Programme[2]. In all five institutions, existing work in support of improving student success was in place and it was on these promising, often quite different and not always co-ordinated or effective, foundations that the Siyaphumelela Programme was launched.

[1] Siyaphumelela means "we succeed."

[2] When the Durban University of Technology joined the Programme participants, the Siyaphumelela Programme included two old, established universities (Pretoria and Witwatersrand), a new Comprehensive University created through mergers (Nelson Mandela) and a new University of Technology – also the product of a merger (Durban University of Technology).

In October of that year (2015), however, just ten months after the start of the Programme, the first student protests in relation to fee increases and, subsequently, demands for "free education" began at the University of Witwatersrand and spread rapidly to most other institutions. The protests continued into 2016 although with less intensity, until August that year, when the protests again grew more strident and violent. By then, every university in the country had experienced protests and severe academic disruptions. Ironically, then, the Siyaphumelela Programme was launched into two quite different sets of circumstances. On one hand, it entered academic and intellectual realms, strengthened existing work aimed at improving student success rates, and made those efforts more coherent and effective. It has provided support from data coaches and a basis for (a new) evidence-based approach to enhancing student support work, changing the language of academic support. Collectively, these developments have had a direct impact on national policy. On the other hand, the Programme largely coincided with the worst and most persistent student protests and political manoeuvring since 1990, which resulted in major academic disruption, at times sporadically, for almost two years.

Against these two backgrounds, it is both relatively easy and very difficult to assess the impact of the Siyaphumelela Programme. The easier part of evaluation lies in examining what has happened in the five universities; the broader language of student success work across the system; and government policy, all supported by Kresge Foundation grants and *Saide* coordination. The difficult part is to assess the impact that the Programme has had on the direct issues of student success and completion in the context of severe academic and socio-political disruption – for more than two of the four and a half years that the Programme has been operating. What also makes it difficult to assess Programme impact is the fact that it was implemented in contexts where analogous (but varied) interventions were already functioning.

Evaluation methodology

The evaluation methodology was based on a Developmental Evaluation approach and included various steps to implement such an approach and to adapt as the evaluation progressed. The stages of the evaluation included: (1) Participatory evaluation design to refine the evaluation questions and design the approach with the Siyaphumelela team; (2) Outcome harvesting retrospectively to identify key results based on a careful reading of reports and related documents submitted by the participating institutions; (3) Results chain mapping to document key activities and pathways to short-, medium, and long-term results; (4) Key informant interviews with 20 individuals to validate the results and understand other contextual factors influencing the programme; (5) A sense-making workshop involving partner institutions to provide a critique of the preliminary analysis and refine the analytic approach; and (6) Analysis and a report to compile all findings and recommendations.

Results

In the initial analysis of the results chains, the categories for the results were defined and then allocated to each result. These included nine categories: 1. Practices; 2. Culture; 3. Policy; 4. Student Engagement; 5. Capacity Development; 6. Systems; 7. Information and Knowledge; 8. Tools; 9. Student Success Indicators. What follows is a brief overview for each institution.

Durban University of Technology

Key activities of the Durban University of Technology included those such as the establishment of a Student Success Task Team (2016-2018) and a Data Jedi team for each faculty (2017.) A notable activity was the implementation of the student tracking system (tool), AutoScholar, in two faculties. AutoScholar was demonstrated to other universities of technology and was put forward for consideration as a locally developed tracking system. AutoScholar was also used to map and track exit level outcomes for the Engineering Faculty accreditation. The major long-term result listed by Durban University of Technology encompasses culture, approaches and systems results.

Nelson Mandela University

Nelson Mandela University placed emphasis on system-related activities including the upgrade of the student counselling databases and linking the learning enhancement checklist for student counselling to "Risk Analysis and Detection to Assist and Retain" (RADAR); the development of student indicator dashboards as a basis for assessing student success and informing senior management of progress, and a database that academic advisors used to record student consultation information. In addition, approaches, culture, knowledge, and capacity development form the various other activities affecting the results. Systems, culture and student engagement are the most common categories of results documented by Nelson Mandela University as a result of Siyaphumelela activities. There are some, although fewer, results related to Practices, Information Sharing and Indicators of Student Success which will now be emerging.

University of Free State

The system related activities implemented by University of Free State included warehouse capacity and data integration in collaboration with Information, Communications and Technology, investment in the human resources data quality project, development of interventions for high-risk modules, and analytics to inform the scale up of interventions. The system focused activities translate to system level short term results in an increased reporting on student-level data, predictive analytics and identifying student success risk factors. These

results influenced mid-term results in database platform integration, and various results in improved data analytic capacity.

The University of Witwatersrand

The key activities implemented by the University of Witwatersrand included the design, implementation and use of the biographical questionnaire system, the university mapping study, platforms to discuss student success, and the establishment of the student success task team by the analytics and institutional research team. These all contributed to Capacity Development. The design of the biographical questionnaire is an example of a group of activities that have had a chain of results from short to mid- and long- term. The system was implemented between 2016 and 2019 to collect student data during registration. It has resulted in an increase in student response rates and improved student data collection in the short-term, and fostered collaboration in refining the system in the mid-term.

The University of Pretoria

The University of Pretoria implemented activities related to data capacity development, such as the Siyaphumelela conference, and including the participation of students. Other related activities were the blended learning lead by education innovation and faculties, longitudinal research to improve course choice, and creating learning communities and the formation of student groups within and across modules. Further activities are related to information and knowledge sharing, systems and tools. As a result, students had support groups and an increased understanding of their modules in the short-term. This can be related to the observed improvements in student success, fewer module changes and an increase in module success rates for first year students in the mid-term, and at least 50% of students obtained their degrees in minimum time in the long term. These have, in turn, resulted in significant policy shifts.

Saide

Saide key activities included the planning and management of Siyaphumelela conferences; coordinating the community of practice among the five institutions and participation in the Achieving the Dream conferences; engaging key student success stakeholders; establishing a student advisory committee; and supporting the development of the data dictionary and ethics and development instrument. Short, medium and long-term results identified are mainly related to Information and Knowledge Sharing, Culture, and Capacity Development as might be expected in view of *Saide's* role. For example, community of practice was built among Siyaphumelela members, and National discourse on student success amongst National Higher Education systems and institutes was initiated and supported. *Saide's* role in providing technical support, convening groups, creating a shared vision, and ensuring that there were

opportunities for the institutions to collaborate with one another was also noted as a result during interviews.

Concluding remarks

Collaboration, resources and funding were presented as the main enabling factors for the achievement of programme results. Leadership and decision-making in the institutions were highlighted as critical factors influencing the outcomes of the project. A common starting barrier across institutions was culture, in addition to funding. Funding appeared as both an enabler (it is always a help) and barrier (when there isn't enough to do what needs to be done). More barriers than enablers were listed. This is important to note as, even in challenging social and institutional contexts, the programme was able to achieve significant changes.

Key lessons from the programme are that there is a need to continue capacity development efforts; support institutions more widely; further develop the student success indicators; scale-up the programme to include especially historically disadvantaged institutions; build relationships with other relevant organisations; support the design of student support programmes; and support for university planning.

The results of the evaluation indicate that the Siyaphumelela Programme has contributed to positive results across all nine of the categories discussed, all supporting student success. It also indicates the value of the *Saide* team in convening and driving programme activities. It is evident that the positive results are influenced by the current efforts and motivation of selected institutions to improve student success, but the Programme has been a valuable catalyst in driving systemic changes in data use and providing access to expertise, and to learning and collaboration opportunities for and between the institutions. Finally, the evaluation shows that, with additional contributions from *Saide*, the Programme has positively influenced thinking and policies of the national Department of Higher Education and Training.

List of Acronyms

ANC	African National Congress
ATD	Achieving the Dream
BQ	Biographic Questionnaire
BUSSE	Beginning University Survey of Student Engagement
CAAR	Centre for Access Assessment and Research
CHE	Council on Higher Education
CLASSE	Classroom Survey of Student Engagement
CLM	Faculty of Commerce, Law and Management
CTL	Centre for Teaching and Learning
DHET	Department of Higher Education and Training
DVC	Deputy Vice Chancellor
EBE	Faculty of Engineering & the Built Environment
FTEs	Full-time Equivalents
FSAs	Faculty Student Advisors
FYE	First Year Experience
LEC	Learning Enhancement Checklist
HEDA	Higher Education Data Analyser
HEMIS	Higher Education Management Information System
HUM	Faculty of Humanities
HS	Faculty of Health Sciences
ICT	Information and Communications Technology
ITSS	Information Technology Support Services
M&E	Monitoring and Evaluation
MI	Management Information
NDP	National Development Plan
NRF	National Research Foundation
NSFAS	National Student Financial Aid Scheme
QAPO	Quality and Academic Planning Office
QEP	Quality Enhancement Program
RADAR	Risk Analysis and Detection to Assist and Retain
RSP	Road to Success Programme
SAAIR	Southern African Association for Institutional Research
Saide	South African Institute for Distance Education

SASSE	South African Student Engagement Survey
SDS	Student Development and Success
SET	Student Engagement Technique
SSP	Student Success Portal
SSTT	Student Success Task Team
STARS	Student Academic Readiness Survey
SWOT	Strengths, Weaknesses, Opportunities and Threats
TDG	Teaching Development Grants
TVET	Technical and Vocational Colleges
UCDG	University Capacity Development Grant
UoTs	University of Technologies
USAf	Universities South Africa
WASPSS	the University of Witwatersrand Academic Success Programme for Science Students
VC	Vice Chancellor

1. Introduction

The Siyaphumelela Programme was established in 2014 and began operating in 2015 to support five selected universities to increase student success. The approach was aimed at improving institutional capacity to collect and analyse student data and to integrate it with institutional research, information technology systems, academic development, and planning and academic divisions within their institutions[3]. This programme is managed by *Saide*[4], and funded by the Kresge Foundation.[5]

The objectives of the partner institutions were to:

- Develop annual goals for improving student success
- Establish a broadly representative student success committee or task force
- Develop sustained capacity to implement and manage a data chain
- Use data analytics to review performance indicators
- Strengthen and integrate data analytics across multiple departments
- Scale-up across the Institution evidence-based student success efforts selected and developed in response to problems identified through data analytics, and share good practice more widely in the national system

Improving education and training, as well as supporting innovation, are key objectives of the South African National Development Plan[6]. This was emphasized in the release of the Fees Commission Report[7] in November 2017, highlighting the critical changes that need to be made in tertiary education to support student success. The use of data to improve

[3] https://kresge.org/news/kresge-awards-29-million-improve-data-analysis-south-african-universities
[4] http://www.saide.org.za/#about
[5] Siyaphumelela: We Succeed A Request for Proposals, June 2014
[6] www.nationalplanningcommission.org.za/Documents/devplan_ch9_0.pdf
[7] https://www.timeslive.co.za/news/south-africa/2017-11-13-read-in-full--fees-commission-report-into-free-education/

institutional decision-making, planning and management is a catalytic factor intended to support changes in tertiary education, and to drive student success.

During the fifth year of implementation, an evaluation was undertaken to assess the achievement of these objectives as well as the outcomes of the programme.

This document presents a report on the evaluation of the Siyaphumelela Programme.

2. Evaluation Purpose

The evaluation was designed to respond to a primary evaluation question and three secondary questions. These questions were initially drafted in 2017 in the development of the terms of reference for the programme evaluation. The evaluation questions were refined in 2018 during the processes of evaluation design, inception, and analysis. The evaluation results and conclusions are documented in response to these questions.

2.1 Primary Question

How and to what extent have the partner institutions achieved three results: *use of models or approaches* to optimize student success; *implemented systems* to manage their data chains; and *developed a culture* of evidence- based enquiry and analysis?

2.2 Secondary Questions

1. In what ways did the Siyaphumelela activities contribute to the three results?
2. What are the enablers and hindering factors which influence the implementation and achievements of the outcomes?
3. To what extent and in what ways did the universities and Kresge benefit from *Saide*'s role?

3. Context of Higher Education in South Africa

When the ANC and other organisations were unbanned in February 1990, the South African public higher education system was (although to varying degrees) institutionally functional. It was also, however, unequal and an administrative and financial patchwork of fabrics loosely held together by the threads of an ostensibly (but not actual) common purpose. The English-speaking universities, along with the universities of the Western Cape and Durban Westville, almost immediately started registering students who qualified for access irrespective of their ethnic or socio-economic status, although the "ability to pay" was not altogether disregarded as student fees were, by then, already an important source of income. Changes of this nature happened more slowly in the rest of the system. The Afrikaans speaking universities considered their options carefully, while universities in the (about to be former) homelands were under little pressure to enrol anyone other than their traditional students.

Since then, the public system has undergone wide-ranging changes. Among other developments, the patchwork has been transformed into a single system, 36 universities were reduced in number to 21 through mergers – followed by an increase to 26 institutions as a result of the establishment of five new universities. The post-school system was restructured creating three university types – universities of technology (formerly technikons); comprehensive universities; and traditional universities (all three are represented in the Siyaphumelela Programme) – and a system of Technical and Vocational Colleges. Importantly, the Department of Higher Education was expanded to become a Department of Higher Education and Training – and more recently merged with the Department of Science and Technology under a single Ministry. During this time, there was also considerable growth in accredited private post-school institutions offering diplomas and degrees.

But three persistent issues remained to be addressed: fees, access, and success. It took 25 years after 1990 for the issue of fees to come prominently and violently to the fore through the "#feesmustfall" movement, resulting in a dramatic change in student funding, often

inaccurately referred to as “free higher education.” But despite state and private support for the financially poorest students, through a variety of grants and loans from the National Student Financial Aid Scheme, access is still a challenge. Of the 950 499 South African students in public universities in 2017 (the total number of students, including foreign students, was 1 015 526) almost 85% were black[8] – but these students constituted only some 17% of the relevant age cohort. A problem clearly remains. Much may, however, confidently be laid at the feet of a largely inadequate schooling system, economic stagnation and limited or no additional capacity in the 26 universities.

In many ways though – and perhaps most significantly – it is the rates of student success and retention that have long been, and conspicuously remain, a major challenge for universities. Alongside success rates, drop out figures are high and also need to be addressed. These are “twin” challenges that institutions themselves can and must face, which is why the Siyaphumelela Programme is of such importance. **Success and completion** are critical to the students’ futures and hence to the national economy – in this way, helping to address the slow process of remedying social and economic injustices. But it is also important because every additional unnecessary year that a student spends in a university represents a place lost to an aspirant student, in the face of limited “new intake” capacity in the system.

That the implications of poor success rates are of serious concern is reflected in the variety of strategies and means which have been developed to address the problem – mostly with relatively little measured effect, until recently.

Just over thirty years ago, student support programmes (often based in faculties or schools) were gradually replaced by institution-wide Academic Development Units, initially providing support to students and developing teaching skills and techniques for academics. Most of the student support services within these Units aimed to address the articulation gap (from

[8] These data were drawn from the Higher Education Management Information System (HEMIS) by Ms. Annamarie Meyer of the University of Johannesburg, and Professor Ian Bunting, formerly of the DHET.

school to university) and psychosocial challenges that first generation students experience, some of whom were now living far from home for the first time.

The "Academic Development Unit" approach to success was largely institution specific and not well co-ordinated but rather characterised by theoretical differences and disagreements, with the result that those who worked (and frequently undertook sound research) in the Units were typically marginalised by mainstream academics. As a result, Academic Development came to have a range of meanings in South African higher education derived from different institutional contexts, so that there was (and remains) considerable variation in terms of what it means and what has been accomplished. Nonetheless, "Academic Development" has continued to play important roles despite a degree of marginalisation and a lack of uniformity. Of most importance is the fact that there was little evidence of the impact that academic development was having in improving student success rates[9].

Not surprisingly, then, when the Kresge Foundation was contemplating a change in its educational funding support in South Africa, a number of discussions and meetings, which included senior managers in Academic Development Units and university leaders, resulted in the beginnings of what was to become the Siyaphumelela Programme, initiated in 2014.

Aside from the academic development work in individual institutions, two system-wide initiatives were also in place, aimed at improving student success rates. In 2002, the (then) Department of Higher Education introduced Teaching Development Grants for all universities, aimed at improving the quality of teaching to address student success – a grant that continued through to 2018. And in 2013, the Council on Higher Education launched a complementary Quality Enhancement Programme aimed at enriching the work of the ongoing Teaching Development Grants being made by the newly formed Department of Higher Education and Training. While the funds from the Teaching Development Grants were used in very direct ways to support improvements in teaching, the Quality Enhancement Programme had very

[9] Based in part on Thandi Lewin and Monica Mawoyo (2014): *Student Access and Success: Issues and Interventions in South African Universities*. Cape Town. Kresge Foundation and Inyathelo

little funding and relied on workshops, persuasion, and reporting – which, evidence suggests, many universities sadly treated as a bureaucratic exercise.

In 2015, four institutions (the Universities of Witwatersrand, Pretoria, Free State and Nelson Mandela University) received the first round of grants from the Kresge Foundation for their participation in the Siyaphumelela Programme. In 2016, the Durban University of Technology joined the Programme. In all five institutions, existing work in support of improving student success was in place and has been enriched and reshaped by Siyaphumelela.

Using Teaching Development Grant funding, the University of Pretoria had Faculty Student Advisors based in each faculty; Tutors, who were and remain central to the academic development of students and were selected by faculties; and Mentors, important to the psychosocial integration of students, who were identified by Faculties and trained by the Department of Student Affairs. Academic orientation, initially in a packed two weeks of contact, was – from 2014 – continued through an online resource available to first-year students throughout the year. The University has also used three supportive data mechanisms. These are a student academic readiness survey, the basic tracking tools available in *clickUP,* and a mid-year cluster analysis to identify first-year students who did not achieve well in the first semester. On the basis of cluster analysis results, students were clustered into three groups with students in the high-risk group referred to faculty student advisors.

Also using Teaching Development Grant funds, the Durban University of Technology had in place Tutorial provision, a Residence Educational Programme (tutorials of choice by students in residence), Academic Literacy Development and Student Experience surveys. The University notes that Siyaphumelela has helped to connect and integrate these in effective ways.

The University of the Free State had identified the improvement of student success in 2006 when it established the Department of Student Development and Success. The department started several student success initiatives such as the South African Student Engagement Survey (2007), a tutorial programme (2007), and academic advising (2010). The Department

of Student Development and Success was merged into the Centre for Teaching and Learning in 2012 which prioritised student success through the South African Survey on Student Engagement (SASSE), tutorials, academic advising, academic literacy courses and the Student Success Portal (2013). The Kresge funding of the South African Student Engagement Survey and the inclusion of the University in the Siyaphumelela project helped the institution to monitor the impact of taking these initiatives to scale and to develop more sophisticated data monitoring and evaluation approaches.

The University of the Witwatersrand has always been committed to broadening the participation of rural, black, female, disabled and mature students and to providing them with the appropriate support to achieve greater access with success. Several initiatives had been developed and implemented at the University, prior to the Siyaphumelela initiative, in order to address poor throughput rates and improve student success. Some of these initiatives included the Road to Success Programme in the Faculties of Commerce and Law & Management; Learning Excellence in the Faculty of Health Sciences; Passport to Success in the Faculty of Humanities; the University of Witwatersrand Academic Success Programme for Science Students in the Faculty of Science; and Faculty Support – Academic Development Unit in the Faculty of Engineering & the Built Environment.

Additional support programmes that were in existence include the Targeting Talent Programme, Early Warning System, Residence Tutorials, First Year Experience, Tutor Training and Writing Intensive Courses.

In the years prior to the Siyaphumelela Programme, Nelson Mandela University had adopted an “access for success” approach and had several mechanisms in place in this regard. For example, more than half of the University’s first-time entering undergraduate students did not meet the criteria for direct admission but were admitted on the basis of their school marks and access assessment results. The Centre for Access Assessment and Research administered a developmentally focused assessment, made admissions and placement decisions based on the results and also provided developmental recommendations. Without the access assessment route these students would not have been admitted to university studies and the development and support provided helped them to succeed in their studies.

Data were, and still are, consistently gathered on the barriers or challenges to student success by means of Centre for Access Assessment and Research (CAAR) assessment results, research surveys and focus groups with students and academics, findings from the Learning Enhancement Checklist, and the South African Survey of Student Engagement results.

It was on these promising, often quite different and not always co-ordinated or effective foundations, that the Siyaphumelela Programme was launched.

In October, however, just ten months after the start of the Programme, the first student protests in relation to fee increases and, subsequently, demands for “free education” began at the University of Witwatersrand and spread rapidly to most other institutions. The protests continued into 2016, although with less intensity, until August that year when the protests again grew more strident and violent. By then, every university in the country had experienced protests and most had also suffered damage to university property – estimated by the DHET to have totalled a cost close to R800 million, which included the destruction of, or damage to, lecture halls, IT laboratories and libraries. There were sporadic protests in 2017 – which led to then President Jacob Zuma opportunistically announcing, in mid-December, that the government would subsidise free higher education for poor and working-class students.

He stated that the definition of poor and working-class students would mean "currently enrolled in TVET Colleges or university students from South African households with a combined annual income of up to R350 000" and that this definition would apply from the 2018 academic year onwards. The Minister for Higher Education and Training, he said, would revise this amount periodically in consultation with the Minister for Finance.

Apart from direct physical damage, protest action resulted in clashes with police and staff of security companies on campuses, with violence exercised on both sides, resulting in injuries and, in a few instances, deaths; racism was on the rise; and political interference became endemic. Protest activity had serious implications for academic activity, including considerable loss of teaching time, students pulled out of lecture theatres, changes to

examination times, an undermining of student performance, systems put in place to allow students to write examinations away from campuses, and a general tightening of access to campuses where this was possible.

The psychological impact that the protests had on most students cannot be underestimated (and continues). Students were fearful of attempting to attend classes and faced considerable anxiety regarding their success in examinations. As a result, universities arranged for students to learn and to write examinations away from campus – with, paradoxically, the effect of awakening both students and academic staff to new and innovative ways of getting students to learn away from campus, using suitable technology. The protests also had the effect of intensifying demands for the "de-colonisation" of the curriculum, a debate that continues with considerable passion (but rather less understanding).

Ironically, then, the Siyaphumelela Programme was launched into two quite different sets of circumstances. On one hand, it entered academic and intellectual realms, strengthened existing work aimed at improving student success rates, made those efforts more coherent and effective. It has provided support from data coaches and a basis for (a new) evidence-based approach to enhancing students support work, changing the language of academic support. Collectively, these developments have had an impact on national policy. On the other hand, the Programme largely coincided with the worst and most persistent student protests and political manoeuvring since 1990, which resulted in major academic disruption, on and off, for almost two years.

Against these two backgrounds, it is both relatively easy and very difficult to assess the impact of the Siyaphumelela Programme. The easier part of evaluation lies in examining what has happened in the five universities; the broader language of student success work across the system; and government policy, all supported by Kresge Foundation grants. The difficult part is to assess the impact that the Programme has had on the direct issues of student success and completion in the context of severe academic and socio-political disruption – for more than two of the four and a half years that it has been operating. What also makes it difficult to assess the impact of the Programme is the fact that it was implemented in contexts where

similar but varied interventions were already running. (These are described briefly in the section below.) This introduced the confounding effect of other variables. However, that it helped consolidate these interventions is clearly indisputable and acknowledged by the partner institutions.

What can effectively and confidently be assessed is presented and explained in this evaluation report: strong and open inter-institutional cooperation, coherence, new systems, a clear move to the collection and use of data to promote student success – evidence driven approaches – among them. So, too, are the considerable benefits of attendance at Achieving the Dream conferences and workshops, support from data coaches, the annual Siyaphumelela conferences, and the significant and direct impact that Siyaphumelela has had on the government's education policy in the shift from Teaching and Research Development grants to University Capacity Development grants, based on Siyaphumelela precepts and experience.

3.1 Pre-Siyaphumelela Student Success Activities in the Participating Universities

The importance of this section lies in defining one of the critical variables that make this Evaluation more difficult that most others. These five texts serve to describe what the participating universities were doing to improve student success before they were selected to participate in the Siyaphumelela Programme. These are the varied conditions that underlie the contributions that the Programme has made to changing and improving (considerably) the means introduced and followed to raise student success rates.

The texts that follow were written by the Programme leaders from each institution. As a result, they vary in style but reflect the detailed knowledge that each author has of earlier work aimed at promoting student success in her or his institution.

Durban University of Technology

This brief description relates more to what the purpose of the Siyaphumelela Project at the Durban University of Technology (DUT) was, and why this was so, than actual student success

initiatives in place at the University prior to the Kresge Foundation funded project. It therefore focuses on the conditions that were current before the Programme was introduced.

DUT's proposal to the Kresge Foundation for funding was to strengthen the University's capacity to use data more effectively to significantly improve student success in its undergraduate programmes. This support was to go primarily to the development of DUT's capacity to perform institutional research projects, to develop its astuteness in defining its datasets and to develop its capacity to use data effectively. The overreaching principle of the proposal was thus to strengthen the University's capacity and systems to use data more effectively in its quest to improve student success in its undergraduate programmes.

DUT's data landscape was fragmented, with student data existing on various platforms, a lack of easy access to student data and data that was not always readily available. Further, staff had limited knowledge on how to use student data. From a data architecture perspective, there was no adequate business intelligence reporting tool where student success data could be translated into meaningful information.

Through the project we addressed the following:

- Improved the access to and usability of published data sets;
- A data dictionary was developed (and is still in progress of moving beyond student data focus);
- Developed broader staff capacity to do self-service reporting and analysis of student data;
- Data infrastructure was addressed through the development of a data warehouse that integrated various data sources such as Higher Education Management Information System (HEMIS) and our Integrated Tertiary System (ITS) database, with a view in 2020 to including other valuable sources of data from Central Applications Office (CAO), the National Student Financial Aid Scheme (NSFAS), financial aid, housing, student activity on the ThinkLearnZone Learning Management System,

Library activity, AutoScholar tracking system and from various surveys of which we are not making effective use.

- Piloting a student tracking system, AutoScholar

The DUT Siyaphumelela project had, however, a student success goal, viz. improving throughput of three-year undergraduate programmes from 33% to 40% by end 2020. We can report that as at 2019, the throughput has improved to 37% of the 2016 cohort. The four-year undergraduate programmes have seen a decline in throughput, a matter of concern which is currently under investigation.

Siyaphumelela also addressed the siloed operations of the University, and in particular through its student success task team and the Data Working Group, has brought together institutional research, planning, IT services (Data Working Group), and a cohort of academic, academic support, student services and administrative staff (the task team).

Academic development support that was in place prior to the Kresge grant includes tutorials, a residence educational programme (REP), a degree of academic and student support advising in some faculties, some student tracking – that was typically aggregated to programme level and all lag reflection - and other forms of student support that were not aligned, integrated, nor measured for impact. The Kresge grant assisted in aligning some of the supports to specific goals and targets, defining data needs and tracking measures, and working with faculties to determine low module performance.

From an institutional research perspective, student surveys were run on a tri-annual basis, but with limited meaningful analysis to inform improvements, likewise with the annual graduation surveys. Through the project, surveys were conducted annually, such as SASSE, BUSSE, CLASSE, and the reports used extensively and shared with stakeholders to develop an understanding of our students, and plan for appropriate interventions.

Nelson Mandela University

As a comprehensive university, Nelson Mandela University (NMU) seeks to provide enhanced access and articulation opportunities within a wide range of general formative and vocational, career-focused qualifications from certificate to doctoral levels. The University experiences various challenges with regard to student success. Our throughput rate data for all our programmes indicate that male students, and African and Coloured[10] students, are those most in need of support. The University draws a large portion of its students from the Eastern Cape, a province that is repeatedly ranked amongst the poorest in the country, and with the highest poverty levels, by StatsSA surveys. This is one of the provinces with very poor matric results, especially with regard to physical science and mathematics education, which are a requirement for many of our business and economic sciences, science as well as engineering programmes.

Before the commencement of the Siyaphumelela initiative, NMU focused on creating a responsive, supportive, distinctive teaching and learning environment to foster student access, success and holistic development (strategic priority 1 of our Vision 2020). To this end, the key enabling factors of student development and support at our university are:

- Availability of a range of enhancement and development opportunities that include first-year orientation and transition; academic literacies development (in and out of class); writing and language development; student success strategies; career and employability development; personal, professional, leadership and citizenship development;

- A culture of peer assisted learning, which provides students with small group learning experiences;

[10] South African terminology

- Online and other resources (e.g., study guides, multilingual glossaries) to support student learning and development;

- A growing culture of co-curricular involvement of students;

- Availability of data from access assessments conducted by our Centre for Access Assessment and Research, the Learning Enhancement Checklist (LEC), SASSE, the Student Experience Survey, etc. that provide a profile of our students which can inform the learning enhancement and development activities that we should have in place as well as to provide impact evidence.

Highlighted above is the university's "culture of peer assisted learning", which is one of the key components of our approach to student development and support. There is a large body of literature that indicates that with increased massification of Higher Education, one of the most important student success and retention factors is that students should participate in small group learning where they develop a sense of connection and belonging as well as acquiring the strategies and knowledge needed to succeed in their studies. Consequently, Nelson Mandela University has strongly promoted small group learning and has put in place Supplementary Instruction, tutorials and practicals, mentoring sessions and small group experiential learning outside of the classroom . While these small groups started off as being exclusively face-to-face, most of them are now offered in a blended way with increasing digital content and discussions. Experience has shown us that broadening access, most especially to students from impoverished backgrounds, carries additional costs. Opening the doors of learning to all requires that universities address broader systemic issues impacting negatively on the academic success of economically and academically vulnerable students. This includes student nutrition and food security, access to study materials, transport, accommodation, and access to computing devices and Wi-Fi connectivity. The University has sought to create an enabling environment for teaching and learning through modern, technology-enabled facilities, and Wi-Fi connectivity on all campuses. In preparation for the implementation of the Siyaphumelela initiative the university undertook a research project to identify all student success initiatives that were being implemented in faculties so that we

could bring all the role-players together, work towards better co-ordination, sharing best practices and strengthening student success initiatives.

The Siyaphumelela project has created a greater awareness amongst management as well as academic staff of the importance of student success and the need to increase the current completion rates of students, both from a student experience and wellness perspective as well as from an institutional sustainability perspective. Within the university, disparate student success initiatives that had been started in various departments and were running on their own were incorporated into the Siyaphumelela project. The project has facilitated the development of an early warning system (RADAR) – a comprehensive electronic analytical system for monitoring, tracking, managing and reporting on student performance and early identification and referral of students to appropriate interventions. Siyaphumelela has permitted the initiation of another new student support practice at the institution, namely that of academic advising. Through Siyaphumelela academic advising was explored and found to be hugely successful and will now be implemented in all Faculties in the university.

University of the Free State

The University of the Free State (UFS) had identified the improvement of student success in 2006 when it established the Department of Student Development and Success. The Department started several student success initiatives such as the South African Survey of Student Engagement (SASSE; 2007), a tutorial programme (2007), and academic advising (2010). In 2012, the Department of Student Development and Success was merged into the Centre for Teaching and Learning (CTL).

Prior to the UFS participation in the Siyaphumelela project, student success was measured by monitoring graduate numbers, undergraduate throughput, and success rates. Some of the major challenges pertaining to student success at the time included the articulation gap between school and higher education at first-year level – resulting in low success rates in first-year modules and a high dropout rate in the first year of study; and low throughput rates in

general. The UFS' rapidly changing student population also meant an increase in first-generation students and language challenges.

In response to these challenges, UFS prioritised student support through the SASSE, tutorials, academic advising, academic literacy courses and the Programme for Academic Student Success (PASS), initially created in 2013 in order to support University Access Programme graduates' transition into extended courses. A particular focus was placed on first-year transition and retention through the UFS101 curriculum. Using an evidence-based approach, the curriculum was adapted almost on an annual basis to best serve the needs of incoming first-year students. Prior to the Siyaphumelela project, the focus of the UFS101 was to develop students' computer literacy skills in order to use technology to support their academic success; enable students to formulate an education plan that linked with their career aspirations and help them to understand the benefits of a higher education; and to enhance students' critical thinking skills to engage with academic knowledge. The aim in the second semester was to show students how multiple perspectives can be used to engage with complex problems, thereby promoting a common intellectual experience.

In terms of data analytics, UFS had three major challenges: first, the use of data to inform decisions was limited to institutional management; second, and related to the first point, data dissemination and use was hampered by a lack of tailoring material to different audiences; and finally, the decentralized nature of data at the institution had serious implications for governance, data integrity, and ethical considerations.

The Kresge funding of the South African Survey of Student Engagement and the inclusion of the University in the Siyaphumelela project helped the institution to further develop the SASSE, and position tutorials, academic advising, UFS101 and academic literacy as scaled high-impact practices, from which thousands of students benefit each year.

The strong focus on data analytics in the Siyaphumelela project has enabled UFS to make significant progress in disseminating data to different users, nurturing a culture of data-driven decision making in the institution, interrogating data infrastructure needs and challenges, and introduce innovative ways to support students. It assisted in monitoring the impact of scaled initiatives and to develop more sophisticated data monitoring and evaluation approaches.

These initiatives also contributed to an undergraduate success rate improvement from 77% in 2013 to 80% in 2018, and reducing the first-year dropout rate from 22% in 2012-2013 to 14% in 2016-2017.

University of the Witwatersrand

The Siyaphumelela initiative has assisted Wits better to understand challenges faced by students, especially as they enter higher education, and the impact that these challenges might have on their success. As part of the initiative, Wits has strengthened its use of analytical tools and has developed models that will be shared with the Siyaphumelela Network. Overall, this initiative has resulted in a positive change in institutional culture, encouraging collaboration and supporting evidence-based decision making.

A number of student success initiatives existed at Wits prior to the Siyaphumelela initiative, although there was no coordinated central structure supporting these initiatives institution-wide. These initiatives were mostly funded through the former University Teaching Development Grants (now part of the University Capacity Development Programme), together with University funds. Most of these programmes are ongoing and have benefited from the Siyaphumelela project. These programmes include:

The Targeting Talent Programme: launched in 2007, the programme aimed to increase the academic, social and psychological preparation of academically talented learners, primarily from socio-economically disadvantaged backgrounds for admission to South African universities.

The Residence Tutorials, Course Specific Tutorials, and Academic Writing Courses: aimed to provide academic support to students by providing students with access to academic staff, spaces conducive to learning and environments for students to engage with literature and improve on their academic skills.

Orientation Programme, First Year Experience, Mentorship Programmes, Student Wellness Programmes and Career Development Support: aimed to help students make the transition from high school to university and from university to employment, these programmes equip

students with life skills, such as time management and financial management, as well as assisting students to develop positive coping mechanisms as part of their psychological wellness. In addition, students are now provided with services aimed at shaping their career development.

The Early Warning System: piloted in 2014, aimed to promote the early identification of students requiring academic and other appropriate support based on academic results

Faculty Student Advisors: each faculty appointed at least two Faculty Student Advisors tasked with leading the flagship student success initiatives that are tailored to cater for faculty specific needs. They are the first port of call for students who need any form of support and refer students to other specialised support units in the university when needed, such as for psychological counselling.

Faculty-based Academic Development Units: These units provide a mixture of academic support, such as tutoring in core subjects and help with academic writing, life skills development, curriculum advice and support for practical needs, such as textbooks.

Assistant Deans for Teaching and Learning: Each faculty has an assistant dean for teaching and learning, to whom the faculty student advisors report. The assistant deans chair faculty teaching and learning committees and represent their faculties on the Senate Teaching and Learning Committee.

The Wits Teaching and Learning Plan (2010-2014): laid the foundation for the institutional student success focus, with the 2015-2018 Plan incorporating student success into planning and monitoring practices in order to improve throughput rates and institutionalise a shared and sustained culture of student success.

The Senate: Teaching and Learning Committee: established in 2014, focuses on ways to improve the quality of university teaching and student learning at Wits. It receives reports from Faculty Teaching and Learning Committees, including data on 'high-risk' courses that impact negatively on the success of students, and interventions designed to address this. Making using of evidence-based approaches (data analytics), the committee recommends

strategies and actions to be taken in improving student outcomes to the Senior Executive Team.

A Student portal: was developed to provide a 'self-service' option for students, allowing them to access information technologies, such as learning management systems, as part of their learning. The student portal empowered students to access their own data and learn on innovative platforms, whilst allowing academic staff to generate analytical data gauging student engagement.

The Wits Analytics and Institutional Research Unit, established in 2008, continues to support Wits student success vision through student engagement. The Unit was already conducting an array of institutional research studies, targeted at better understanding student needs, prior to the Siyaphumelela initiative. These studies included surveys dealing with undergraduate student experience, the first-year student experience and surveys on graduate destinations. These studies have provided insights into the perceptions and experiences of students, and how these potentially influence academic outcomes. The Unit's work now also involves collecting data on student background, the monitoring and evaluation of student success initiatives and has expanded into learner analytics as a result of the Siyaphumelela grant.

University of Pretoria

The University of Pretoria provided detailed baseline data in its grant proposal in late 2014. A short summary of the information is given here. The University's Strategic Plan, UP2025, had five goals, one of which, Goal 5, related to student access and success. The reason for the inclusion of this goal was the intensified student success initiatives from 2010 after the first intake of Outcomes-Based Education (OBE) students resulted in a decline in success rates. Existing initiatives were integrated (orientation, tutoring and mentoring) and innovations were introduced (such as Faculty Student Advisors) in what became known as the Student Academic Development and Excellence Model, under the leadership of the Vice Principal. The following practices were identified in 2014:

Steering Committee for Student Access and Success (SADEM)

- Sub-committee of the Senate Committee on Teaching and Learning;
- Multiple stakeholders, including students.

Student Academic Development and Excellence Model (SADEM) High Impact Practices

- Orientation of first-year students: F2F and online (UPO101 – voluntary);
- Academic information management module (AIM);
- Identification of high impact (gateway) modules;
- Tutoring;
- Mentoring;
- Advising (one full or part time advisor per Faculty);
- Community engagement;
- Early warning system: STARS;
- Mid-year cluster analysis;
- Longitudinal dropout study.

In terms of Institutional research capacity for executive decision making and official reporting, expertise was centralised in the Bureau for Institutional Research and Planning (BIRAP). They provided aggregated data to the Executive. They had moved from their old system to PeopleSoft, which they did not find satisfactory, and they were unable to do cohort analysis.

BIRAP did collaborate with the Higher Education Research and Innovation (HERI) Unit in the Department for Education Innovation on some projects related to using data for analyses related to student success. HERI had a record of research into student success but limited institutional impact.

In terms of learning analytics, the University was piloting Blackboard Analytics for Learn.

At Faculty level, examination results committees investigated all modules with a success average lower than 70% and put in interventions to improve the situation. As part of the SADEM model, Faculties also identified high impact modules (HIMs), usually first-year

modules with high registrations from students in multiple programmes across five or six Faculties for special interventions such as tutoring.

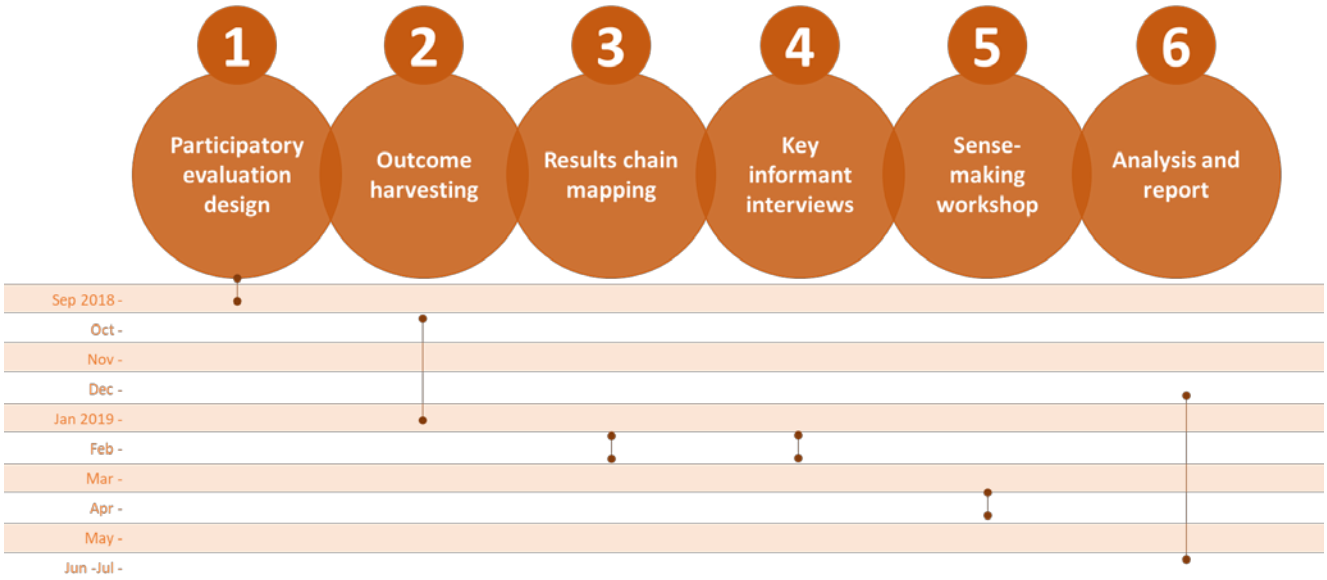
In terms of student data, 42.4% of first-time entering students were black African. The 2014 cohort graduating in minimum time was 36%. 423 first time entering students received NSFAS at the 'zero contribution from family' level.

Problems identified by a longitudinal dropout study conducted by HERI indicated repeat problems: problems associated with course-choice; under-preparedness coming from school; first-generation at university in family; problems associated with finance – fees, accommodation, food, transport; problems with lack of family support, etc.

4. Evaluation Methodology

The Siyaphumelela Evaluation team took a Developmental approach to the evaluation. This was informed by the unique and complex nature of the programme which required an approach which would be underpinned by evaluation best practice, but also ensure emergent findings and learning. The evaluation methodology was based on a Developmental Evaluation approach and included various steps to implement the approach and to adapt as the evaluation progressed. The methodology is summarised in the diagram below and further detailed in this section.

Diagram 1. Evaluation methods and timeline



4.1 Developmental Evaluation

A Developmental Evaluation[11] approach underpins the Siyaphumelela Programme evaluation methodology. The purpose of Developmental Evaluation is centred on programme improvement. It aims to understand and adapt to the evolving and dynamic conditions in which the program, project or activity is taking place[12]. It takes an iterative approach to data collection, analysis and feedback that contributes to timely changes throughout a project cycle and allows for adaptation and taking stock of system influences and conditions influencing change; as well as changes in targeted outcomes. The overall Developmental Evaluation approach is strongly interpretive, because it brings together observation, understanding and intuition with data and hard evidence, fostering a shared framework for reflection among those involved.

Developmental Evaluation[13] is suited for projects or programmes that:

- operate in uncertain contexts or changing environments;
- aim to determine what works and does not work; and
- require collaboration amongst stakeholders from different organisations

The Siyaphumelela Programme fits the criteria listed. As described in the context section, each institution participating in the programme operated in different and changing contexts. This was exacerbated by fee protests, changes in leadership, and staff and systemic changes. The complexities trickled down to faculties, schools and departments. This meant that the pathways to directly influence change in student success were non-linear. To measure a single model of causal paths or assess all institutions or even faculties would not yield valid or valuable results. As a pioneering programme on the continent, accountability was not the only focus for programme management. A need for a deeper understanding of the models applied, various changes that emerged and lessons learnt was a priority in programme

[11] Patton, M.Q. 2010. Developmental Evaluation: Applying Complexity Concepts to Enhance Innovation and Use. Guilford Press
[12] Tammy Horne. The View through the Kaleidoscope: Developmental Evaluation http://wellquestconsulting.com/files/Developmental%20Evaluation%20-%20FINAL.pdf.
[13] Nigel Simister. 2010. Developmental Evaluation. Intrac for Civil Society. https://www.intrac.org/wpcms/wp-content/uploads/2017/01/Developmental-evaluation.pdf

assessment. The approach to determining what works and does not work as defined in Developmental Evaluation was preferable to meet these needs and context. Furthermore, the nature of the programme was to foster collaboration and learning across all institutes. So, it is fitting that the evaluation took this into account in order to continue the programme team learning.

Traditional evaluation approaches may have methods for evidence collection defined and set at the start of a project or programme. In contrast, Developmental Evaluation methods can be chosen during the evaluation and be based on the needs at that moment in time. Another comparative difference is the focus on learning, and less so on accountability. This is implemented by an evaluator who works closely with the programme team, working together on the design, methods and interpretation of evidence for decision-making, rather than having a completely external role.

Developmental Evaluation is often used from the start of a programme to allow for on-going learning and adaptions. While the use of the approach at the onset is ideal, in the case of the Siyaphumelela Evaluation, the evaluation approach was introduced at the end of the programme. The approach was nonetheless important in reflecting on and adjusting the methodology during the evaluation period, improving on the generation of evidence and sourcing further insights for the next stage of the programme. The approach was also important in this evaluation given the complex nature and context of the programme being evaluated. Furthermore, the various tacit and explicit sources of data records of programme outcomes and lessons needed a flexible approach to untangle the compounded mass of evidence. The table that follows summarizes the characteristics of this approach and how it was implemented in the evaluation.

Table 1: Developmental Evaluation characteristics and related evaluation methods

Characteristics of Developmental Evaluation[14]	**How it was incorporated in the evaluation**
Purpose supports development of innovation and adaption	Outcomes and lessons of Siyaphumelela emerged through the evaluation process. This required adaptation in methodology, and innovative methods to understand the programme results and lessons.
Role of internal team members and processes	Participatory methods were imbedded in the evaluation approach, including the involvement of the *Saide* and broader Siyaphumelela team in the design, review and sense-making sessions.
Focused on the organization's values and goals	Sharing and understanding what worked and did not work across institutions was considered in the approach, including in the sense-making and results chain workshop.
Use-focused methods	The approach was highly participatory, allowing the Siyaphumelela team to provide inputs on the design, and engaging a Kresge representative on the intended use of the evaluation. Recommendations for improving the next phase of Siyaphumelela were also included in the data collection process. The final report includes 3 outputs (infographic summaries, report, presentation) for different audiences and uses.
Measure as outcomes emerge and changed over time	Methods such as Outcome Harvesting and mapping results to take stock of the varieties of change occurring were used. The approach was changed during the evaluation to delve deeper into understanding the outcomes and the context in which they occurred.
Complexity aware – using learning and responding to findings as they unfold	Complexity aware[15] methods were incorporated – which probed the underlying influences on change and the background conditions which sustain or restrain envisaged development.
Highly flexibly, supports agile learning	The methods designed at the beginning of the evaluation were adapted during the evaluation based on preliminary results and further insights explored. Some learning was incorporated into the next stage of the programme during finalising the evaluation report.

[14] Adapted from Patton, M.Q. 2010. Developmental Evaluation: Applying Complexity Concepts to Enhance Innovation and Use. Guilford Press

[15] https://www.betterevaluation.org/en/resources/guide/complexity_aware_monitoring

4.2 Data Collection and Analysis

Four methods of data collection were used. In addition, an evaluation design step was completed to start the process and ending with assimilating all evidence through analysis and developing four report outputs (infographic summary, executive summary, full report, report slide deck). These are described in this section.

1 Participatory evaluation design

The evaluation design was completed in two stages. The first stage of design followed a traditional evaluation approach, using a programme theory and mixed methods for data collection. After discussions about the initial proposed approach, it was decided that although the approach was adequate in drawing some insights on results from each institution, it was not as useful in accounting for the complexity in programme implementation. For example: accounting for Durban University of Technology joining at a later stage so that results or stages of results might be at earlier stages than those of other institutions; while the fees must fall protest was thought to be a potential disruptor of the programme activities in some institutions. Furthermore, the budget parameters and pre-existing data meant that extensive surveys and/or interviews were not required or feasible.

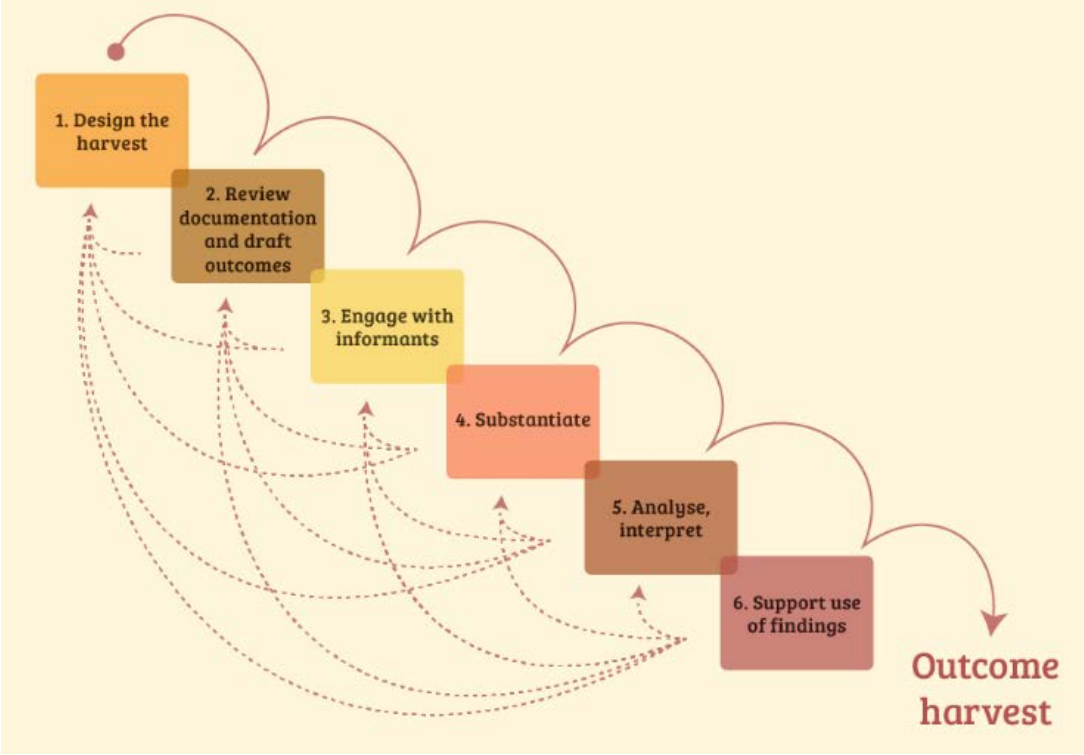
A higher education and an outcome harvesting advisor supported the development of the second evaluation design stage. The key considerations were to explore approaches to account for the complexity across institutions; focus on contribution rather than attribution; and to use the available repository of institutional reports. It remained important to answer the evaluation questions and the expected and unexpected results for each institution, as outlined in the evaluation terms of reference.

The final approach as described in this section was discussed with the *Saide* team, and the broader Siyaphumelela team at the evaluation inception meeting. Some aspects of the evaluation were refined during these engagements on an ongoing basis, such as the inclusion of key informant interviews and the framework for outcome harvesting.

2 Outcome harvesting

Outcome harvesting[16] was the first step in the data collection for the evaluation. Outcome harvesting is used to identify, formulate, verify, analyse and interpret 'outcomes' in programming contexts where relations of cause and effect are not fully understood. The method of understanding programme outcomes does not aim to find outcomes based on pre-determined objectives. It aims to collect evidence of what has changed, and then to work backwards to determine the contribution of the programme to the change, be it positive or negative[9]. The process for outcome harvesting is summarised in diagram 1.

Diagram 1. Steps in outcome harvesting. Source: Wilson-Grau 2015



To launch the outcome harvest, a framework defining a Siyaphumelela programme outcomes and social actors was defined. In the following step, 36 institutional and programme progress reports, and related assessment reports were sourced, including the outcomes of the Kresge-

[16] Wilson-Grau, R. (2015) Outcome Harvesting. BetterEvaluation. Retrieved from http://betterevaluation.org/plan/app roach/outcome_harvesting

Saide-Institutional strengths, weaknesses, opportunities and threats (SWOT) session and the Kresge 2017/2018 interviews. Using the agreed harvest framework all outcomes were extracted and documented in an outcome table for each institution. This included an outcome number, outcome statement (what the result is, who influenced it, how and when), substantiation and relevance. The outcomes were categorised and summarised in the tables. Some required further inputs from the programme team to confirm the outcomes and fill in gaps in information.

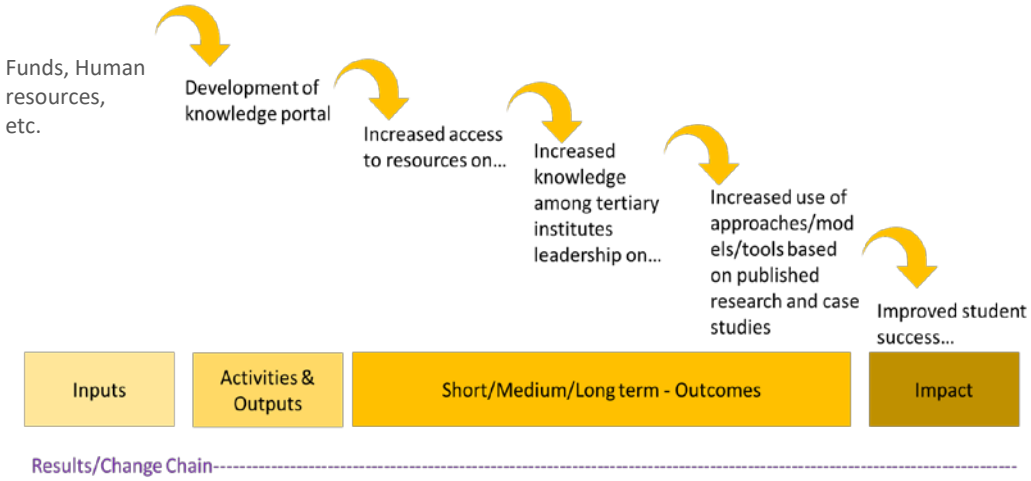
The draft outcome tables were discussed with the *Saide* team. Through the review, it was identified that the outcome harvest process was not enough to draw out all outcomes and other lessons from implementation. This was a limitation in the process. The outcome harvesting was undertaken based on the assumption that the reports succinctly documented all results and would be easily identified and interpreted by the evaluators. To meet the changing evaluation needs, and doing so in an agile manner, the results mapping process described in the next section was introduced. The outcome tables were used as a record for validation of results/findings.

3 Results chain mapping

A results chain[17] documents the various stages of achieving a result as a sequence from inputs and activities, to outputs then outcomes. In order to elaborate on the outcomes harvested or others not yet identified, each institution developed its own diagram of results chains – example in diagram 2.

[17] https://resultsbased.org/site/results-based-methods/introduction-to-results-chain/

Diagram 2: Example of results chain



A workshop was facilitated with four institutions and the *Saide* team. A virtual discussion was held with the one institution that was unable to attend the workshop. The workshop was used to explain what a results chain is and then allowing the institutional teams to develop a series of results chains themselves, documenting their results during the Siyaphumelela programme. The results were framed around the institutional team efforts to support student success (e.g. increased knowledge on dashboard platforms among institutional data analysts). The teams were required to document the specific result, when it occurred, and who the result affected. The teams listed key activities, and then ranked results from short, medium to long-term results, as well as highlighting the three results of greatest significance. In addition, institutions reflected on the role of *Saide* and other institutions in achieving specific results, challenges and contextual influences.

The results chains were documented in MS Excel and disseminated to all teams to review. This included additional virtual and face to face engagement where feedback was provided. All comments were revised in diagrams, validated through the key informant interviews and outcome harvest, and analysed to respond to the evaluation questions. In the final stages of report writing, this process was repeated.

4 Key informant interviews

Key informant interviews were conducted with the primary purpose of validating the results presented in the results chain. In other words, to assess whether the results were true

and corroborated by individuals external to the programme, or not directly involved in programme activities. The secondary purpose was to draw further insights to support the results. The interview guide can be found in Appendix 1. The guide was developed with inputs from the Siyaphumelela team during the results chain workshop. The questions were focused on the following areas:

- Results of Siyaphumelela Programme
- Influence of Siyaphumelela activities on student success
- Other/external activities which would also have influenced student success
- Enablers and barriers to the programme success
- Recommendations for improvements of the programme
- Benefits of the Kresge and *Saide* roles

Twenty individuals were interviewed by John Butler-Adam, higher education advisor, either face-to-face or virtually. The interviewees were selected by the Siyaphumelela team and the advisor. They included representatives from the Programme institutions, other institutions and national higher education bodies. The full list of interviewees is in Appendix 2.

5 Sense-making workshop

As described in the Developmental Evaluation approach, participation and on-going review was a key part of this evaluation process. A sense-making[18] workshop was facilitated to support data analysis and interpretation. It is also a critical step to support data use among the programme team through their participation. The workshop was conducted with representatives from all institutions involved in the Siyaphumelela programme. During the workshop, preliminary findings were shared and discussed. The workshop was an opportunity to review the initial analysis of the findings from the results chain, interview and outcome

[18] https://censemaking.com/2014/01/13/developmental-evaluation-and-sensemaking/

harvest validation. During the session the analysis was critiqued and the approach to the results categorisation refined.

6 Analysis and Report

The data drawn from the results chain mapping and interviews were analysed in order to respond to the primary and secondary questions. This was done by developing results categories and allocating these to each result, then conducting a high-level thematic analysis based on these categories. The categories were determined based on the primary evaluation question, and further unpacking of the types of results that might be expected. These categories were determined collaboratively with inputs from the Siyaphumelela team during the sense-making workshop and further discussions and redefinitions when required.

Nine categories were identified. Institutional activities and short-, medium- and long-term results (outcomes) were categorised to assimilate all results identified. The categories and their definitions are listed in the findings section. The categories were related to aspects of:

1. Learning about models to optimize student success shared as high impact practices
2. Sustained capacity developed to implement and manage a data chain (collect, collate, analyse and use both historical and real-time data)
3. A positive culture of evidence-based enquiry and analysis geared towards student success is created and sustained

The occurrences of each result category were determined for each institution separately. A description of the relevant results, and related quotes from interviews were extracted and consolidated in a narrative statement.

Further themes drawn from the interviews were documented in the results narrative. The narrative covers: cross-cutting results (i.e. results appearing in more than one institution), enabling factors and barriers to the Siyaphumelela Programme, external factors affecting the Siyaphumelela Programme, and consideration of the future of Siyaphumelela.

The evaluation is documented in this detailed report, the executive summary, infographics and a slide deck all of which were discussed with the participants and revised on the basis of additional contributions These various report outputs were developed to support use and presentation to different stakeholders.

5. Results

The findings from the results chain review, validation and interviews are presented in the following sections. This information was used to respond to the research questions set out in Section 2 above. In this section the results categories identified, and the institutional results are presented and described. Overall results, key lessons, enablers and barriers during the Siyaphumelela programme are summarised.

5.1 Results Categories

During the sense-making session, using the initial analysis of the results chains, the categories for the results were discussed. These categories of results are relevant to the programme objectives and to answering the evaluation questions. The descriptions of these categories were documented and shared for further inputs from the team. The agreed descriptions and examples are provided in Table 2. Each category is represented by an icon which is used to categorise visually and to identify the results documented in the next section.

Table 2. Results categories and definitions

NO.	CATEGORY	DEFINITION
1	Practices 	"Practices" refers to specific activities and initiatives implemented with the expected outcome of optimising student success. Practices include those that were in existence before the Siyaphumelela Programme and were enhanced; and new practices developed by or with the support of the Siyaphumelela team. The practices include, but are not limited to, those relating directly to students such as student tracking, advising, Supplementary Instruction, and practices relating to institutional arrangements (e.g. cohort of Data Jedi) or specific management practices (e.g. use of data in decision-making).
2	Culture 	"Culture" is a broad category encompassing results relevant to changes in behaviour. These changes are specifically related to the use of data to inform decision-making, the focus on student success and completion, and the interaction of data users and producers. Culture changes are recognised at various levels: inter-institutional (e.g. changes in how universities engage with data), intra-institutional (e.g. change in how schools engage with data for student success), and systemic where the change is observed. Culture encompasses results related to changes in behaviour and action such as national discourse, ways of thinking, cases of "breaking silos" (intra/inter university collaboration), and systemic shifts (e.g. DHET engagement with data and evidence). It also includes evidence demonstrating trust within and between institutions, cases of commitment at various levels in institutions and the sector. Furthermore, Culture includes a focus on data use such as the actual use, or willingness to use, evidence, the demand for evidence, and records of evidence-based decision making (e.g. monitoring and evaluation based-measures of the impact of student success initiatives).
3	Policy 	"Policy" results include documented frameworks, guides or strategies relevant to student success and the use of data to support this. The policies could be applicable to an institution as a whole or be systemic (government policy). Policy changes internal to institutions include university strategies and their implementation through setting related Key Performance Areas. At the systemic level, this includes DHET responses or other national body responses to student success and a focus on data use. Cases of these are, for example, that a category of university development grants requires a student success focus and requires evidence from the recipient.

4	Student engagement 	"Student Engagement" is the proactive inclusion of students in research and planning relevant to student success. This may be through invitations to discussions on student success, surveys and interviews with students, dissemination of institutional plans, creating opportunities for students to participate in events. Examples of student engagement included the South African Survey on Student Engagement (SASSE), student participation in student success committees, funding and supporting student attendance at conferences and participation in student success initiatives within each institution.
5	Capacity development 	"Capacity Development" includes strengthening or increasing human resources and developing the skills of individuals to support student success efforts better, including the ability to develop data analytics and the use of data for management and decision-making. This includes the appointment of new staff or consultants. The addition of data analysts or data scientists is one such example. Skills development results are evident through activities such as training, coaching and professional development activities (e.g. internal support, Achieving the Dream, etc.). Capacity development can be intra-institutional and inter-institutional.
6	Systems 	Results that fall within the "Systems" category involve both technical systems (e.g. Information, Communication and Technology services) and broader process systems (e.g. grants to institutions). It also covers the coherence of national systems, such as the development and use of a National Student Data Warehouse and a national approach to student advising, which might have existed in a fragmented form prior to Siyaphumelela. Technical systems include data platforms, analytics, reporting and centralised data access. Examples of systems, activities and accounts of system gaps are contained in this category, as are efforts to align systems through coaching and internal planning.
7	Information and Knowledge 	"Knowledge" access and sharing results cover technical systems to support knowledge access, research and other evidence generation activities and knowledge sharing through events and communities of practice. The Siyaphumelela website is an example of a platform for knowledge sharing. The student success research studies, indicators developed, predictive analytics, case studies, and internal monitoring and evaluation are examples of evidence generation for knowledge. The conferences and convening meetings are opportunities for accessing new knowledge and sharing knowledge across institutions and with national bodies. There are Information sharing results that mainly focused on inter-institutional information sharing. This includes sharing lessons, failures, cases, approaches, practices, data, resources, etc. that may support another institution's student success efforts. Information sharing occurred at

		convening meetings, national conferences (discourse) and international conferences (Achieving the Dream), meetings, and through informal engagement opportunities (e.g. networking at a conference).
8	Tools 	"Tools" refer to tangible applications, documented tools and applications for student success interventions. These include tools for collecting, collating and analysing data on students and student success (e.g. the Risk Analysis and Detection to Assist and Retain Students [RADAR] system and Auto Scholar are platforms used as early warning tools). Other tools include those that function as guidelines for action or supporting decision making (e.g. the ethical use of data guidelines, Institutional Capacity Assessment Tool, the South African Student Engagement Survey, the data dictionary, and documented practices and approaches) and those useful to other student success interventions (the career application and the student profiling instrument).
9	Student success indicators 	"Student Success" indicators used are (1) retention of first time entering students; (2) success rates of undergraduate students - defined as the completed full-time equivalents (FTEs) expressed as a percentage of the enrolled full-time equivalents; and (3) module pass rates – which is the percentage of students who passed the examination in that module in relation to the total number of initial registrations as at the last date for registration changes (note: this is different to success rates). These are tracked and documented annually and analysed according to gender, race and ideally school quintile. Positive changes in these indicators are important results of student success and are supported by results across all categories. In this grant period, completion could not be tracked because of the limited duration of the programme to date.

5.2 Results Chains

As explained in section 5.1, nine categories of results were identified. These all relate to aspects of the intended objectives of the Siyaphumelela Programme and the primary evaluation question. The list of these categories and definitions are set out on page 34-36. The results section presents the evidence based on the results documented and then verified during the interviews. These are presented for each institution with additions based on final feedback from the institutions. The relevant results categories are presented as icons and colour coded to depict the frequency of the category for each institution's results chains. In addition, the chains of activities, short-, medium-, long-term results are presented diagrammatically.

The three most significant results chains are depicted by the colour coded arrows:

(1)  (2)  (3) 

Durban University of Technology

The results diagram on pages 51 - 52 represents all key activities and results for the Durban University of Technology. The results chains for the three most significant results are represented by arrows. These depict the logical chain of results from activity to short-, medium-, and long-term results.

In the first column, the development of Practices, Tools and Capacity Development were the most common type of activities that influenced the depicted results. Practices were a focus of Durban University of Technology activities. This included the establishment of a Student Success Task Team (2016 to date), a Data Jedi team for each faculty (established in 2017 and ongoing), planning data and implementing data capacity workshops and quarterly meetings. These activities influenced short-term results in increasing engagement with survey data, capacity to use data, and opportunities to collaborate on data use. This influenced changes in the mid-term, including, improving perceptions on student success and access to data. This chain of results is depicted in the highlighted three key results.

Another notable activity is the implementation of the student tracking system (tool), AutoScholar, in two faculties. Though it is not highlighted as influencing one of three key results, use of AutoScholar is an important result. In the short-term (2018), AutoScholar was demonstrated to other universities of technology and was put forward for consideration as a locally developed tracking system. In the same year, AutoScholar was used to map and track exit level outcomes for Engineering faculty accreditation.

When comparing the overall most common categories of results (short, medium, long) Practices, Culture, and Capacity Development are the most frequently listed type of result in the case of Durban University of Technology. This is an indication that most of the outcomes of the Siyaphumelela activities are related to examples of changes in data use culture, approaches to data use, culture changes and the development of skills and capacity to improve the use of data for student success. However, there were relatively few results listed related to policy change.

As highlighted earlier, Durban University of Technology's participation period was different to that of the other institutions as it joined the programme a year later than the others. Policy change may be a long-term result. This was confirmed in the interview with a representative from the office of the Deputy Vice-Chancellor. The activities related to establishing the Student Success Task Team (2016-2018) have influenced policy change in the institution. Based on the chain of results demonstrating the effects of the Student Success Task Team on adapting approaches in Strategic Enrolment Management and Planning, one anticipates that this will reflect in institutional policy in the upcoming year.

Some results occur in multiple categories. The major long-term result listed by Durban University of Technology encompasses Culture, Practices and Systems and Tools results: "Improved culture around use of data for student tracking and student success among faculty and support staff – ongoing – progressive change". This demonstrates the extent of change through the programme and verified in the interviews:

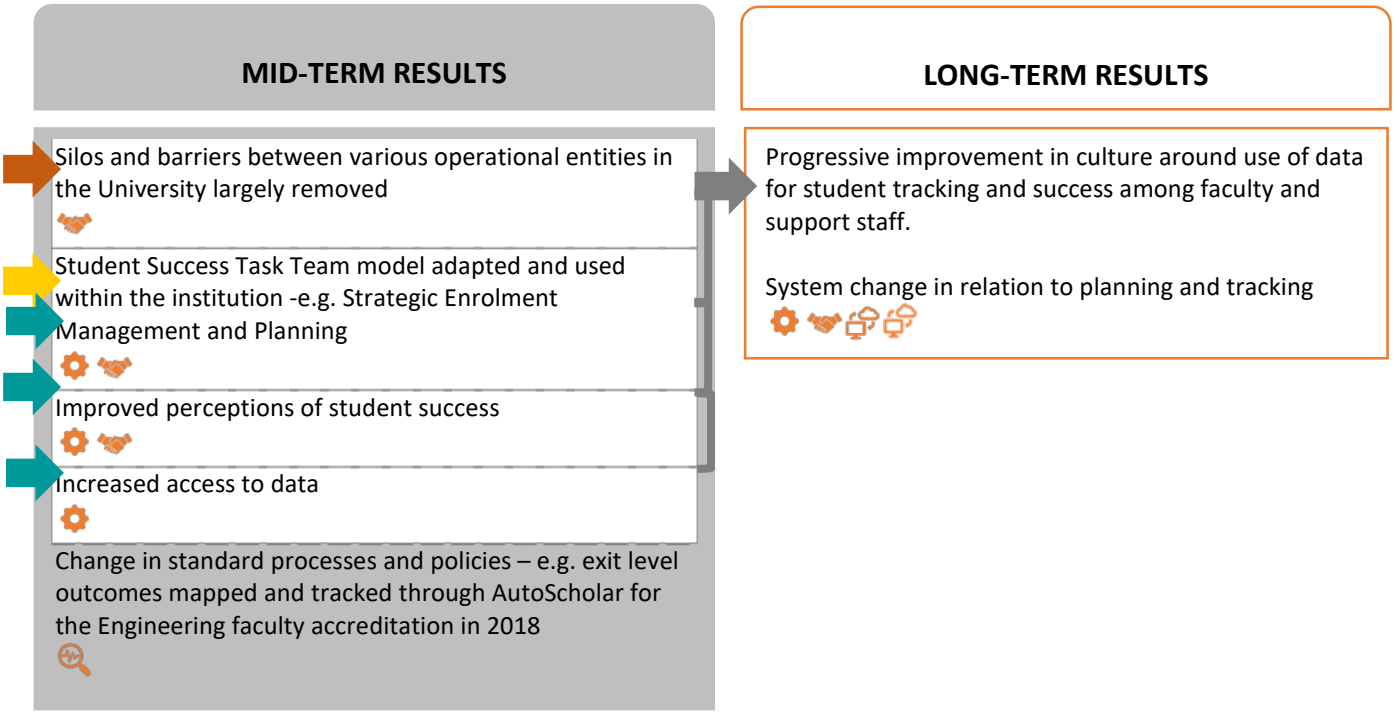
> *"…building a culture of evidence engaged decision making. This is backed up by a VC who embodies this culture and practices it himself." – Siyaphumelela team member*

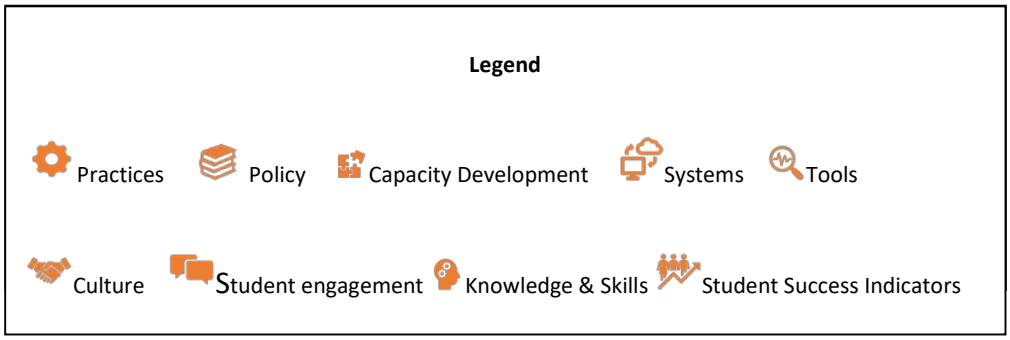
In contrast, the need for improvement is acknowledged, in terms of use of data in decision-making:

"...But as far as culture of evidenced based decision making has improved but Durban University of Technology has not yet 'arrived' - Senior Manager at institution

Though only one result is categorised as Knowledge Sharing, this result encompasses multiple knowledge sharing activities and more specific results which have been ongoing during the programme. For example, amongst other positive effects, these have influenced the changes in culture, breaking down of silos and consequent capacity building

ACTIVITIES	SHORT-TERM RESULTS
Established a Student Success Task Team (SSTT) - including faculties, academic support and administrative divisions, meeting quarterly, 2016 to 2018	Increased opportunities for staff to meet and collaborate
Administered, analysed and shared results of various engagement surveys: 2016 SASSE; 2017 CLASSE; 2018 SASSE, CLASSE; 2019 BUSSE	Increased understanding of SSTT approach
Established Data Jedi team one per faculty, in 2017, to understand student success data	Increased use of engagement surveys data to faculties and boards
Planned and conducted data capacity development workshops for identified staff in 2018	Increased sharing of good practice and learning
Staff trained in MS Excel, academic staff induction and AutoScholar in 2018	Increased engagement of Data Jedi with student success data at quarterly faculty board meetings among faculties
Published audited data repository on SharePoint for DUT staff in 2018	Increased accessibility and availability of data
Developed a draft Data Catalogue for data working group in preparation for data warehouse development and data training in 2018	Improved capacity to use data
Implemented a pilot student tracking system (AutoScholar) for identified programmes in two faculties in 2018	Improved understanding of data definitions for data working group
Submitted proposal for approval and procured appropriate data warehouse solution for DUT, 2018 for implementation first quarter 2019	Scaled interest of AutoScholar and consideration as a locally developed tracking system
	Generation of new student data not collected previously, helped to inform faculties and other divisions of the university in understanding students and helping to inform student success interventions
	New data warehouse infrastructure sourced, implementation during 1st quarter 2019, that provided the university with 'a single source of truth' for student success and other data


MID-TERM RESULTS
LONG-TERM RESULTS
Silos and barriers between various operational entities in the University largely removed
Student Success Task Team model adapted and used within the institution -e.g. Strategic Enrolment Management and Planning
Improved perceptions of student success
Increased access to data
Change in standard processes and policies – e.g. exit level outcomes mapped and tracked through AutoScholar for the Engineering faculty accreditation in 2018
Progressive improvement in culture around use of data for student tracking and success among faculty and support staff.
System change in relation to planning and tracking


Legend
Practices
Policy
Capacity Development
Systems
Tools
Culture
Student engagement
Knowledge & Skills
Student Success Indicators

Nelson Mandela University

The results diagram on page 55 - 56 represents all key activities and results for Nelson Mandela University. The results chains prioritised as the three most significant results are represented by arrows. These depict the logical chain of results from activity to short-, medium-, and long-term results.

In the first column of the results diagram, multiple Capacity Development and Systems are listed as activities that influenced the result chains. The three Systems related activities included the upgrade of the student counselling databases and linking the learning enhancement checklist for student counselling to the Risk Analysis and Detection to Assist and Retain system (RADAR); the development of student indicator dashboards, and a database that academic advisors used to record student consultation information – all commencing in 2017 and on-going. In addition, Culture, and Information and Knowledge sharing, form the various other critical activities affecting the results.

The results from the development, testing and improvement of RADAR as a tool for early warning is also a critical activity as it is linked to all system related activities as well. *The results are evident in the increased use of RADAR to access and monitor student success indicators in the short-term, as well the streamlined identification and referral of students for counselling and academic advising in 2018*. This has led to advances in the predictive analytics of RADAR. RADAR also influenced an increase in support provided to students, reduction in student drop-out and the knowledge and awareness of student success indicators. Long-term results mentioned include a shift in focus on tracking and improving student success, and overall improved data availability and access.

Capacity Development, Culture and Knowledge Sharing are the most common categories of results documented by Nelson Mandela University as a result of Siyaphumelela activities. There are fewer results related to Student Success Indicators although the results that do emerge are nonetheless of considerable significance as is Student Engagement. *This is particularly the case for significant work driving Student Success*. Student Success Indicators

do require longer term change and hence may not be a clear or identified result at this stage in the institution, but will soon become so.

The long-term results listed for Nelson Mandela University encompass Culture, Policy, and Systems changes:

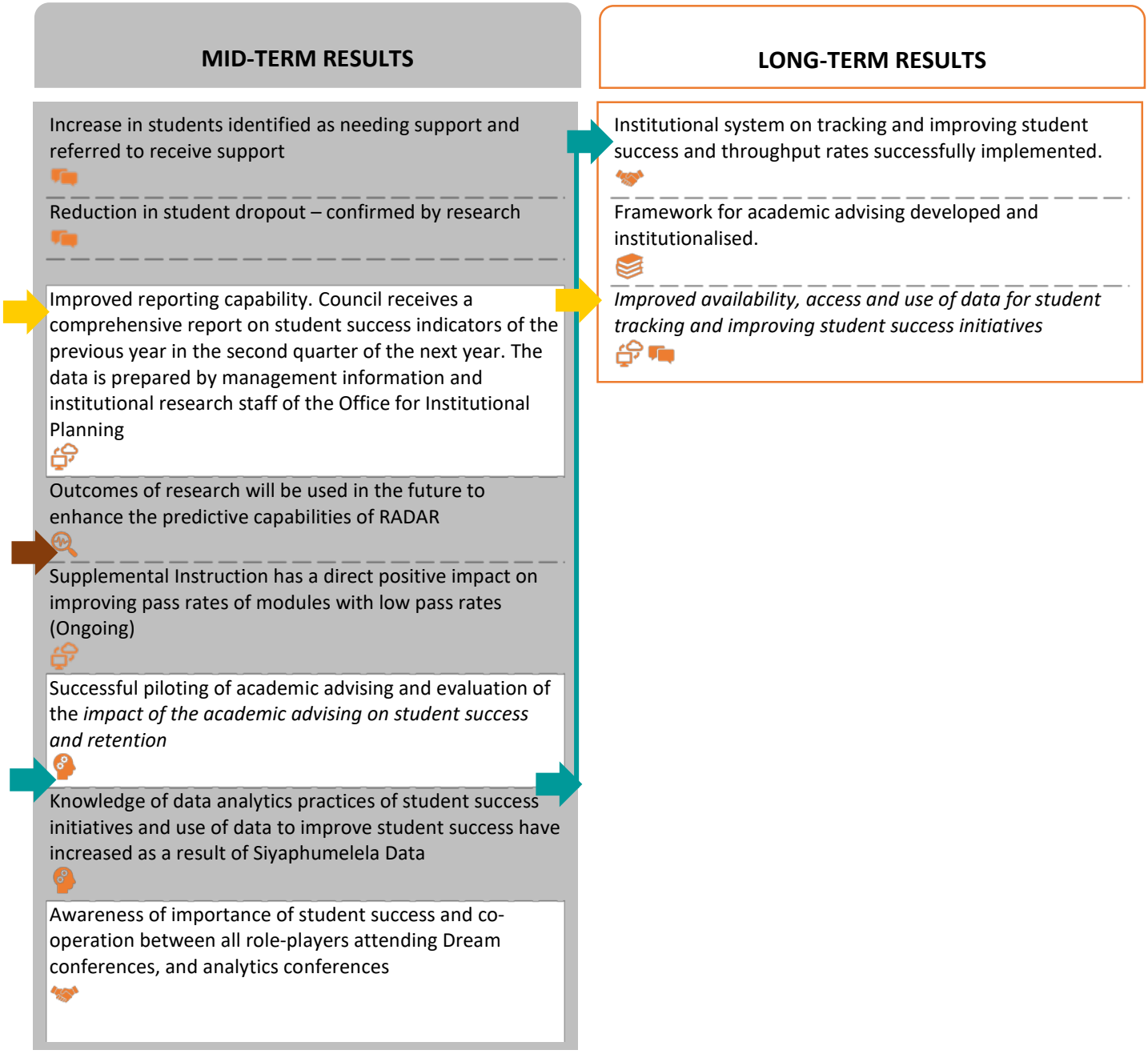
- "Institutional focus on tracking and improving student success and through inputs"
- "Framework for academic advising and institutionalisation of academic advising"
- "Improved data availability and access, student engagement and success indicators, use of data for student tracking and improving student success initiatives"

Interviews validated the documented culture change.

> *"We were always data intensive, but the program has improved the quality, quantity and level of evidence-based decision making" – Siyaphumelela team member*

An additional finding is that, though information sharing was not documented as a result, it was identified as a result during the interviews. A Senior Manager at the institution indicated that: *"[There has been] considerable inter-institution sharing and learning",* in addition to new approaches in sharing information.

ACTIVITIES	SHORT-TERM RESULTS
Developed, tested and improved an electronic early warning, tracking and monitoring system (2014- ongoing), RADAR developed in Law and Engineering Faculties	Increase in use of *RADAR to access and monitor student success indicators* and the extent to which students take up academic support and development opportunities (Piloted in 2018) used by lecturers in Law Faculty and School of Engineering
Upgraded the student counselling databases and linked the Learning Enhancement Checklist of student counselling to RADAR (2017- ongoing)	Streamlined identification and referral of students in need of student counselling and/or academic advising through the upgrading of student counselling databases and linkage to RADAR (2018)
Explored academic advising by piloting in certain faculties (2017- ongoing)	Improved conceptualisation of what academic advising entails and job descriptions for academic advisors
Developed an institutional definition of academic advising	Database for academic advisors to capture information on students seen and reasons for consultation was developed and is currently in the testing phase (2018). Future developments will create a place for advisors to capture notes on cases
Developed job descriptions for academic advising, and undertook research to monitor and evaluate the effectiveness of academic advising	
Held internal Siyaphumelela workshops to raise student success awareness and share the best practices (2015-2017)	*Greater awareness amongst management and academic staff on the importance of student success* and highlighting the need to increase the current degree completion rates of students
Developed a facility on the Ukubamba database of student counselling where academic advisors can capture notes and keep record of cases that they have dealt with. (2018-ongoing)	Enhanced cooperation and coordination between all the internal role players working towards the improvement of student success at NMU.
Staff involved in student success initiatives, attended data analytics training and training on how to develop student success dashboards and infographics (2015-2018)	Development in the overall capacity of the institution to provide better support to students and staff (2015-ongoing)
Established Siyaphumelela Project Team to enhance coordination of student success initiatives (annual meeting)	
Research undertaken on predictors of student success (2016-2018)	*Outcomes of research on predictors of student success and factors influencing non-completion of final year undergraduate studies, provided recommendations for the type of support needed to improve student success.*
Analysed modules that had large enrolment and pass rates consistently <55% for 3 years to identify modules needing Supplemental Instruction	Capacity development of newly appointed academic advisors through professional training
Developed easily accessible student indicator dashboards and data sets	*Created a self-help web-based system of student success indicators* (2015- ongoing)
Replicated a facility on the Ukubamba database of student counselling database for academic advising (2017/8-ongoing)	



Legend

Practices | Policy | Capacity Development | Systems | Tools

Culture | Student engagement | Knowledge & Skills | Student Success Indicators

University of Free State

The results diagram on page 59 - 60 represents all key activities and results. The results chains which were prioritised as the three most significant results are represented by arrows. These are meant to depict the logical chain of results from activity to short-, medium-, and long-term results.

The first column of the results diagram depicts the key activities implemented by the University of Free State Siyaphumelela team. The activities listed are mainly categorised as being related to Knowledge Sharing. Key System related activities included warehouse capacity and data integration in collaboration with ICT; investment in the human resources data quality project in 2016; development of the interventions for high-risk modules since 2015; and analytics to inform scaling up interventions (e.g. cohort study, UFS 101, academic advising).

The Knowledge Sharing focused activities translate to System, Culture and Student Engagement short-term results in increased reporting on student-level data, predictive analytics and identifying student success risk factors. These results then influenced mid-term results in database platform integration, and various results in improved data analytic capacity. Another chain of system-influenced activities is the improvement in the teaching and learning approach and the increase in high-impact practices.

Other activities reported are related to Information and Knowledge sharing, Practices, Capacity Development and Tools. These have influence on similar categories of results in the short-term.

Most of the results identified are related to Knowledge Sharing and Culture. Three long-term results listed are categorised as encompassing Systems, Culture, Policy, Student Engagement, and Student Success Indicators. These were summarised as:

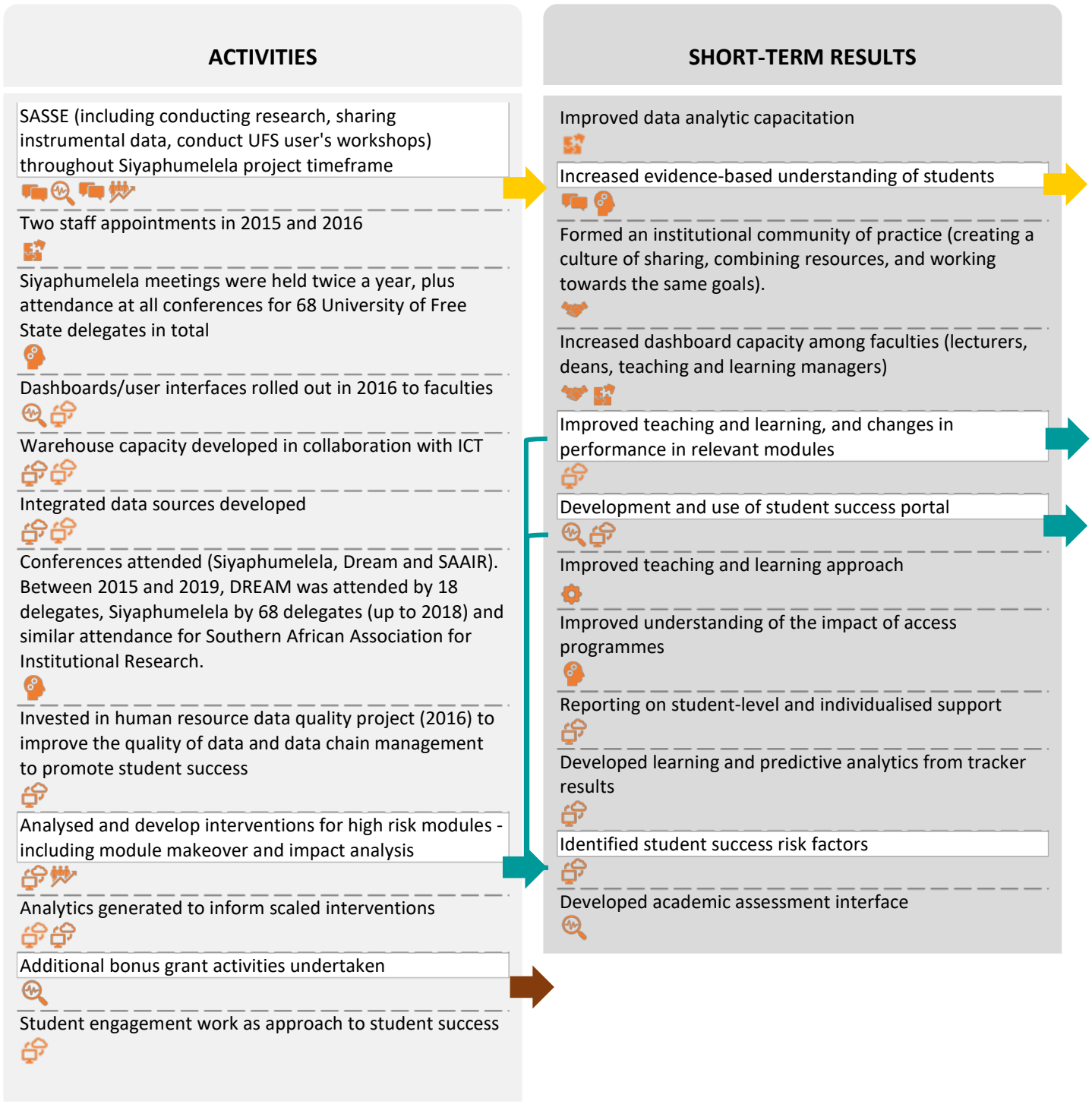
- Institutional culture and culture of evidence (community of practice) and student engagement incorporated in quality assurance

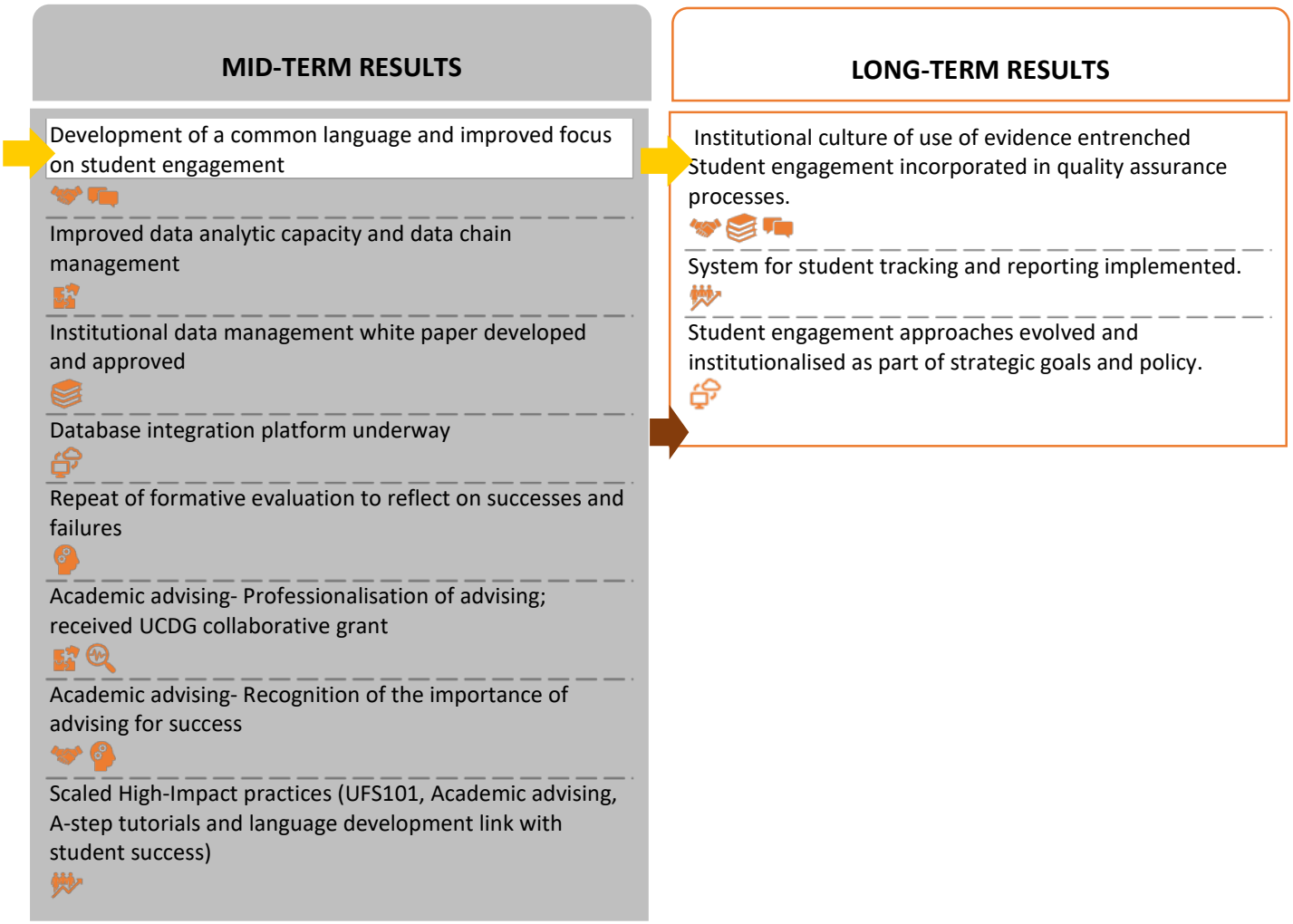
- System for student success tracking and reporting implemented.
- Student engagement approaches evolved and institutionalised as part of strategic goals and institutional policy

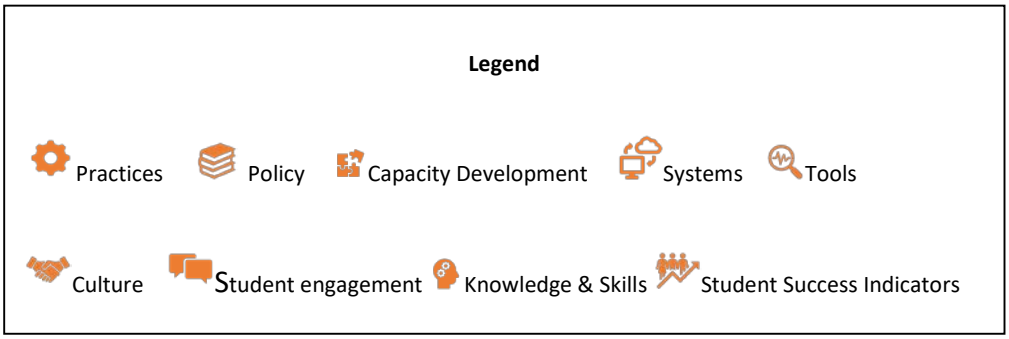
The interviews served to validate the knowledge gained from other institutions: *"University of the Free State used SASSE data but also discovered what other institutions were doing. The University of Witwatersrand approach (large scale) and University of Pretoria stars helped UFS processes a great deal." – Siyaphumelela team member.*

In addition, the long-term result for student engagement was emphasised, "Siyaphumelela helped to improve engagement with students – yes through CTL [Centre for Teaching and Learning]." Knowledge change was not specifically identified as a long-term result but is a key result which is seen in both the short and medium term and has had longer term effects. This is also aligned with Information sharing, in that participation in the Classroom Survey of Student Engagement (CLASSE) and the South African Survey of Student Engagement (SASSE) were shared as an activity, which includes the use of data and sharing of information in interpreting the findings

The need for continuous improvement was also re-iterated "*Siyaphumelela has helped – [to improve] impact -- but we're not yet at the level we should be." – Senior manager in institution*


ACTIVITIES
SHORT-TERM RESULTS
SASSE (including conducting research, sharing instrumental data, conduct UFS user's workshops) throughout Siyaphumelela project timeframe
Two staff appointments in 2015 and 2016
Siyaphumelela meetings were held twice a year, plus attendance at all conferences for 68 University of Free State delegates in total
Dashboards/user interfaces rolled out in 2016 to faculties
Warehouse capacity developed in collaboration with ICT
Integrated data sources developed
Conferences attended (Siyaphumelela, Dream and SAAIR). Between 2015 and 2019, DREAM was attended by 18 delegates, Siyaphumelela by 68 delegates (up to 2018) and similar attendance for Southern African Association for Institutional Research.
Invested in human resource data quality project (2016) to improve the quality of data and data chain management to promote student success
Analysed and develop interventions for high risk modules - including module makeover and impact analysis
Analytics generated to inform scaled interventions
Additional bonus grant activities undertaken
Student engagement work as approach to student success
Improved data analytic capacitation
Increased evidence-based understanding of students
Formed an institutional community of practice (creating a culture of sharing, combining resources, and working towards the same goals).
Increased dashboard capacity among faculties (lecturers, deans, teaching and learning managers)
Improved teaching and learning, and changes in performance in relevant modules
Development and use of student success portal
Improved teaching and learning approach
Improved understanding of the impact of access programmes
Reporting on student-level and individualised support
Developed learning and predictive analytics from tracker results
Identified student success risk factors
Developed academic assessment interface


MID-TERM RESULTS
LONG-TERM RESULTS
Development of a common language and improved focus on student engagement
Improved data analytic capacity and data chain management
Institutional data management white paper developed and approved
Database integration platform underway
Repeat of formative evaluation to reflect on successes and failures
Academic advising- Professionalisation of advising; received UCDG collaborative grant
Academic advising- Recognition of the importance of advising for success
Scaled High-Impact practices (UFS101, Academic advising, A-step tutorials and language development link with student success)
Institutional culture of use of evidence entrenched
Student engagement incorporated in quality assurance processes.
System for student tracking and reporting implemented.
Student engagement approaches evolved and institutionalised as part of strategic goals and policy.


Legend
Practices
Policy
Capacity Development
Systems
Tools
Culture
Student engagement
Knowledge & Skills
Student Success Indicators

The University of the Witwatersrand

The results diagram on pages 63 - 64 represents all key activities and results for the University. The results chains for the three most significant results are represented by arrows. These depict the logical chain of results from activity to short-, medium-, and long-term results.

All key activities are depicted in the first column. The activities categorised as Information and Knowledge Sharing are the most common as is the category. The activities include the design, implementation and use of the biographical questionnaire system, the university mapping study, platforms to discuss student success, and the establishment of the student success task team by the analytics and institutional research team. All other activity categories are represented to some degree in the list of activities.

The design of the biographical questionnaire is an example of a group of activities that have a chain of results from short to mid and long term. It is indicated that the Analytics and Institutional Research team at the University of the Witwatersrand designed the system with the aim to understand university readiness among first year students in 2015. The system was introduced in 2016 to collect student data during registration. Over time, processes were improved to ensure increased student response rates and improved student data collection in the short-term. In the mid-term the value of the biographical data was recognised and this fostered collaboration in refining the system, including the participation of ICT, faculties, student affairs, student representatives and other university stakeholders. The BQ online system has now become part of the overall student registration process at the university.

Most of the results (short, medium, long) identified are related to Culture, Information and Knowledge Sharing, Systems, and Practices. There were also some activities related to Student Engagement aimed at ascertaining students' experiences and perceptions about the service and support provided by the university.

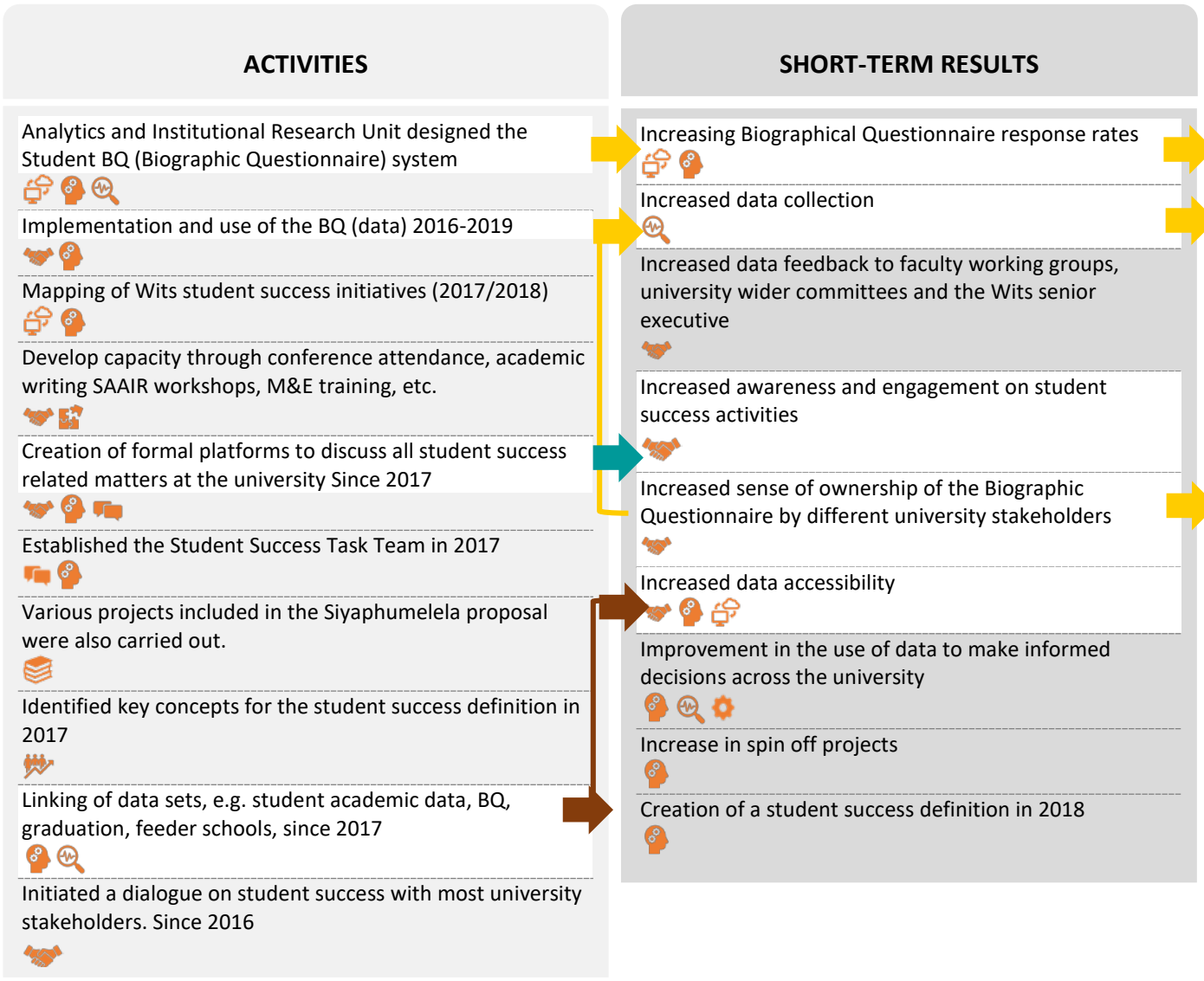
There are six long-term results listed by the University of the Witwatersrand team, and are categorised to encompass Practices, Culture, Policy, Capacity Development and Knowledge

Sharing, and last, the development of Student Success Indicators (determined from the interviews):

- Intra-institutional collaboration around student success established
- Increased pass rates and graduation rates
- Adoption of student-centred approaches university wide
- Data analytics increasingly valued and used in student success reporting and planning
- Increase in staff sympathy/empathy and supportiveness towards students
- Increased capacity in data analytics and institutional research

The Biographical Questionnaire was highlighted during the interviews as a key initiative, and its use in changing approaches to student support: *"Now we have a biographical survey for all entering students (new first years) –which asks questions not normally asked. This has changed support approaches from generic to more individual support packages – relying on a student data dashboard. Results in tailor-made support as well as the more generic"- Senior manager in institution.*

Another important finding which was drawn from the interviews and not articulated in the results changes were the outcomes of lessons and activities which have led to the data warehouse initiative funded by DHET. The national data warehouse is led by the University of Witwatersrand and will benefit the broader higher education community: *"A National data warehouse at the University of the Witwatersrand that has dedicated DHET funds – will benefit all" – Senior DHET official*. This initiative is currently in planning stage but is a demonstration of system and policy level change in South African Higher Education as this system was designed, from the start, to serve all universities in the Higher Education system.


ACTIVITIES
SHORT-TERM RESULTS
Analytics and Institutional Research Unit designed the Student BQ (Biographic Questionnaire) system
Implementation and use of the BQ (data) 2016-2019
Mapping of Wits student success initiatives (2017/2018)
Develop capacity through conference attendance, academic writing SAAIR workshops, M&E training, etc.
Creation of formal platforms to discuss all student success related matters at the university Since 2017
Established the Student Success Task Team in 2017
Various projects included in the Siyaphumelela proposal were also carried out.
Identified key concepts for the student success definition in 2017
Linking of data sets, e.g. student academic data, BQ, graduation, feeder schools, since 2017
Initiated a dialogue on student success with most university stakeholders. Since 2016
Increasing Biographical Questionnaire response rates
Increased data collection
Increased data feedback to faculty working groups, university wider committees and the Wits senior executive
Increased awareness and engagement on student success activities
Increased sense of ownership of the Biographic Questionnaire by different university stakeholders
Increased data accessibility
Improvement in the use of data to make informed decisions across the university
Increase in spin off projects
Creation of a student success definition in 2018

MID-TERM RESULTS	LONG-TERM RESULTS
Ongoing collaboration between different stakeholders	Intra-institutional collaboration around student success established
Research dissemination of 'success and lessons learnt'	Increased pass rates and graduation rates
Capacity development on M&E (Theory of Change) for all student success stakeholders including faculty student advisers	Adoption of student-centred approaches university wide.
Improved identification of the key and current student success challenges and initiating the collection of evidence to better understand the challenge	Data analytics increasingly valued and used in student success reporting and planning.
Ongoing innovation in student success programmes Introduction of the triple-offer package in 2018; Compulsory computer training for first year students who are computer illiterate from 2020	Increase in staff sympathy/empathy and supportiveness towards students
Continued student engagement through regular collection of student feedback using the various institutional surveys (e.g. 1st Year Student Satisfaction Survey, O-Week Survey, Computer Literacy Assessments, Undergraduate (2nd, 3rd, 4th) Student Satisfaction Surveys, Postgraduate Student Satisfaction Surveys, Graduate Exit Survey, Fit Minds Study).	Increased capacity in data analytics and institutional research

Legend

Practices Policy Capacity Development Systems Tools

Culture Student engagement Knowledge & Skills Student Success Indicators

The University of Pretoria

The results diagram on pages 67 - 68 represents all key activities and results for the University. The results chains for the three most significant results are represented by arrows. These depict the logical chain of results from activity to short-, medium-, and long-term results.

Groupings of key activities are listed in the first column. The activities (eight) are mainly categorised as Tools, Culture and Policy related. These are activities related to data capacity development, such as the Siyaphumelela conference, and include the participation of students. Other related activities were the use of blended learning by faculties, longitudinal research to improve course choices, and creating learning communities formation of student groups within and across modules. Other activities are predominantly related to Information and Knowledge Sharing and Systems.

Student Engagement results can be followed through the column of results. The activities supported learners from grade 10-12 and first-year students with resources to improve choice. In addition, students had support groups and an increased understanding of their modules in the short-term. This can be related to the observed improvements in student success, fewer module changes and an increase in module success rates for first year students in the mid-term. A key long-term result is that at least 50% of students obtained their degrees in minimum time.

The most common result categories in the University of Pretoria results chains were Student Success, Culture, Approaches, Student Engagement, and Knowledge and Information Sharing, All result categories were represented by at least one result (short, and or medium and/or long -term). There are five long-term results listed and categorised to encompass Culture, Student Success, Systems, Policy Changes and Information and Knowledge sharing:

- Integration of learner analytics at the module level with various technology, such as the Blackboard Predict system and the Predictive Analytics Reporting Framework
- Modules no longer considered at risk (success rate exceeds 70%)

- Student retention increased
- Student success increased
- At least 50% of students obtain their degrees in minimum time

Another notable result is the establishment of the multi-stakeholder data committee (Tshebi) that was able to develop an evidence-informed understanding of the student experience and success. This committee was also a key driver to improve data-analytics capacity (at senior level) and within the institutional research units at the University. Tshebi further resulted in changes to institutional strategy, knowledge sharing and the improvement of tools such as the Predictive Analytics Reporting Framework initiative.

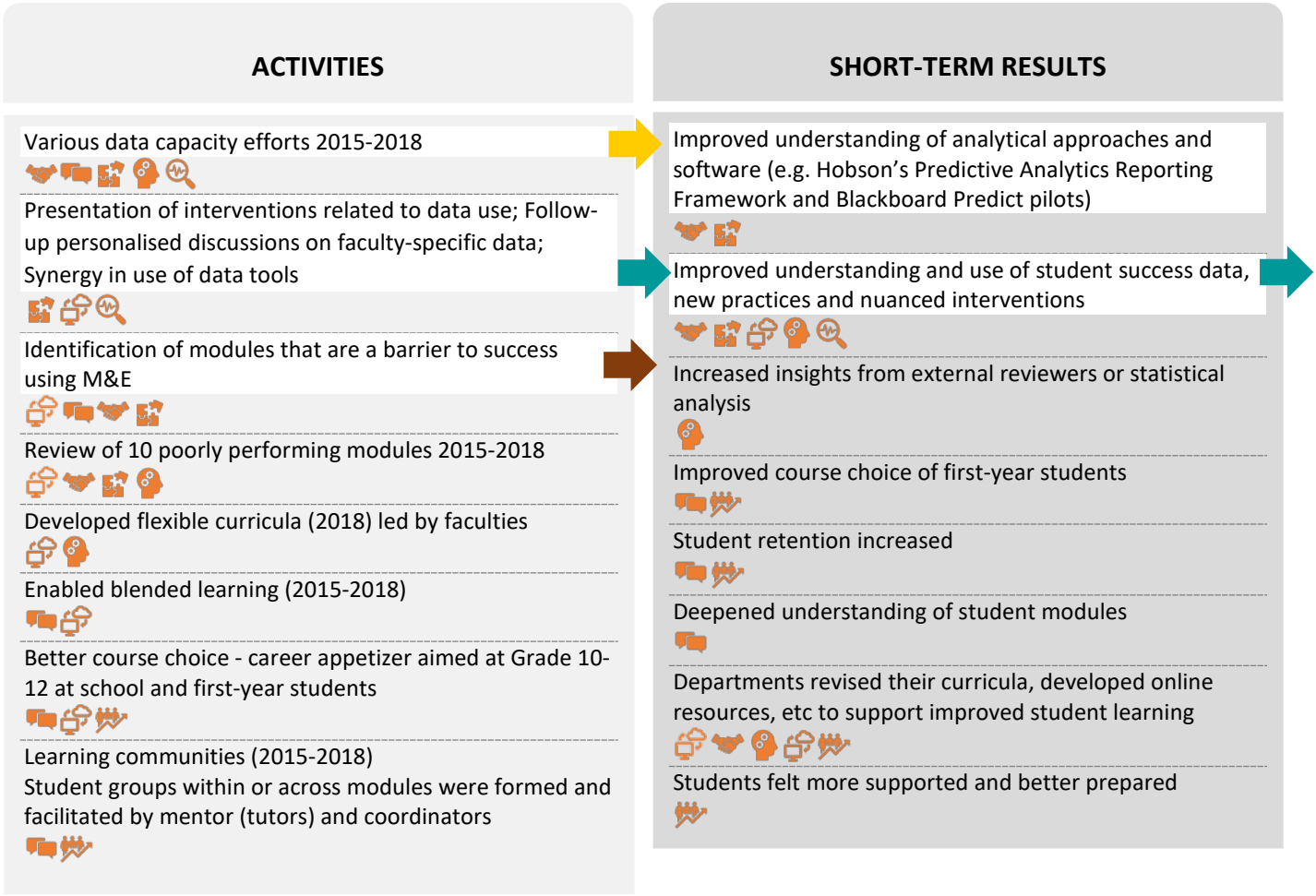
Results related to Culture are underscored through the inclusion of student success in institutional strategy. This was mentioned during the interviews, which was a significant change influenced particularly by the Vie-Principal: Academic.

"Student success now replaces research as first goal; and a focus on data driven decisions. So, there's evidence of data and evidence wording throughout the [University's] plan." – Senior manager at institution

The culture of data use and information sharing was also said to be demonstrated through the ongoing two-weekly meetings where emerging data are discussed, and actions for improvement are determined. This has been achieved with the support of Jan Lyddon by way of a coaching visit and sharing of lessons. The culture of evidence-based decision-making is an area of significant improvement, but gaps remain such as reports that are not used. For example, the SASSE studies are not seen as representative, hence not fully used.

Student Engagement as a key result was also validated during discussion, indicating their involvement in various Siyaphumelela events – *"Benefits have been for students broadly but especially for some students who participate in discussions and also make presentations about Siyaphumelela at various events." – Siyaphumelela team member.*

It is worth noting that, although Policy is not represented by a high frequency of activities or mentions, it is, in fact, a long-term result of considerable significance arising from a range of activities at the University of Pretoria.



MID-TERM RESULTS

Evidence-informed understanding of student experience and success (Tshebi), and improved capacity of Tshebi

Year on year improvement in student success within the modules reviewed

Curriculum engaged students through more video, more assessment with immediate feedback, and more self-regulated learning

Fewer students changed modules or programmes

Increased module success rate for first-year students; fewer students dropped out (retention)

LONG-TERM RESULTS

Integration of learner analytics at the module level with various technology, such as the Blackboard Predict system

Modules no longer considered at risk (success rate exceeds 70%)

Student retention increased

Student success increased

At least 50% of students obtain their degrees in minimum time

Legend

Practices | Policy | Capacity Development | Systems | Tools

Culture | Student engagement | Knowledge & Skills | Student Success Indicators

Saide

The results diagram on pages 72 – 73 represents all key activities and results for *Saide*. The results chains for the three most significant results are represented by arrows. These depict the logical chain of results from activity to short-, medium-, and long-term results.

A long list of key activities undertaken by *Saide* is provided in the first column, followed by a series of results columns. The activities are primarily focused on Culture, Capacity Development, Student Engagement and Information and Knowledge Sharing. These include the management of Siyaphumelela conferences, coordinating the community of practice among the five institutions and participation in the Achieving the Dream conferences, engaging key student success stakeholders, establishing an Advisory Committee, supporting the development of the data dictionary, and ethics instrument. Various knowledge creation and sharing activities were part of the Culture initiatives. The evaluation and knowledge portal are two such examples. Other predominant activities were categorised as Tools.

The Knowledge and Culture activities are linked to short-term change in increasing the knowledge and learning among institutions. An improved level of collaboration and the trust built between institutions was observed as a result in the mid-term. These are also represented in two of the long-term results.

Short, medium and long-term results identified are mainly related to Information and Knowledge Sharing, Culture, Policy, Tools and Capacity Development as might be expected in view of *Saide's* role. Although Student Engagement is not frequently referred to, *Saide* has played a central role in ensuring that students attend local Programme conferences and the annual conferences of Achieving the Dream in the United States. These roles have ensured engagement with and by students at a variety of levels. Thought activities lead by *Saide*, such as also facilitating staff members' attendance at Achieving the Dream conference were particularly important[19].

[19] https://www.achievingthedream.org/

Six long-term results are listed and categorised that relate to Practices, Culture, Policy, Systems, Knowledge and Information sharing and Student Success:

- Community of practice built among Siyaphumelela members
- National discourse on student success amongst Higher Education stakeholders initiated and supported.
- Student success indicators included in national policy - University Capacity Development Grant
- Student success became a key strategic goal in Siyaphumelela institutions
- Student success practices adopted and institutionalised in Siyaphumelela institutions
- Aspects of a national system for student success developing

This particular result (Aspects of a national system) emanates from a number of activities coordinated by Saide (with UFS on the one hand and Wits on the other) which culminated in a new approach to academic advising introduced and supported in South Africa and the development of a national data warehouse centred on student success.

These two initiatives originated in the South African delegation participation in Achieving the Dream, were followed up with workshops and keynote presentations at the Siyaphumelela conference, the establishment of an advising stream and a data stream each involving a number of universities which Saide coordinated and which met a number of times. These streams culminated in proposals successfully submitted to the University Capacity Development Grant of DHET.

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Information sharing and creating community were emphasised during the validation interviews, for example a Siyaphumelela team member referred to results of Siyaphumelela and the role of *Saide* in: *"…creating a community of practice around student success. South African universities operate in isolation and competition with one another. Siyaphumelela has showed how critical cooperation and sharing is." – Siyaphumelela team member*. This also supports culture change observed across institutions *Saide's* role in building trust (Culture) between institutions and key role players is also related to this role. It was stated that, *"[Institutions] started with suspicion and competition – but*

gradually this changed as common problems and opportunities were seen. Now relaxed and trusting and interdependent." – Siyaphumelela team member.

The value of the annual Siyaphumelela conference and Achieving the Dream conferences was underlined as a key activity of *Saide* – and has positively influenced many of the results found in the institutions.

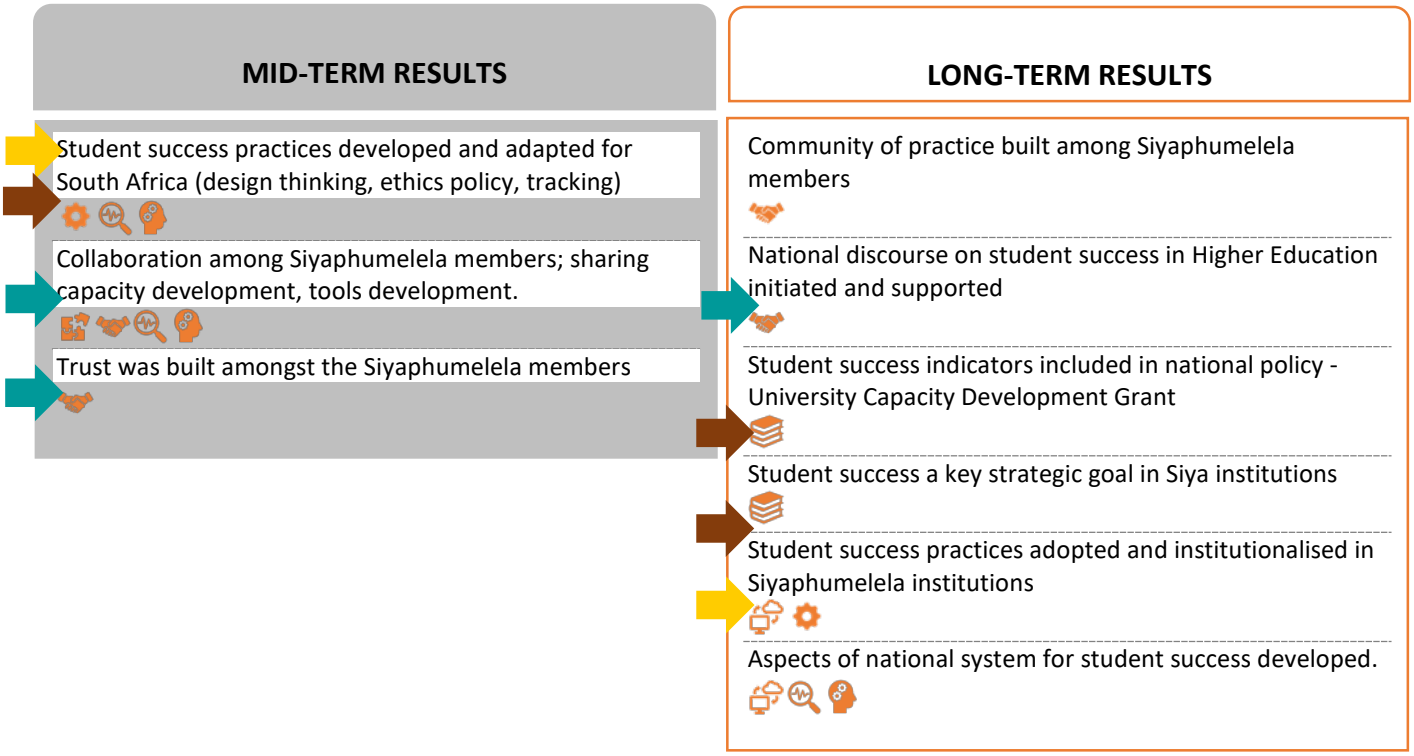
Other key results, drawn from earlier interviews (2017 – 2018), were the specific mentions of *Saide's* role in providing technical support, convening groups, creating a shared vision, and ensuring that there were opportunities for the institutions to collaborate with one another. *Saide* was, importantly, instrumental in creating a learning environment for the programme.

ACTIVITIES

- Conceptualised, planned and managed Siyaphumelela conferences annually (2015-2018)
- Coordinated a "community of practice" among the five institutions
- Coordinated and supported South African participation in ATD annually (2015-2018)
- Supported institutional coaching by an international person at participating institutions, including annual visits in 2015-2018
- Guided and supported the development of case studies (Five on practice in 2016/2017; five on bonus grant)
- Initiated and coordinated the development of SA ICAT instrument (2017/2018)
- Engaged with other key student success players (CHE, SAHELA, DHET,SALDRU, etc) (All or some in full as necessary)
- Developed an updated knowledge portal from 2015-2018
- Initiated and supported the development of concepts for South Africa: Advising, data warehouse, math pathways and design thinking
- Established an advisory committee with high level national players in student success and held discussions (2016-2018) with DHET, CHE, USAF, Teaching and Learning, Elder,SASSE
- Supported the development of a data dictionary
- Developed reporting templates and the identification of indicators (2016)
- Conceptualised ethics and development of instrument (2017)
- Conceptualised and held a capacity development workshop on Intervention Assessment methods
- Conceptualised and led evaluation (2018)
- Engagement with the Vice Chancellors and Deputy Vice Chancellors
- Conceptualised the process of bonus grants

SHORT-TERM RESULTS

- Improved capacity of Siyaphumelela institutions student & Conference participants
- Tools developed for partners in South African context by *Saide* and partners
- Institutional programmes were made coherent (e.g. Wits, dashboards)
- Increased knowledge and learning were shared - Case studies good practice on tertiary student support and tracking
- South African universities capacitated in using data for evidence-based benefits for student success



Legend

Practices Policy Capacity Development Systems Tools

Culture Student engagement Knowledge & Skills Student Success Indicators

5.3 Enablers & Barriers

Collaboration, resources and funding were presented as the main enabling factors for the achievement of programme results. Leadership and decision-making in the institution were highlighted as critical influencers of positive outcomes – and this was shared and documented in the interviews. A common barrier across institutions is culture, in addition to funding. Funding appeared as both an enabler (it is always a help) and barrier (when there isn't enough to do what needs to be done). More barriers than enablers were listed. *This is important to note, as even in a challenging context, the programme has been able to achieve significant changes*.

Enablers

Within the institutions, current efforts to support students were enablers for student success and further student success activities. Examples of these are tutorials, career guidance and surveys. At the higher levels of institutional management, the level of awareness of the value of student success data, and support from leadership and management were positive influences for the institutional teams. Decision-making power was of particular importance. Where leadership was vested in student success as a priority, there was more buy-in and opportunity to initiate student success initiatives and enforce the use of data. Furthermore access to funds for projects (Kresge, the Department of Higher Education and Training's University Capacity Development Grants, and others), skilled staff and teams, and platforms for learning (workshops, conferences, Achieving the Dream) allowed for the development of student success initiatives. The collaborations between institutions was also an enabler, allowing cross-institutional learning, information sharing and implementation. Finally, and perhaps most critically, the existence, participation and support of an independent organisation, committed to student success, has clearly been a major enabler. In this instance, *Saide* has been able to create conditions for cooperation without having a vested interest that might imply bias or suspicion on the part of the participating universities.

Barriers

The persisting historical institutional culture and structures that do not enable internal learning or collaboration has been a significant hindering factor for student success initiatives. This includes silos remaining within institutions. There are also gaps in capacity, a shortage in data analysts and frequent staff changes. The "fees must fall" protests and ongoing demands from students have placed pressure on institutional management and detracted student success in some periods. The Higher Education Qualification Framework process added further disruption, in that it was a long and demanding task in which modules and programmes had to be named and assigned from and older to a newer qualification framework. The task distracted attention from other work for a long period. Resources, though an enabler, was also a barrier. Funds were not always sufficient or sustainable. This is the case for student funding too, the NSFAS inefficiencies hinders student attendance and other student success efforts. Lastly, the time-consuming data collection process were identified as a barrier and that more effective systems are needed.

5.4 Lessons for the future of Siyaphumelela

Continue capacity development
Create and build capacity around the analytics, including emphasis on analytics and the skills needed to create and link networks, analyse the data and support others. Address hindering legacies.

Scale-up
Develop regionalized programme, reaching the "disadvantaged" institutions (institutions where capacity does not exist). Such as creating Regional consortia and include TVETs.

System to build strength more widely
Implement a model where institutions that have strengths support other institutions to build capacity, and lead to other institutions, building strength more widely (like the NRF Centres of Excellence).

Build relationships
Build formal relationships between Siyaphumelela and SAAIR, with all institutions included.

Design programmes
Design a student support intervention strategy.

Student success indicators
Further develop and ground standardised indicators for student success.

Support university planning
Provide universities with resources to plan what is needed and engage with existing systems around the world.

6. Discussion

The results documented in the previous Section (5) form the foundation of evidence needed to respond to the evaluation questions. The primary question we aimed to answer was:

How and to what extent have the partner institutions achieved three results: used models or approaches to optimize student success; implemented systems to manage their data chains; and developed a culture of evidence- based enquiry and analysis?

In this part of the Discussion, an attempt is made to look more closely at the "how" part of the primary question[20]. Here, we consider **patterns in the *activities* and the main *long-term results* developed and applied by the institutions** for each of the categories. Culture change is common to all five institutions – and was also the most frequently reported results category indicated across all institutions. In this section, however, we review all nine categories with the aim of drawing together examples of what it was that made the categories significant and effective. Where relevant, *Saide* activities are included in the review.

An important aspect of this section is a realisation of the extent to which categories (and activities) overlap or strongly influence one another. An evaluation of (in this case major) change is not analogous to, say, a botanical taxonomic analysis in which very well discernible hierarchies of difference can be specified. Changes in social systems are interdependent and can best be understood in terms of the complementary roles they play.

[20] Responses to the secondary questions are subsumed in what follows.

Practices

Changes in "Practices" were noted in all five universities and *Saide*– but the examples of the Durban University of Technology and the University of the Witwatersrand are instructive. These changes were defined earlier as "specific activities and initiatives implemented with the expected outcome of optimising student success," and so are central to the aims of, and supported by, the Siyaphumelela Programme.

Although they took somewhat different specific approaches to changes in practice, three common themes emerged for the two universities: a greater (and more sophisticated) **focus on data** and its value and use; the **development of teams** (and hence on staff cooperation); and a clear focus on **student success and on the students** themselves.

At the Durban University of Technology, a major shift in practices regarding data came about as a result of implementing data capacity workshops and quarterly meetings, and the institution of **Data Jedi teams** addressing, amongst other issues, the need for greater organization and use of data -- and a data-based reporting infrastructure. These changes resulted in an **improved understanding of the value of data** as indicators and, critically, the capacity to use them to promote student success.

At the University of the Witwatersrand considerable efforts were expended in **building capacity to collect and use data**, and a multi-stakeholder data analytics committee was established, drawing together a range of departments focussed on identifying and using data relevant to student performance and success. An important element of Practices was the **creation of a sophisticated, institution wide, Biographical Questionnaire (BQ)** for first entry students which provides data about students, relevant to success interventions. across a far wider range than was previously available.

This work also signals, though, the second theme of "Practices:" **the creation of teams**. The BQ requires data to be used by cooperating teams cutting across previously quite separate departments holding different views of which data are needed, and what they are needed

for. A senior manager spoke of the BQ as changing interventions from a generic to a more individual level in support of student success.

At the Durban University of Technology, a **Student Success Task Team** was established, incorporating representatives from faculties, academic support and administrative operations of the University, with the aim of ensuring coordinated activities in support of student success. As in the University of the Witwatersrand case, the Task Team also served to help break down silos and support staff cooperation, working towards improved success rates.

Finally, **both institutions changed (in varying degrees) their approaches to students**, and **student success**. In both cases, students were placed at the centre of efforts supported by the Siyaphumelela Programme – and by the annual Siyaphumelela conferences. In this regard **both *Saide* and the Kresge Foundation were key** to these changes.

Although these two institutions foregrounded practices in their work, it is important to note again that changes in approaches to the importance of relevant data, and of the ways in which they are best used, was a theme (albeit less foregrounded) across all five universities.

Culture

As mentioned earlier**, "Culture" is the only category of the nine which has significant results for all universities and *Saide*** in the evaluation. It is, of course, a capacious category, defined in Table 2 as being "a broad category encompassing results relevant to changes in behaviour. These changes are specifically related to the use of data to inform decision-making, the focus on student success and completion, and the interaction of data users and producers. Culture changes are recognised at various levels…." "Culture" means, then, **'changes in *new and positive ways* of undertaking activities specifically defined to promote student success'** – some of which also fall into the categories of "Practices," "Student Engagement," and "Information and Knowledge," amongst others.

Overall, three broad thematic currents of activities characterise "Culture." The first set of activities foregrounds and supports the **centrality of student success**. For the participating universities, this is a fundamental principle, however it may be phrased, whether as a primary goal, or as increases in academic support, or "placing students at the centre" of institutional work. This set of activities also encompasses commitments to student engagement and inclusion in institutional efforts to strengthen success and through participation in workshops and Siyaphumelela and Achieving the Dream conferences.

The second is a **clear shift to a focus on data**. This includes a wide spectrum of issues: recognition of the significance of data in improving student success – its collection, storage, analysis, modes of presentation (at a range of levels from departments to senior management and decision makers); sharing within and between universities. Importantly, this shift emphasises the active application of data to the promotion of student success – the *acceptance of a culture of evidence-based decision-making.*

The third thematic shift in "Culture" that the Siyaphumelela Programme has brought about is a change from internal and external isolation and (often) suspicion to **cooperation, coordination and, increasingly, trust**. Internally, silos of university management and academic work have been integrated or coordinated in ways that are specifically directed towards improving student success. Externally, normally rather competitive institutions in the programme have come to share their ideas, approaches, strategies and techniques. In short, they have realised (in both senses of the word) the advantages of openness to one another and of sharing what they are learning. Inevitably, an emphasis on discussion or dialogue, university-wide and between the institutions in the Programme is an essential part of this change. The topics are, of course, the many and varied facets of student success and retention.

With strong support from *Saide*, this **significant change in "Culture" is also beginning to embrace universities that are not part of the Programme, the Council on Higher Education and the Department of Higher Education and Training** (now including the Department of Science and Technology).

These three thematic areas and their foundational activities are manifested in a variety of ways within the five universities and *Saide*. **At the Durban University of Technology, for example, the major shifts have been around data** – a focus on effective student success tracking, and evidence-based decision-making. Data Jedi have been identified and data use workshops initiated. All of these depend in fundamental ways on coordination and cooperation and a rising level of trust between previously balkanised administrative departments and, to a degree, faculties.

At Nelson Mandela University, there has been a focus on tracking student success, institutionalising academic advising to give substance to tracking, and the establishment of a coordinated Siyaphumelela project team in the University. Awareness of the significance of student success has been raised, cooperation encouraged, and data collection, presentation and use have all been strengthened through innovation.

The South African **Survey of Student Engagement (SASSE) and the Classroom Survey of Student Engagement (CLASSE) at the University of the Free State are core** (but not sole) aspects of student engagement at the University of the Free State. They are also very good examples of shared tools – not just with the other four universities in the Siyaphumelela Programme but also with a substantial number of other universities.

In addition to extensive student engagement work, the University has also promoted a culture of evidence-based decision making at a system level, developed an institutional community of practice, and increased dashboard capacity. **Academic advising, and its significance, have also been considerably developed**, along with a common institution-level language for an improved focus on student success.

At the University of the Witwatersrand, University-wide conversation places students at the centre of success work, along with **collaboration between relevant units and monitoring success rates**. Formal platforms have been created to discuss success and there has been an increased recognition of the importance of analytics and appropriate institutional research. The University has developed a student Biographical Questionnaire administered for all first-

year incoming students. This forms a basis for understanding what challenges students might face, areas in which they might need support, and issues about which administrative and teaching staff need to be cognisant.

Changes to institutional strategy and practice brought about through the Programme have been critical developments at the **University of Pretoria**. Student success is a central aspect of the University's strategy, and practices are in place to make this work effective. Data capacity development has been given prominence and the formation of a multi-stakeholder data analytics committee (Tshebi) has given substance to this priority, along with improving institutional-level understanding of success data. Most significantly, **the University's Five-Year Institutional Strategic Plan now places student success as the institution's top priority,** replacing research in the leading position.

For understandable reasons, *Saide*'s culture change has largely been evidenced in changes in the five universities, while showing changes in its own work. *Saide* is acknowledged as having played a key role in encouraging and supporting cooperation between the five universities and coordination of student success and retention efforts within the institutions. In the process, ***Saide* has been effective in building a community of practice amongst the key players in the universities participating in the Programme** – enabling improved collaboration and (importantly) trust amongst the participants. This has allowed successful practices, knowledge and information to be shared with the result that successful practices have been adopted and effected. ***Saide*'s support for Siyaphumalela's conferences, and for ensuring attendances at the Achieving the Dream conferences has played a valuable role** in the Programme. It's engagement with national bodies, and influence on emerging national plans has been significant: culture change all round. In these ways the universities, the national higher education system, and the Kresge Foundation have benefitted from *Saide*'s role.

Policy

Almost all participating institutions, and *Saide*, recorded large numbers of results regarding policy changes, most identifying some significant results. The exception in this category was

the Durban University of Technology which, having been a part of the Programme for a shorter period than the others, may now be beginning to see policy results emerging. Policy results are defined as including "documented frameworks, guides or strategies relevant to student success and the use of data to support this. The policies could be applicable to an institution as a whole or be systemic (government policy)." That so few results were recorded by the institutions is a little strange, as there are a good number of examples of the elements of the definition in existence.

The activities, processes and developments that constitute elements of "Policy" are varied. To some extent they are also idiosyncratic, arising from existing student success activities at work in the five institutions and *Saide*. That said, there are some patterns to be seen within this category. **Data** – its collection, management, more sophisticated use, analysis and application in a variety of circumstances is common to the four universities and has resonances with some of *Saide*'s contributions (the development of tools for institutional use, for example). The thorough **incorporation of "student success" into broader** institutional processes is also common, albeit in specific ways (as part of institutional culture and a white paper at the University of the Free State, or as a common platform for student success efforts at the University of the Witwatersrand, for instance). **Academic advising** – and its institutionalisation – features in several instances directly (Nelson Mandela University) or indirectly (arising from the Biographical Questionnaire developed by the University of the Witwatersrand). Advising also merges through the **integration of learner analytics and referrals** (as at the University of Pretoria). Formalised **internal cooperation** in support of student success is also a "Policy"- related commonality. At Nelson Mandela, it is reflected in the creation of university-wide frameworks; at Free State by way of the development of **a common language for engagement and success**; at Wits through their common platform for all student success matters, and at Pretoria through Tshebi and the impact it has on all work in the area of success. Perhaps the most obvious of all "Policy" developments and changes is the **replacement of Research by Student Success as the leading priority in the University of Pretoria's Institutional Strategic Plan** for 2025.

Saide's role in policy change is to be found **primarily in the support and encouragement roles that *Saide* plays in the Siyaphumelela Programme**. In this regard, *Saide* has helped to build a community of "success practice;" promoted the institutionalisation of student success; developed reporting templates and common tools for universities. Significantly, ***Saide* has had a valuable role to play in ensuring that Siyaphumelela principles and values have increasingly become part of the work of the national Department of Higher Education and Training**, especially through the requirements built into the University Capacity Development Grants programme.

This result arises from a number of activities coordinated by Saide (with UFS on the one hand and Wits on the other) which culminated in a new approach to academic advising introduced and supported in South Africa and the development of a national data warehouse centred on student success.

These two initiatives originated in the South African delegation participation in Achieving the Dream, were followed up with workshops and keynote presentations at the Siyaphumelela conference, the establishment of an advising stream and a data stream each involving a number of universities which Saide coordinated and which met a number of times. These streams culminated in proposals successfully submitted to the University Capacity Development Grant of DHET, and which have had significant national systemic and policy implications for university practices.

Perhaps a final observation to be made is an underscoring of a point made in the introduction to this section of the report. Apart from actual achievements, "Policy" as a category serves as a further reminder of the degree to which the activities that define each category also fall into several other categories. It is possible, in fact, to reverse the analysis and use groups of activities as keys to categories.

Student Engagement

Most partner institutions and *Saide* evidenced aspects of student engagement (this is almost axiomatic) but the University of the Free State and the University of Pretoria showed particularly helpful evidence of work in this category of work in the Programme. The definition of this category includes invitations to discussions on student success; surveys and interviews with students; dissemination of institutional plans and creating opportunities for students to participate in events. It also covers student participation in student success committees, and funding and supporting student attendance at conferences and participation in student success initiatives. In other words, **there are two distinctly different meanings for and activities around "student engagement**:" first, engagement in the Programme ***by* students** (attending meetings, assisting in decision-making, attending conferences) – and **engagement *for* students** (establishing early warning systems, referring students for support or sharing information).

In practice, "student engagement" in these two institutions may best be characterised as primarily being **"engagement for students"** with some activities and engagement in processes and events (notably in the case of *Saide*) – "**engagement by students**."

Student focussed activities and processes at the University of the Free State included **increased reporting and support** for students through academic support and counselling and identifying students in need of such support and referring them to support systems in a timely manner. In short, in this case engagement with students came about through tracking (using sophisticated data systems and indicators) and institutionally based advising. To this end, the **student counselling databases were upgraded** and linked to the Learning Enhancement of counselling, and the referral of student counselling and academic advising were streamlined.

At the University of Pretoria, activities included identifying and addressing, through monitoring and evaluation**, modules that were barriers to success** -- and a review of ten poorly performing modules. Greater emphasis was placed on understanding and using data and interventions to further student success, and the **integration of learner analytics** at the

module level with technology systems such as the Blackboard Predict System. Engagement by students took the form of **participation in planning discussions** and making presentations at various Siyaphumelela events – from which the entire Programme benefitted.

Capacity Development

"Capacity Development includes strengthening or increasing human resources and developing the skills of individuals the better to support student success efforts, including the ability to develop data analytics and the use of data for management and decision-making." That is what this sub-section is about, and helpful examples and insights can be found in three universities (the Durban University of Technology, the University of the Free State, and the University of the Witwatersrand) and at *Saide*. It is important to note that Capacity Development strategies are also clearly evident in the work underway at Nelson Mandela University.

Most of the capacity development results reported for the Durban University of Technology and the University of the Free State (where, as will be seen below, Capacity Building and Student Engagement are closely related) **revolve around building data- and data analysis-skills, with some capacity development devoted to Academic Advising and support** – both of which are supported by elements of the Siyaphumelela Programme. At the Durban University of Technology, there has been a clear drive to **improve capacity in the use of data**. AutoScholar was developed in-house; Capacity development workshops were established; training in the use of MS Excel and AutoScholar was provided for staff; Data Jedi were trained – and engagement surveys were used to provide help to faculties (which might also imply support for academic advising). At the University of the Free State, the South African Student Success Evaluation and Classroom Evaluation (tools shared with other institutions) provided data for analysis and change; **interventions were provided for high risk modules and academic advising was established on a professional basis**. Data analytic capacity was strengthened, and a human resources data quality project was initiated. In the case of the University of the Witwatersrand, capacity was primarily developed and extended through

conference attendance, academic writing skills, participation in SAAIR workshops, and the nature of theoretical possibilities with regards to monitoring and evaluation.

The widest range of capacity developments were delivered by *Saide*. Several initiatives resulted in building an effective community of practice – or, rather, practices. ***Saide* managed the process of data coaches visiting and supporting Programme teams and delivered a Data Dictionary**. An Intervention Assessment Workshop was held, and teams were assisted to make the most of evidence-based benefits. Of considerable importance, over the entire period of the Programme, has been ***Saide*'s management of the Siyaphumelela Conferences** – which included students from the participating universities and representatives from most other South African public universities. By including students, these conferences also helped to develop some capacity among students as members of the audience and as speakers.

Equally important was **attendance of a significant number of staff members from Programme member institutions and from the Department of Higher Education and Training**. These conferences were an essential part of providing a sound basis for the Programme work in South Africa.

Although three universities and *Saide* are foregrounded here, all five universities engaged in capacity development work, whether through opportunities created by *Saide* or their own internal programmes. It is important to note this as the success of the Programme has depended in very substantial ways on capacity development of many kinds, and at all levels in the universities.

Systems

All five universities and *Saide* (see Policy discussion above) reported results for the development or enhancement of "Systems." In two cases significant Systems initiatives or advancements are evident – at Nelson Mandela University and the University of the Free State. A common theme in the various activities in the two universities is, broadly speaking, "**student tracking**." Other activities were more institution specific.

At Nelson Mandela University, student counselling data bases were upgraded, and the comprehensive **Risk Analysis and Detection to Assist and Retain Students system (RADAR)** was developed – a major step forward implemented in two faculties on an experimental basis. The University's "learning enhancement checklist for student counselling" was linked to RADAR to enhance its value. A database used by academic advisors to record student consultation information was also developed, and student indicator dashboards were introduced. A **framework for academic advising** was created that enabled advising to be established on an institutional basis. All told, these system developments improved data availability and access, student success indicators, use of data for student tracking.

At the University of the Free State, **Student Engagement was formally included in the Quality Assurance Programme**, and an inclusive student tracking and reporting system was developed and implemented.

Saide's significant contribution to national System (and Policy) changes is set out in the Policy section above.

Information and Knowledge Sharing

This category is defined as "Knowledge access and sharing results cover technical systems to support knowledge access, research and other evidence generation activities and knowledge sharing through events and communities of practice." Most universities and *Saide* reported three or more activities and/or results for information and knowledge activities. These effectively fall into two broad groups: **knowledge generation** (research, external reviews, establishing common definitions, conference attendance); and steps taken to make **more or different information available** (integrating data sources, presentations of successful interventions, mapping student success initiatives). The institutions reported results that fall into both groups andalso made reference to the value of sharing information (ideas, materials or tools) with other members of the Siyaphumelela Programme.

The Siyaphumelela Team at Nelson Mandela University undertook research to **identify predictors of student success**, which in turn meant that recommendations could be made as to the type of support needed to improve success. The team also established an **institution-wide definition of academic advising** which led to an improved conception and understanding of academic advising. This, in turn, resulted in the successful piloting of academic advising and an evaluation of the impact of the advising on student success and retention.

The University of the Free State (and the University of the Witwatersrand) indicated the **importance of workshops, the Siyaphumelela conferences and the Achieving the Dream** and South African Association for Institutional Research Conferences as being of real value in the sharing of information and generation of knowledge. In order to improve access to information and understanding, dashboards and user interfaces were rolled out to faculties, **warehousing capacity was developed** in collaboration with the University's ICT department, data sources were integrated and new analytics were generated as a basis for informing scaled-up success orientated interventions. Collectively, these activities **improved understanding of access programmes** and reporting on student-level, individualised support. Underpinning these steps were two formative evaluation processes which allowed for reflection on Programme successes and failures.

At the University of the Witwatersrand, three related information actions began with **linking data from the Biographical Questionnaire, student academic data, graduation and feeder school information** (amongst others). Accessibility to the linked database was improved, and there was a substantial increase in the use of data as a basis for decision-making at all levels in the University. As a basis for providing and generating knowledge, the Biographical Questionnaire was developed and implemented, student success initiatives were mapped, research on successes and lessons learned was shared and a platform was created for discussing all aspects of student success (knowledge sharing). The Student Success Task Team was established (as at the Durban University of Technology), a new definition of student success was determined, and **an improved definition of student success challenges** emerged.

The University of Pretoria ensured that capacity in the collection, management, analysis and use of data were ongoing activities throughout the five years of the Programme. Presentations of, and discussions about, interventions were regularly made and there was an ongoing **improvement in and understanding of student success data**. Module-level learner analytics were integrated – and the team benefitted from insights provided by external reviews and analysis.

Given the nature of its role, Saide reported Information and Knowledge Sharing as one of its many basic activities.

Tools

Tools are defined as "tangible applications, documented tools and applications for student success interventions. These include tools for collecting, collating and analysing data on students and student success." It follows that every university, and *Saide*, relied on tools in order to move towards achieving Siyaphumelela goals – some tools on their own, others are elements of systems.

The development and implementation of the Bibliographic Questionnaire (which asked far more than the most obvious questions) was a tool of considerable significance. The data collected had the immediate effect of increasing the volume of data collected – although other endeavours also added to this increase. Mapping student success (as a basis for sharing challenges and successes along with other uses) was a further valuable tool. This led, in turn, to improved identification of the key and current student success challenges and the subsequent collection of evidence the better to understand those challenges and address them.

As examples of other tools, the Durban University of Technology developed a draft Data Catalogue in preparation for the development of a warehouse; Nelson Mandela University created a self-help web-based system of student success indicators; Free State implemented

a system for student tracking and reporting; and the University of Pretoria enabled blended learning.

Student Success Indicators

"Student success indicators used are (1) retention of first-time entering students; (2) success rates of undergraduate students - defined as the completed full-time equivalents (FTEs) expressed as a percentage of the enrolled full-time equivalents; and (3) module pass rates …"

The importance of this category is underscored by Saide's coordination of processes to ensure the development and use of Student Success Indicators -- and required that progress would necessarily be covered in institutional reporting.

It is therefore important to note that Institutions which did not frequently refer to this category, had almost always established indicator strategies or the means for indicators to emerge in the near future (and some have probably already done so). Although most universities and *Saide* reported results for this category only the University of Pretoria *reported* more results than the others. Interestingly, one of Pretoria's indicating activities started at school-level for Grade 8 learners. This initiative supported grade 8 learners and first year students by providing resources that would help improve module and programme choices. The result produced two indictors: due to better course choices, fewer students changed courses or modules, and student retention improved. Additional indicators came in the form of students' view that they were better prepared and received more support – and success rates improved with at least 50% of students graduating within the minimum period for their qualifications.

At the Durban University of Technology, more effective student interventions had positive outcomes; students at the University of the Free State benefitted from "UFS 101" (which provides support for underprepared students, while giving access to additional stimulation in topics for stronger students); the University of the Witwatersrand identified and implemented key concepts for student success, while *Saide* noted that students became more

effective participants in the Siyaphumelela Conferences. And although Nelson Mandela University did not actively record success indicators, the University did in fact identify that improved data availability and student success indicators had been established and implemented and would soon yield valuable results.

Overall, it would not be unreasonable to say that although results recorded for each category of activities varied between institutions (see Chart 1 above), all activities can be noted, in some degree or another, in all five universities – and, with the understandable exception of student engagement, in *Saide*, too. In short, Siyaphumelela-based activities contributed directly to the results identified in the primary question, in each university and at *Saide,* and *Saide* played a major role in supporting the universities in these activities.

What are the enablers and hindering factors which influence the implementation and achievements of the outcomes?

A key enabler that supported the success of the programme was that student success had already been identified as a priority by the participating institutions. In some instances, institutions had already commenced efforts focused on this critical factor (e.g. previous student success task teams). In addition, the funding provided by Kresge and the support of institutional leadership enabled the more extensive and coherent implementation of student success initiatives.

In contrast, funding was also a hindering factor, whether programme or student funding (or both). Increased funding would support the scale of initiatives and recruitment of staff for the initiatives. The challenges highlighted with National Student Financial Aid Scheme was an external barrier that negatively affected student dropout. Internal research conducted by the University of Witwatersrand, and SASSE research conducted by University of the Free State, a shortage of funds for the availability of food was a challenge for many students – often the result of delays in bursary disbursement. Similarly, the 'Fees must fall' protests were disruptive of the student programme over a long period, and to some of the ways in which the protests were managed.

The enablers and barriers that have direct influence on the programme must be considered for the future of Siyaphumelela. However, some barriers lie out of the realm of direct influence of the programme and funding teams. In this context it is the programme duration, flexibility, culture change and the nature of learning that were critical to successes in institutions.

7. Conclusion

The results of the evaluation indicate, then, that the Siyaphumelela Programme has contributed to positive results across the nine categories discussed, all supporting elements of student success. The Programme has also built successfully on earlier student success efforts in the institutions. The results also indicate the value of the *Saide* team in convening and driving programme activities. It is evident that the positive results are influenced by the current efforts and motivation of selected institutions to improve student success, but the programme was also a valuable catalyst in driving systemic changes in data use and in providing access to expertise, and in learning and collaboration opportunities for the institutions.

It was not possible at this stage to determine the direct role of the programme on student success. This is because to the "student throughput" period and period of programme influence are not concurrent. Further analysis would need to be undertaken on student success indicators for 2015 in comparison to 2019-2020. This would have to consider the critical disturbances that occurred in the period 2016-2017, so that students affected may yet to exit in 2019-2020.

The need for the continuation and expansion (in some form or other) of the programme is clear. The programme progress, and the indications of sustained institutional results and systemic influence, are sufficient indicators of the programme's success. The collaborative and learning nature of the programme has also elucidated lessons in improving the programme. Furthermore, the buy-in from key national higher education representatives will support the expansion of such a programme.

Key recommendations to consider in continuing and improving the programme are:

- Continue conference, convening and technical support efforts
- Mobilise and identify new sources of funding or increase funding for institutional projects and innovation

- Identify institutions that have limited student success efforts and resources to be supported in the next programme stage
- Continue to ensure that senior leadership is engaged extensively at the outset of the programme to enable success each institution
- Anticipate and increase *Saide* team capacity to provide further technical support, particularly data analytics, where institutional staff capacity is limited
- Conduct a follow-up analysis on student success indicators comparing 2015 to 2020
- Establish a Developmental Evaluation framework for on-going measurement and learning, *and support evaluation efforts from the start* of the next programme stage
- Develop institutional student success monitoring and evaluation frameworks for internal programme management and learning. This will feed into a broader programme-level developmental evaluation framework.
- Further improve the documentation programme results and knowledge management – particularly showcasing models, platforms and lessons learned to be easily accessed among programme institutions and others.
- Continue discussions to extend the idea and definitions of student success to go beyond the attainment of a degree or diploma qualification.

Annexure 1 – Summary Chart of Activities, Results and Long-term Results for each Institution

INSTITUTION	MAIN (MOST COMMON) **ACTIVITIES**	MOST COMMON **RESULTS CATAGORIES**	**LONG-TERM RESULTS**
DUT	Tools, Practices, Capacity Development	Practices, Capacity Development, Culture	Practices, Culture, Systems, Tools
NMU	Tools, Capacity Development, Culture, Systems	Capacity Development, Information and Knowledge Sharing, Student Engagement, Culture	Culture, Policy, Systems, Student Engagement
UFS	Information and Knowledge Sharing, Systems, Capacity Development, Student Success Indicators	Culture, Information and Knowledge Sharing, Student Engagement	Student Engagement, Student Success Indicators, Systems, Culture, Policy
WITS	Information and Knowledge Sharing, Culture, Policy	Information and Knowledge Sharing, Culture, Systems, Practice, Students Success	Tools, Policy, Student Success Indicators, Culture, Capacity Development, Information and Knowledge Sharing, Practices
UP	Policy, Tools, Culture, Information and Knowledge Sharing	Student Success Indicators, Systems, Capacity Development, Student Engagement, Culture	Information and Knowledge Sharing, Student Success Indicators, Systems, Culture, Policy
Sai de	Culture, Capacity Development, Information and Knowledge Sharing, Student Engagement, Tools	Capacity Building, Culture, Information and Knowledge Sharing, Student Engagement, Policy, Tools	Culture, Policy (inc national), Systems, Practices, Student Success Indicators, Information and Knowledge Sharing

Annexure 2 - Questions for Siyaphumelela programme interviewees

Roles key: [A] – Siyaphumelela team member; [B] Siyaphumelela supported university representative/not Siyaphumelela team members; [C] External/non-institutional respondents.

RECOGNISING DATA

1. What have you/your institution learned about student data collection/management and student success from other members of the programme, and what context (e.g. AtD, *Saide* conferences…) [A] [B]
2. To what extent, and how, are data generated and used in the programme? [A] [B]
3. Has the programme resulted in an improvement in student success data-chains (e.g. data sources, management, analysis, presentation)? [B] [C]

USE OF DATA

1. What is your institution's approach to and role in data-driven decisions regarding student retention and success Have the decisions regarding the programme helped with the institution's engagement with students? [B]
2. Did your institution involve students in establishing the programme team, and are any students part of the team? [A]
3. Have the decisions regarding the programme helped with the institution's engagement with students? [A] [B]

DATA IMPACT

1. How are data regarding the work of the programme and student success shared with management and the council (Tables? Reports? Infographics)? [A]
2. Do such data support decision making? [A] [B]
3. How accessible are the data for these audiences and are used in decision-making? [A] [B]
4. Does the accessibility of data/analyses result in greater support for the work of the programme? [A] [B]
5. Has the programme contributed to a culture of evidence-based decisions making in your university? [B]
6. How has the programme contributed to a culture of evidence-based decisions making in your university? [B] [C]

THE PROGRAMME ITSELF AND *Saide*

1. (Ahmed Bawa specifically): To what extent (and how) has the Siya programme had in encouraging Vice Chancellors across the system to commit themselves to the importance if student success?) [C]
2. Have you/your institution diverted additional funds, or sourced additional funds for evidence-based decision-making with regard to student retention and success? [A] [B] [C]
3. What have been the most important enablers of, and barriers to, the programme? [A] [B] [C]
4. What effect did the student demonstrations and related issues have effect on the Siya programme? [A] [B] [C]
5. Have the institution's policies and processes regarding student retention and success been influenced by the programme? Positively or negatively? [A] [B]
6. Has *Saide* provided beneficial support for the programme in your institution? Has its role been positive and visible? [A] [B]
7. What do you consider to be the most significant (major) role that the programme has played? [A] [B] [C]
8. Are there other programmes in your institution directed towards student retention/success? And how do they relate to the Siya programme (if at all)? [A] [B] [C]
9. Are there any services (of any kind) that have arisen from the Siya programme that could be shared with other universities (whether in the programme or not)? [A] [B]
10. Do you have any advice regarding a second phase of the programme? [A] [B] [C]
11. Has the programme contributed to a culture of evidence-based decisions making in your university? [A] [B]
12. What have been the most important enablers of, and barriers to, the programme? [A] [B]
13. Do you have any advice regarding a second phase of the programme? [A] [B] [C]
14. Are there any services (of any kind) that have arisen from the Siya programme that could be shared with other universities (whether in the programme or not)? [A] [B] [C]

Annexure 3 - Interviewee list

Category	Name	Institution	Role
Institution	Professor Adam Habib	the University of Witwatersrand	Vice Chancellor and Principal
Institution	Dr Mxolisi Masango	the University of Witwatersrand	Team leader
Institution	Professor Andrew Crouch	the University of Witwatersrand	Deputy Vice Chancellor - Academic
National and Funder representative	Dr Dianne Parker	Department of Higher Education	Deputy Director General, Higher Education
National and Funder representative	Dr Whitfield Green	Department of Higher Education	Chief Director
Institution	Professor Diane Grayson	the University of Witwatersrand (Previously Council for Higher Education)	Senior Director: Academic Affairs
Institution	Professor Wendy Kilfoil	University of Pretoria	Director: Department for Education Innovation
Institution	Professor Norman Duncan	University of Pretoria	Deputy Vice Chancellor - Academic
Institution	Ms. Nicky Muller	Durban University of Technology	Management systems for information resources
Institution	Professor Nomthandazo Gwele	Durban University of Technology	Deputy Vice Chancellor
Institution	Dr Charles Sheppard	Nelson Mandela University	Director: Management Information
National and Funder representatives	Professor Murray Leibbrandt	University of Cape Town (UCT)	Director: The Southern Africa Labour and Development Research Unit and Pro Vice Chancellor of the University
Institution	Professor François Strydom	University of the Free State	Director: Student Development and Success.
Institution	Professor Francis Petersen	University of the Free State	Vice Chancellor and Principal
Institution	Professor Hendri Kroukamp	University of the Free State	Acting Vice-Rector: Academic
National and Funder representatives	Professor Ahmed Bawa	Universities South Africa	Executive Director
Achieve the Dream	Dr Jan Lyddon	Independent Consultant	Data Analytics coach for Siyaphumelela
Institution	Dr Juan-Claude Lemmens	University of Pretoria	Head: Higher Education Research and Innovation,

Category	Name	Institution	Role
			Department for Education Innovation
Institution	Professor Marian Neale-Shutte	Nelson Mandela University	Institutional Researcher, Office for Institutional Planning
Institution	Dr Delysia Timm	Durban University of Technology	Advisor, Special Projects - (Retired) - including Siyaphumelela - Office of Deputy Vice Chancellor Teaching and Learning