



Use of data in NMU's success initiatives

Dr Charles Sheppard & Ms Dierdre Els

28 June 2017

Siyaphumelela Workshop

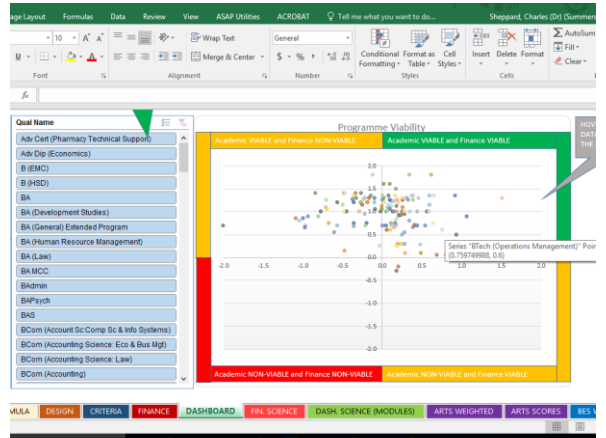
Student Success Indicators

- Student success rates, throughput rate analyses, student : staff full-time equivalent ratios, retention of first year students, graduate employability
- Identification of modules with high failure rates for academic intervention
- Staff Qualification profile
- Data sets for the Academic Viability and Affordability model.
 - Academic Viability - Uniqueness; Coherently designed and innovation; Relevance; Access, articulation and flexible modes of delivery; Qualified, Relevant experience and Research outputs; Student Staff FTE ratios; Equity profile; Acceptable student success, throughput and retention rates; Academic monitoring and support and student feedback; Opportunities for students to engage in experiential learning opportunities; Availability of infrastructure, facilities and equipment
 - Affordability – Income vs Cost – Running at surplus or deficit

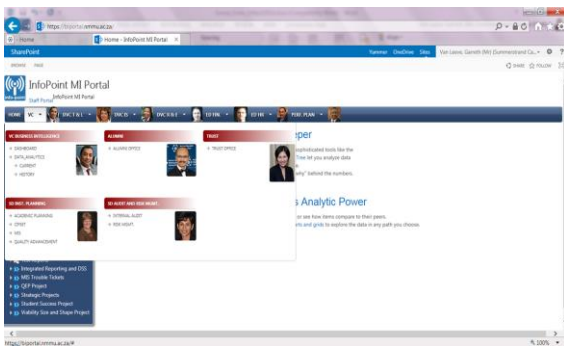


Student Success Indicators

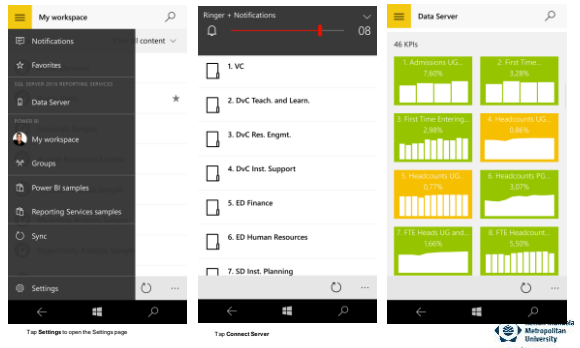
- Data requested by management for monitoring, planning, decision-making processes
- Weighted Research Output Units per permanent academic staff member (M & PhD graduates)
- Average annual growth rates of graduates versus enrolments (Efficiency Indicator)
- Second Quarterly report to Council focus just on student success indicators – form of infographics – very visual.
- The earmarked grants include a range of student success indicators – Foundation Grant, University Development Grant
- Initial Teacher Education Report to DHET ; Annual Performance Plans
- Budget allocations to Faculties based on Resource Allocation Model which include teaching and research outputs.
- Also provide student progress and success information to bursary providers
- Latest is the development of early warning system – RADAR initiated in the New Faculty with an operation of 10T



Intelliweb



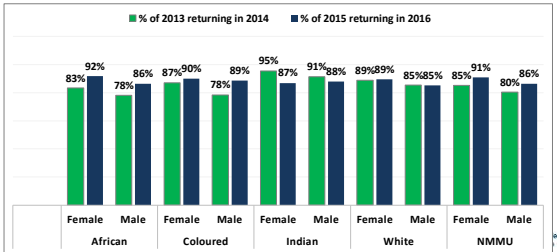
Mobile reports app



Indicators for Siyaphumelela Progress Report

Indicator 1: Retention of first-time entering undergraduate students from study year one to study year two enrolled in 3 and 4 year B-Degrees as well as 3-year undergraduate diplomas by ethnic group and gender.

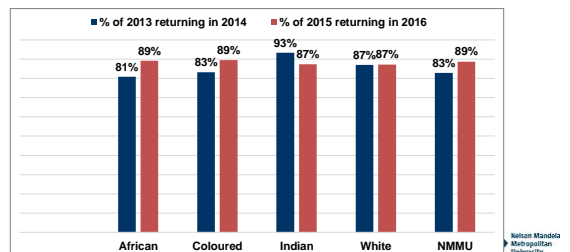
Graph 1 – % of 2013 and 2015 first-time entering cohorts returning the next year by gender and ethnic group



Indicators for Siyaphumelela Progress Report

Indicator 1: Retention of first-time entering undergraduate students from study year one to study year two enrolled in 3 and 4 year B-Degrees as well as 3-year undergraduate diplomas by ethnic group and gender.

Graph 2 – % of 2013 and 2015 first-time entering cohorts returning the next year by ethnic group



Indicators for Siyaphumelela Progress Report

Indicator 2: Indicator 2 is the success rate of undergraduate students enrolled in 3 and 4-year B-degrees and three-year diplomas by ethnic group, gender and faculty. The success rate of first-time entering students as well as all undergraduate students enrolled for these three qualification types are separately analysed.

Table 2.1 – Success rate of all undergraduate students enrolled in 3 and 4-year B degrees and 3-year diplomas by ethnic group and gender for the years 2013 to 2016.

Ethnic Group	Gender	2013	2014	2015	2016
A	F	77%	78%	81%	81%
	M	71%	72%	75%	75%
	Total	74%	75%	78%	78%
C	F	81%	83%	83%	85%
	M	74%	76%	78%	78%
	Total	78%	80%	81%	82%
I	F	83%	86%	84%	86%
	M	74%	77%	83%	81%
	Total	79%	82%	83%	84%
W	F	91%	91%	92%	91%
	M	82%	82%	83%	84%
	Total	86%	86%	87%	87%
NMMU	NMMU	78%	79%	81%	81%

Indicators for Siyaphumelela Progress Report

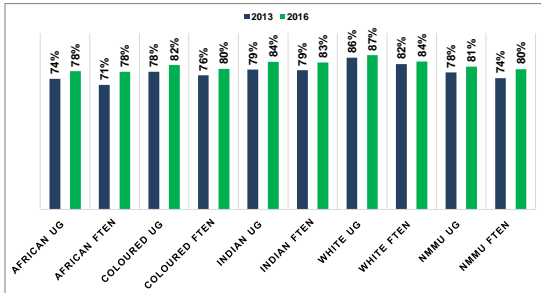
Indicator 2: Indicator 2 is the success rate of undergraduate students enrolled in 3 and 4-year B-degrees and three-year diplomas by ethnic group, gender and faculty. The success rate of first-time entering students as well as all undergraduate students enrolled for these three qualification types are separately analysed.

Table 2.2 – Success rate of all first-time entering undergraduate students enrolled in 3 and 4-year B degrees and 3-year diplomas by ethnic group and gender for the years 2013 to 2016.

Ethnic Group	Gender	2013	2014	2015	2016
A	F	73%	76%	80%	81%
	M	68%	70%	74%	75%
	Total	71%	73%	77%	78%
C	F	80%	76%	81%	83%
	M	71%	73%	74%	73%
	Total	76%	75%	78%	80%
I	F	84%	80%	75%	87%
	M	72%	73%	82%	81%
	Total	79%	77%	78%	83%
W	F	88%	87%	88%	89%
	M	77%	79%	78%	79%
	Total	82%	83%	83%	84%
NMMU	NMMU	74%	76%	79%	80%

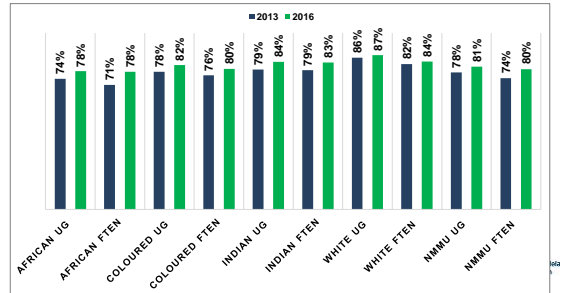
Indicators for Siyaphumelela Progress Report

Graph 2.1 – Success rate of all undergraduate as well as first-time entering students enrolled for 3 and 4 year B degrees and 3 year diplomas for the years 2013 to 2016



Indicators for Siyaphumelela Progress Report

Graph 2.1 – Success rate of all undergraduate as well as first-time entering students enrolled for 3 and 4 year B degrees and 3 year diplomas for the years 2013 to 2016



Indicators for Siyaphumelela Progress Report

Indicator 3:

Tracking of high risk modules – module pass rate

- The module pass rate is the percentage of students who passed the examination in relation to the total number of initial registrations as at the last date for registration changes.
- The NMMU selects modules for supplemental instruction (SI) based on continued low pass rates (55% or below). T
- here are not stipulated minimum required enrolments for modules that we select for SI, but funding is allocated to the bigger modules first and then to modules with lower enrolments until all the money runs out.
- It is also important to note that the attendance of SI is voluntary and not compulsory for students enrolled in the poor performing modules. I
- In most cases, the NMMU continues with SI even once the pass rate has improved and stabilised, since the pass rate drops again once the NMMU withdraws SI.
- SI thus clearly assists in improving the pass rates.
- Supplemental instruction was offered to 98 modules in 2013, 119 in 2014, 118 in 2015 and 114 in 2016. In the table below, only the pass rate of a few examples of modules with at least 100 enrolments that received SI in all four years is given



Indicators for Siyaphumelela Progress Report

Module Code	Module Name	2013	2014	2015	2016
R_101	ACCOUNTING 1A	62%	66%	74%	75%
BBT2112	TAXATION II MODULE III	46%	31%	65%	68%
BED1201	INTRODUCTION TO MICROECONOMICS	64%	45%	68%	27%
BED1202	INTRODUCTION TO MACROECONOMICS	65%	83%	79%	53%
WIH1380	INFORMATION SYSTEMS 1B	84%	83%	59%	70%
EDS1111	DIGITAL SYSTEMS I	68%	68%	76%	81%
ENG1311	ELECTRICAL ENGINEERING I	70%	63%	60%	57%
ONT1000	DEVELOPMENT SOFTWARE I	44%	53%	63%	70%
WCI1600	SYSTEMS SOFTWARE I: NETWORKS	52%	36%	56%	87%
WIH1370	INFORMATION SYSTEMS 1A	80%	68%	78%	76%
MEC1111	MECHANICS I	51%	74%	75%	77%
JHM121	COMPANY LAW	49%	54%	62%	77%
ZTM101	PHARMACEUTICAL CHEMISTRY - INTRODUCTION	46%	60%	93%	86%
MATA101	MATHEMATICS SPECIAL A	45%	73%	62%	70%
WIS1111	MATHEMATICS I	45%	44%	60%	67%
FBB102	ELECTRICITY, OPTICS AND ATOMICS	65%	63%	70%	86%
STAE102	BUSINESS STATISTICS	71%	76%	69%	71%



RADAR

RADAR

Risk Analysis and Detection to Assist and Retain Students

- Student tracking system originally developed for the Law Faculty.
- Now being rolled out to other faculties, including Engineering, Accounting and Education.
- Benefit for Student Support Services.
- New Enhancements.



RADAR

Cohort & Intervention Functionality

[Cohort](#)
[Cohort List](#)
[Interventions](#)

Title	Surname	Firstname	Student Number	Passed	Failed	Avg %	Status	Interventions	Tag	Details
MISS	TEST STUDENT 1		123456789	0	0	0	🔴			Add to Cohort
MISS	TEST STUDENT 2		234567897	1	1	58	🟢	🚗		Add to Cohort
MISS	TEST STUDENT 3		356287523	0	2	42	🟡			Add to Cohort



RADAR

Cohort Functionality

Pick a Cohort

[Watch List](#)
[VC Scholars](#)
[Watch List](#)

or create a Cohort...

Miss TEST STUDENT

(Tagged)

Academic year 2017 2016 2015 2014 2013

BCom (C2: General Accounting) South Campus Part Time

Code Module name Average Status

SEMESTER 1

JHM221	ADVANCED COMPANY LAW (repeat)	58	🟢
RG0301	GENERAL AUDITING 3A (repeat)	56	🟢

KPIs	
Home	No



RADAR

Intervention Functionality

Student's Interventions

Refer this student to an intervention

Show 10 entries

Search:

Intervention	Referral Date	Referrer	Module	Details
Supplementary Instruction (SI)	22 Jun 2017	NHMLJgels	JHM221	Details

Interventions

Create New

ID	Description	Active	Level	Code	Edk Details Deactivate
1	Student Counselling - LEC Checklist	1	student	ALL	Edk Details Deactivate
4	Writing Centre	1	student	ALL	Edk Details Deactivate
2	Supplementary Instruction (SI)	1	module	JHM221	Edk Details Deactivate
3	Supplementary Instruction (SI)	1	module	JHM201	Edk Details Deactivate



RADAR

Intervention Functionality

Surname	Firstname	Student Number	Passed	Failed	Avg %	Status	Interventions
TEST STUDENT 1		123456789	0	0	0	🔴	
TEST STUDENT 2		234567897	1	1	58	🟢	🚗
TEST STUDENT 3		356287523	0	2	42	🟡	

Comments

Write a comment

Add

Dierdre Els (JHM221)

Student was referred to intervention:

Supplementary Instruction (SI)

on 22 Jun 2017 Delete



RADAR

Examples of Useful Student KPI's Displayed

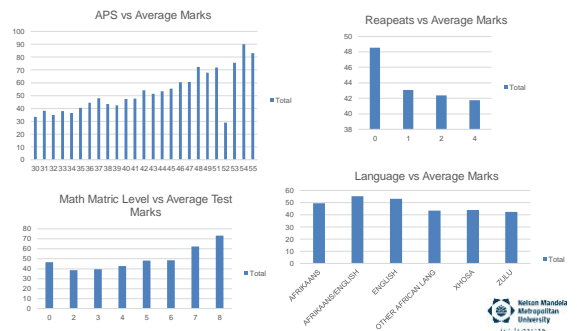
KPIs

Home language differs from language of instruction	Yes
School Quintile	5
Total Qualification Credits Passed	344
APS	42
Admitted for 1st Choice	Accepted For Choice 2
Matric Year	201111
Repeating Module?	2



RADAR

Useful Information from RADAR for a Specific Module using KPI's



RADAR

Challenges Experienced

- Student assessment marks being captured on time into the ERP system.
- Marks residing in systems other than the ERP systems E.g. Moodle, Excel.
- ICT Challenges: Scope creep and enhancements as the system gets rolled out to other faculties – Project Board.



RADAR

Further Development

- Student Dashboard.
- Data Analytics System.
- Student Support Service Dashboards (e.g. Residences, Student Cancelling, T&L).
- KPI's per Module, Qualification or Department.



Thank you!