

Operationalising And Refining A Data Analytics Framework As A Strategic Tool For Directing Faculty-specific Teaching And Learning

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Siyaphumelela conference



Contextualisation

- Appointed as a Teaching & Learning manager in the Faculty of Economic & Management Sciences, UFS, March 2013. (*from Health Sciences* 😊)
- Faculty includes 5 departments, namely Accounting, Business Management, Economics, Industrial Psychology & Public Administration and Management
- New faculty strategic plan approved late 2012/early 2013 - appointment of a Teaching & Learning manager approved to address key teaching & learning challenges, such as poor student success.
 - Implement strategies to reach targets set in newly approved faculty strategic plan
 - Serve as a “liaison” between institutional levels/ management and faculty/departmental/modular levels

Motivation for a faculty-level data analytics framework¹

- Data analytics in HE is directly linked to **student success** and **high-quality teaching & learning practices**^{*}.
- Data analytics is a basis for **informed decision-making**^{**}.
- Continued increase in the use of data analytics in Higher Education.

^{*}Campbell, DeBlois & Oblinger 2007. Clow 2013, Kajitani 2014, Wright et al. 2014

^{**}Long & Siemens 2011

Motivation for a faculty-level data analytics framework²

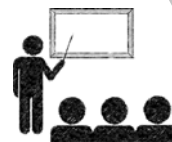
National level

Institutional level

Faculty level

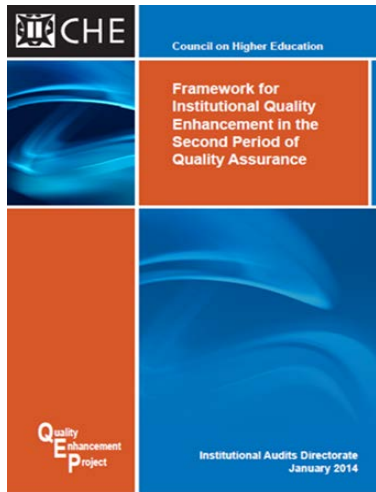
Department level

Modular level



Motivation for a faculty-level data analytics framework³

“Despite years of effort, institutions have yet to develop a coherent framework to guide their thinking about which actions matter most and how they should be organised and successfully implemented. Too often, institutions invest in a **laundry list of actions**, one disconnected from another. The result is an **uncoordinated patchwork of actions** whose sum impact on student retention is less than it could or should be.”*

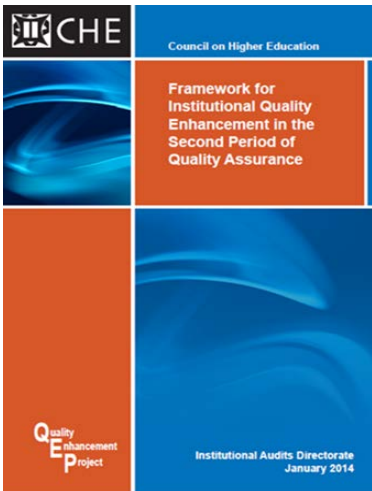


*Tinto 2012

Motivation for a faculty-level data analytics framework⁴

Five conditions for **effective collective impact**:

- a common agenda,
- shared measurement systems,
- mutually reinforcing activities,
- continuous communication and
- backbone support activities.”*



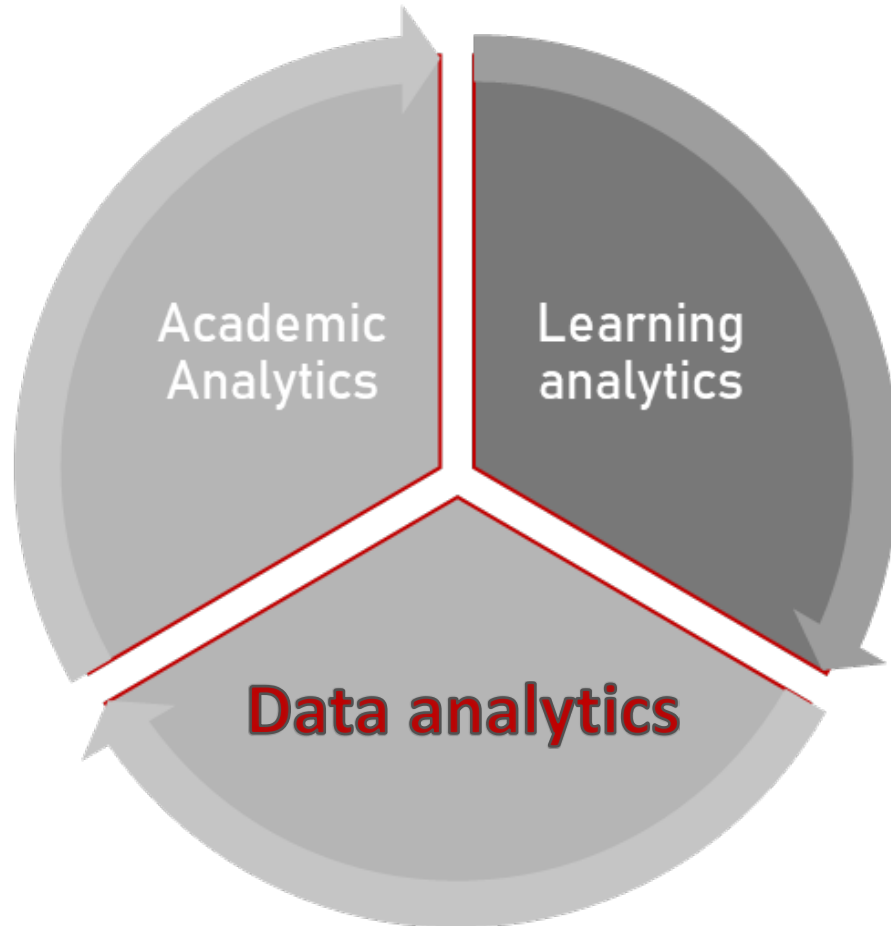
*Kania & Kramer 2011

A common agenda ...

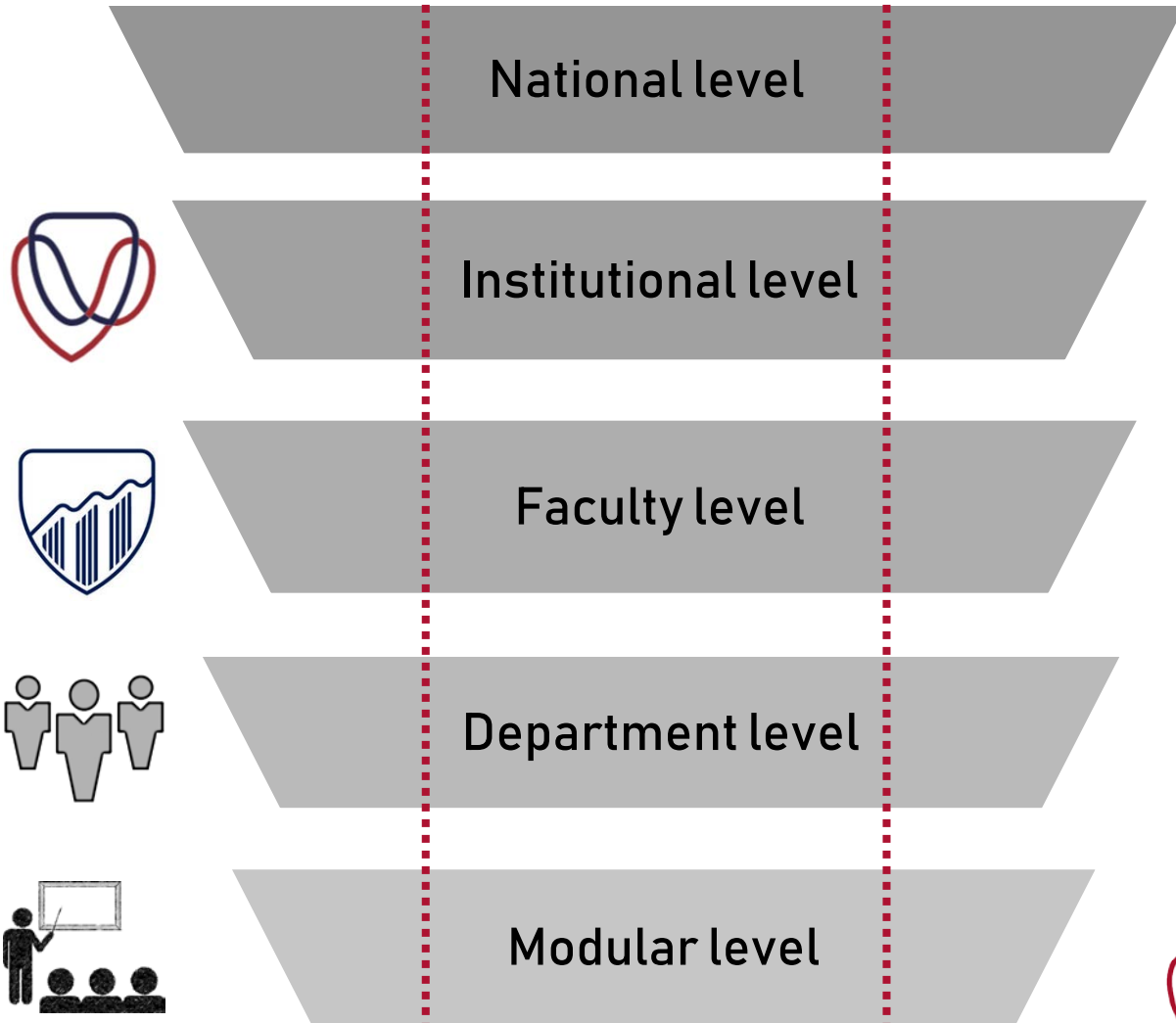
- Student success
- High quality (programmes, teaching & learning practices)
- Teacher excellence



Shared measurement systems...



Mutually reinforcing activities...¹



Mutually reinforcing activities...³

- Demographic data
- Pre-admission data
- Secondary (High school) academic performance
- Registration data
- Benchmark student data (NBT)
- Academic performance
- Examination admission data
- Examination data
- Credit load data
- **Repeater data**
- Academic advising data

Academic analytics

Demographic data

Academic data

Admission data

Financial data

Mutually reinforcing activities...⁴

- Student engagement (CLASSEmini)
- Curriculum
- Teaching, learning, assessment activities and/or practices
- Learning resources
- Student support & development
- **Employability**
- **Psychological well-being data**
- **Inclusive tutorial data**

Learning analytics

Learning process

Networking, discourse,
conceptualisation,
personalisation

Patterns of student performance



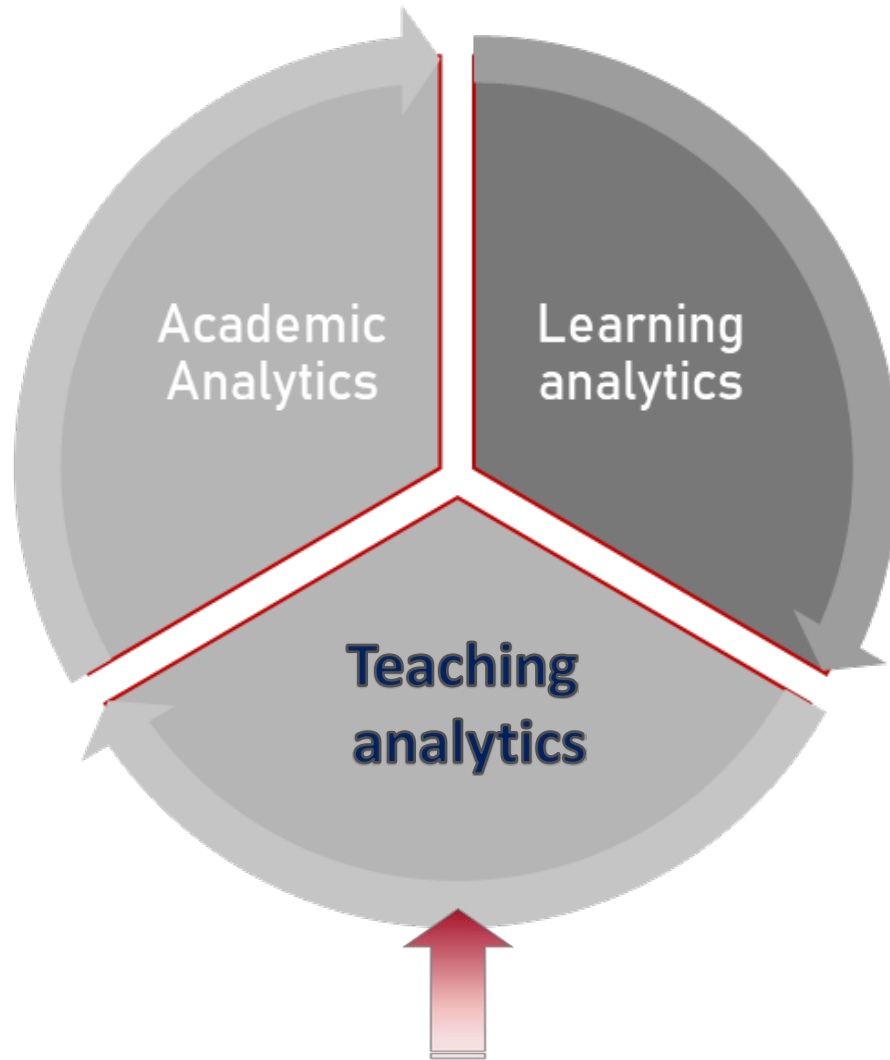
Mutually reinforcing activities...²

Academics to be supported to include data analytics in their daily work.

- Potential to provide usable data.
- Contribution to institutional knowledge management systems.
- Give richer conceptions of student learning.
- Change current teaching practices.
- Enhance collaboration among academics.
- Support student understanding (and data).
- Set goals.

Johnson et al. 2011, Clow 2013, Natek & Zwilling 2014

Mutually reinforcing activities...⁵



Mutually reinforcing activities...⁶

Teaching analytics...

- Curriculum
- Teaching, learning, assessment activities and/or practices
- Marking assistance (if applicable)
- Tutorial support (if applicable)
- Development of graduate attributes
- Development of employability skills
- Stakeholder involvement
- Teacher metrics



Mutually reinforcing activities...⁷

Academic analytics

Institutional database
(DIRAP)

Assessment data
(ICT)

Learning analytics

Module evaluations
(DIRAP)

CLASSEmini
(CTL)

Student focus
groups

Critical Incident
Questionnaires (CIQs)

Stop-Start-Continue
qualitative feedback

Employability
questionnaire

SDS, SAS, MSPSS, UWES
questionnaires

Teaching analytics

Stakeholder
involvement

CLASSEmini
(CTL)

Academic qualitative reflections

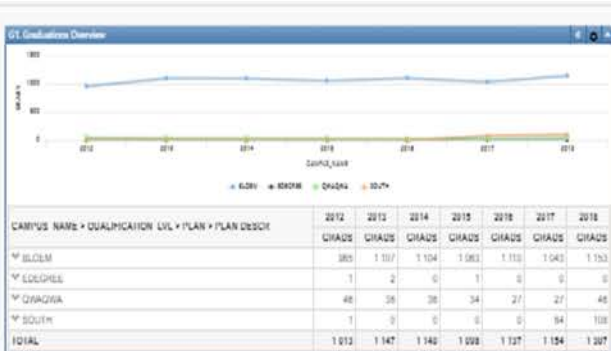
Marking assistance/
Tutorial support

Graduate attribute
development

Employability skills development



Continuous communication...¹



S1.1 Top 10 Undergraduate Module Enrollments For The Current Year

CRSE CODE	2019
EBUS1624	2 270
EBUS1614	1 835
ENRM1514	1 544
ESOP1524	1 407
EBUS1514	1 347
SAL1508	1 323
SACC1614	1 220
EBUS2715	1 029
EBUS2714	949
ELM2624	913

Top 10 records (MODULE ENRL) by CRSE CODE

S2. Registrations by Qualification Grouping

QUALIFICATION LVL	2013	2014	2015	2016	2017	2018	2019
DOCTORAL	52	53	60	82	77	100	87
HONOURS	489	516	588	664	488	325	294
MAS/PHD	208	327	331	332	261	353	249
OCCASIONAL	351	237	241	211	79	66	40
POSTGRAD + HONS	21	55	122	188	331	411	379
UGRD	3 892	3 302	3 420	3 819	4 489	5 155	4 986
TOTAL	5 063	4 750	4 262	5 225	5 726	5 280	6 044

G2. Graduation by Qualification Type

QUALIFICATION LVL	2012	2013	2014	2015	2016	2017	2018
DOCTORAL	8	8	5	8	12	3	7
HONOURS	277	283	298	303	324	268	228
MAS/PHD	18	14	94	80	87	75	37
POSTGRAD + HONS	11	10	11	38	51	121	149
UGRD	702	702	732	889	883	889	886
TOTAL	1 012	1 147	1 140	1 098	1 137	1 154	1 207

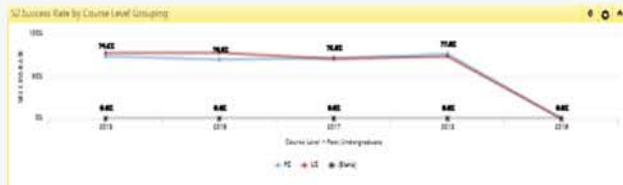
S1.2 Module enrollments by campus - total

CRSE CODE	2019	2018	2017	2016	2015
EBUS1514	1 347	1 381	87.8%	1 138	77.3%
BLOEM	847	90.1%	714	88.8%	640



G3. Graduation by Campus, Gender & Race

CAMPUS NAME	2012	2013	2014	2015	2016	2017	2018
BLOEM	385	1 107	1 104	1 083	1 110	1 043	1 163
MALE	476	497	477	440	487	420	505
FEMALE	480	610	627	614	643	614	653
QWAGWA	1	2	0	1	0	0	0
MALE	1	1	0	1	0	0	0
FEMALE	0	1	0	0	0	0	0
QWAGWA	46	38	38	34	27	27	46
MALE	18	18	18	19	9	7	26
FEMALE	28	20	18	15	18	20	20
SOUTH	1	0	0	0	0	34	108
MALE	1	0	0	0	0	30	50
FEMALE	0	0	0	0	0	34	58
TOTAL	1 012	1 147	1 140	1 098	1 137	1 154	1 207



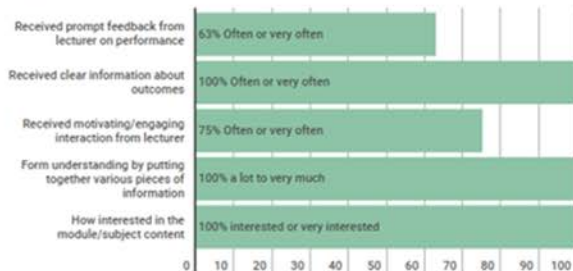
Continuous communication...²



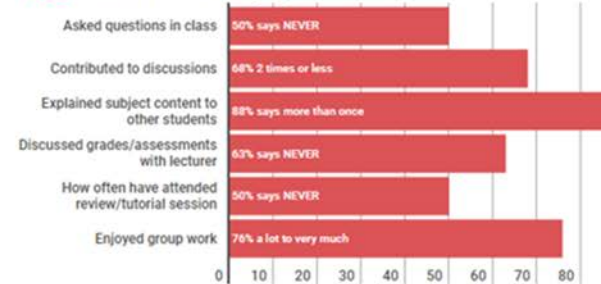
General Student Information

	2015	2016	2017
Success rate	76.9%	90.5%	65.1%
No students enrolled	195	201	175
Age of majority	21 or older	22 or older	21 or older
Average AP of enrolled students	31	31	-
Language of majority	ENG (75%)	ENG (72%)	ENG (74%)
Gender of majority	F (55%)	F (60%)	F (55%)
Race of majority	African (48%)	African (52%)	African (65%)
% Enrolled from other faculties	56%	69%	53%

Student-Lecturer engagement: ALIGNED



Student-Lecturer engagement: GAP



Module success rate	2017	2018
EMS Faculty	71,3%	73,8%
ExxxXxxx	65,1%	78,4%

↑ 2,5%
↑ 13,3%

Backbone support activities...¹

Faculty & Institutional Teaching
Excellence Awards

2013-2014 – one per year

Since 2015 – at least two winners per
year (including VC awards)

Disciplinary/Educational Inquiry
Research group

Run in collaboration with a research
mentor from the UFS Postgraduate
School

Interdisciplinary in nature

Conference presentations & research
articles delivered from this group since
2015

Supported academics in pursuit of TL
excellence and even the SoTL

Increased interest in conducting TL-
based research within the disciplines to
improve understanding

Postgraduate studies in
disciplinary education

1 registered PhD student

3 registered Master's students

Further 5 PhDs in planning



Backbone support activities...²

Programme-specific student support programmes

Four-dimensional Accounting Student Support (FASS) programme

Broader EMS roll-out started 2019

Psychological well-being of students

National research project to be run on CTA and Physiotherapy students at 4 universities (awaiting Ethical clearance from all institutions)

Academic staff development programme

Bridging the *GAP* programme aimed at the implementation of the new language policy at the UFS.

BUT utilised as another opportunity to engage academics with module-specific data and critical reflection on data



Backbone support activities...³



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MANAGEMENT SCIENCES
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DIREKTORAAT VIR INSTITUSIONELE
NAVORSING EN AKADEEMIESE BEPLANNING (DINAB)

Saide
South African Institute
for Distance Education

Thank you



The whole can be greater than the sum of it's parts, that we all have something to put in the pie to make it better, and that the collaborative interaction works.

— Frank Gehry —

— Group Gospel —

