

Using Learner/Learning Analytics For Student Tracking And Monitoring At WSU And The Technical Aspects.

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OVERVIEW

1. INTRODUCTION AND BACKGROUND
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3. WISEUP TOOLS FOR TMS
4. RESEARCH METHODOLOGY
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- ANALYSIS AND FINDINGS
4. EXPERIENCES
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Introduction and Background

- Higher education institutions are critically in need of new tools and strategies that will allow them to quickly identify at risk students and devise means of supporting their learning. Wang & Newlin (2002) proposed that data on student online activities in a LMS (Bb, etc.) may provide an early indicator of student academic performance
- Researchers such as Campbell *et. al* (2007) stated that the application of academic analytics to institutional LMS data can offer new insights into identifying students at risk of course failure and success.

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Introduction and Backgr. Cont....

- **Learning Analytics:**

Specifically use analytics to improve...

- Learning within classes
- Student success across classes
- Student progress and degree completion

WSU has developed academic monitoring mechanism to track and monitor students academic progress and to identify at risk students in good time so as to provide effective academic intervention.

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TMS technical aspects

For the purpose of Tracking and Monitoring the following systems were used:



Primary System



HEDA



WiSeUp

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TMS technical aspects Cont...

According to TMS procedure manual 4 criteria were developed and defined namely:

- | | |
|-----------------------------|-------------------------|
| 1.AT RISK: | $X < 50\%$ |
| 2.BORDERLINE: | $50\% \leq X \leq 59\%$ |
| 3.NORMAL: | $59\% \leq X \leq 74\%$ |
| 4.ACADEMICALLY GOOD: | $X \geq 75\%$ |

Two useful tools on WiSeUp such as Retention Centre and Grade Centre were used to track and monitor student performance academically.

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WiSeUp tools for TMS

Grade Centre

- upload the assessments marks
- 1st intervention (Quick Comment)
- Assessment Column statistics

Retention Centre

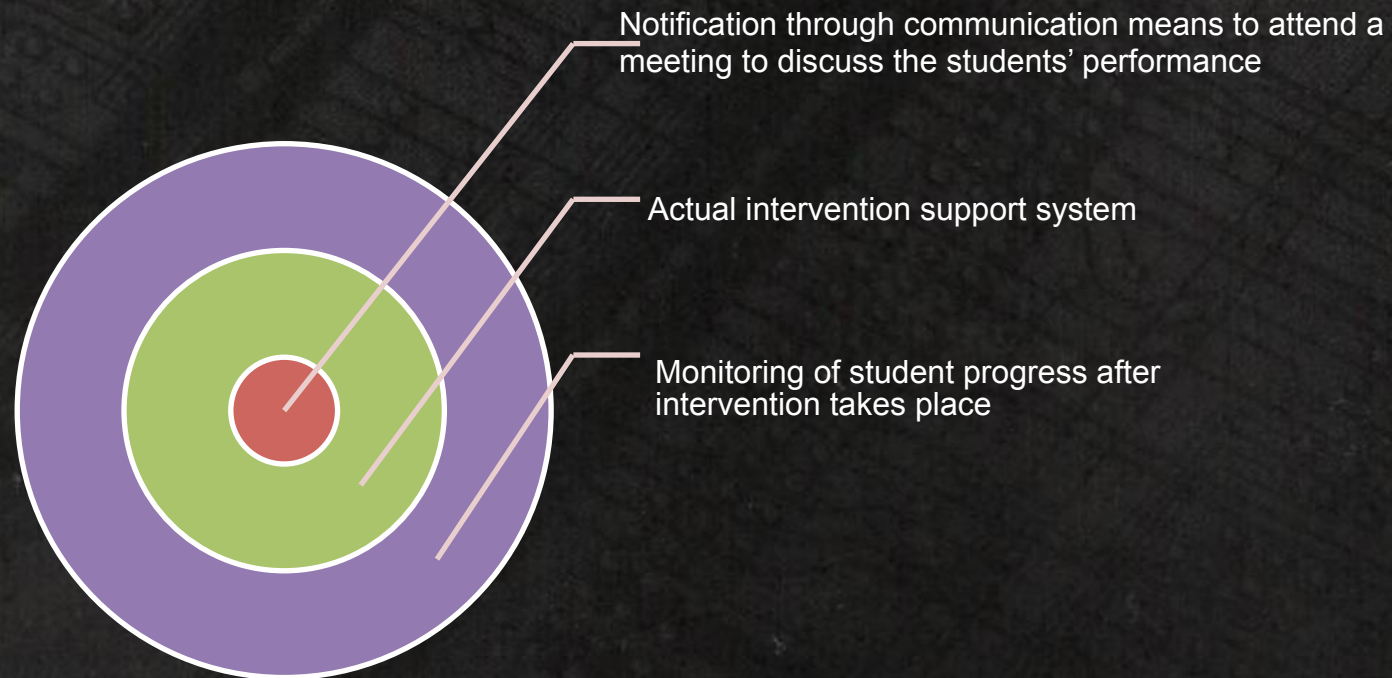
- Set Grade rule
- Triggered students
- notification tool
- 2nd intervention Academic Advisor

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CONT.....

- After the student has been tracked , the intervention process by the Academic Advisor is as follows



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Research Methodology

- This is a quantitative study
- Randomly, 10 subjects from 5 departments were voluntary monitored for the 1st Term assessment

Data Collection and analysis:

- The data analyzed in this exploratory research was extracted from the course-based LMS (Bb) and HEDA.

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PILOT DATA ANALYSIS

Course	No of students on WiSeUp	At risk (Task 1) less than 50%	At risk (Task 2) less than 50%	At risk (Task 3) less than 50%	At risk (Task 4) less than 40%
Business Man 1	62	12	No mark		
Business Man 2	97	26	No mark		
Food & Bev 1(Theory)	40	24	8		
Hospitality Operations 2	27	21	11		
Hospitality Operations 3	27	11	9		
Food & Bev Op 3	28	11	15		

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PILOT DATA ANALYSIS cont...

Course	No of students on WiSeUp	At risk (Task 1) less than 50%	At risk (Task 2) less than 50%	At risk (Task 3) less than 50%	At risk (Task 4) less than 40%
Thermodynamics E x t 2 (Mechanical)	27	14	No mark		
Site Surveying 1 Main level 1 (Building)	37	16	9		
Site Surveying Ext level 2 (Building)	33	3	4		
Construction Materials 1 (Civil)	67	20	28		
Hydraulics 2	114	84	No mark		
Water& Water waste treatment	154	118	No mark		

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ANALYSIS AND FINDINGS

Grade Center : Full Grade Center

When screen reader mode is on, the Grade Center data appears in a simplified grid. You cannot freeze columns or edit inline, making it easier to navigate using the keyboard. To enter a grade, access a cell's contextual menu and click **View Grade Details**. When screen reader mode is off, you can type a grade directly in a cell on the Grade Center page. To enter a grade: click the cell, type the grade value, and press the Enter key to submit. Use the arrow keys or the tab key to navigate through the Grade Center. [More Help](#)

Create Column Create Calculated Column Manage Reports Filter Work Offline

Move To Top Email Sort Columns By: Layout Position Order: Descending Hide Color Coding

Grade Information Bar Last Saved: May 4, 2015 12:03 PM

Last Name	First Name	Username	Student ID	Total	Test 1
ADAM	ASANDA	214122727		43.00	43.00%
ADAM	ASEMAHLE	214145395	214145395	16.00	16.00%
BABE	NOMBULELO	213095564	213095564	53.00	53.00%
BALENI	AYANDA	211148830	211148830	39.00	39.00%
BEDE	YANGA	213138697	213138697	58.00	58.00%
BIYELA	CELANE GLORIA	209155086	209155086	35.00	35.00%
BIYELA	MTHOKOZI	209184566	209184566	24.00	24.00%
BOTA	WELAMAZA LAMLIL	212063278	212063278	54.00	54.00%
BUHLUNGU	KHONAYE	213234106	213234106	33.00	33.00%
CAFUZA	ZENANDE	209115491	209115491	42.00	42.00%

Selected Rows: 0

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ANALYSIS AND FINDINGS

Retention Center – CONSTRUCTION MATERIALS I

Novell WebAccess

https://wiseup.wsu.ac.za:8443/webapps/retention/dashboard?course_id=_27624_1

Thandokazi Ikedinobi

WiseUp Home Courses System Admin

Evaluation > Retention Center

Edit Mode is: ON

Retention Center

The Retention Center provides an easy way for you to discover which students in your course are at risk. You can communicate with struggling students and help them take immediate action for improvement. You can also keep track of patterns over time. [More Help](#)

Students currently at risk

20

[View students not at risk](#)

STUDENT	MISSED DEADLINES No rules. Use defaults?	GRADES ALERT	ACTIVITY ALERT No rules. Use defaults?	ACCESS ALERT No rules. Use defaults?
ASEMAHLE ADAM		●		
YANGA BOKWANE		●		
SIYASANGA FELEZA		●		
ASAVELA GQIRANA		●		

Students you are monitoring

You are not monitoring anyone yet
Monitor your students to gain insights to their academic progress.

Other information you are monitoring

You are not monitoring any information
Track who's doing well in your course.

Retention Center – WATER & WASTEWATER TREATMENT

Novell WebAccess

https://wiseup.wsu.ac.za:8443/webapps/retention/dashboard?course_id=_29698_1

Thandokazi Ikedinobi

WiseUp Home Courses System Admin

Evaluation > Retention Center

Edit Mode is: ON

Retention Center

The Retention Center provides an easy way for you to discover which students in your course are at risk. You can communicate with struggling students and help them take immediate action for improvement. You can also keep track of patterns over time. [More Help](#)

Students currently at risk

118

[View students not at risk](#)

STUDENT	MISSED DEADLINES No rules. Use defaults?	GRADES ALERT	ACTIVITY ALERT No rules. Use defaults?	ACCESS ALERT No rules. Use defaults?
ASANDA ADAM		●		
ASEMAHLE ADAM		●		
AYANDA BALENI		●		
MTHOKOZI BIYELA		●		
CELANE GLORIA BIYELA		●		

Students you are monitoring

You are not monitoring anyone yet
Monitor your students to gain insights to their academic progress.

Other information you are monitoring

You are not monitoring any information
Track who's doing well in your course.

ANALYSIS AND FINDINGS

Demonstration

Person number	Surname	Name	Calendar Year	Programme code	Course code	STUDENT_NAME	CAMPUS_NAME	TESTS WRITTE N	MARKS_BE LOW_54	Mark0	Mark0
210147350	Kafle	Siyasanga	2015	Q4100	AUD20Q1	MISS S KAFLE	WSU - Queenstown	2	1	26	58
211205036	Ngcango	Zola	2015	Q4100	AUD20Q1	MR Z NGCANGO	WSU - Queenstown	2	1	40	58
211213640	Njuze	Ziyanda	2015	Q4100	AUD20Q1	MISS Z NJUZE	WSU - Queenstown	2	1	39	74
211215538	Mngese	Luvuyo	2015	Q4100	AUD20Q1	MR L E MNGESE	WSU - Queenstown	2	1	39	58
212136208	Mamba	Sikelela	2015	Q4102	AUD20Q1	MR S MAMBA	WSU - Queenstown	2	1	46	78
212185470	Keka	Xabiso	2015	Q4102	AUD20Q1	MR X KEKA	WSU - Queenstown	2	1	29	88
212196960	Xakeka	Asavela	2015	Q4100	AUD20Q1	MISS A XAKEKA	WSU - Queenstown	2	1	31	86
213005034	Moli	Dumisani	2015	Q4100	AUD20Q1	MR D. MOLI	WSU - Queenstown	2	1	46	78
213017563	Tyalana	Asiphe	2015	Q4100	AUD20Q1	MISS AH TYALANA	WSU - Queenstown	2	1	30	72
213176491	Tetiwe	Zintle	2015	Q4100	AUD20Q1	MISS Z TETIWE	WSU - Queenstown	2	1	34	86
213221721	Konkwane	Sisanda	2015	Q4100	AUD20Q1	MISS S KONKWANE	WSU - Queenstown	2	1	43	72
214040607	Ntsenge	Sikelela	2015	Q4100	AUD20Q1	MR S. P NTSENGE	WSU - Queenstown	2	1	40	78
214094049	Sityebi	Lusanda	2015	Q4100	AUD20Q1	MISS L. SITYEBI	WSU - Queenstown	2	1	38	88
214117022	Tshangela	Akhona	2015	Q4100	AUD20Q1	MR A TSHANGELA	WSU - Queenstown	2	1	29	54
214148041	Mbolombo	Nolwando	2015	Q4102	AUD20Q1	MISS N MBOLOMPO	WSU - Queenstown	2	1	53	28
214168093	Kweleta	Thantaswa	2015	Q4100	AUD20Q1	MISS T KWELETA	WSU - Queenstown	2	1	32	72
214168689	Njamela	Andisiwe	2015	Q4102	AUD20Q1	MISS A NJAMELA	WSU - Queenstown	2	1	44	76
214169162	Mgoqi	Phozisa	2015	Q4100	AUD20Q1	MISS PM MGOQI	WSU - Queenstown	2	1	49	64
214180034	Daweti	Xolisa	2015	Q4100	AUD20Q1	MR X DAWETI	WSU - Queenstown	2	1	42	54
214183491	Qhaga	Sihle	2015	Q4102	AUD20Q1	MISS S QHAGA	WSU - Queenstown	2	2	47	28
214187314	Nadyokwe	Mtabiseng	2015	Q4102	AUD20Q1	MISS M B NADYOKWE	WSU - Queenstown	2	1	35	64
214189740	Mgwigwi	Sihle	2015	Q4102	AUD20Q1	MISS S MGWIGWI	WSU - Queenstown	2	1	39	60
214190382	Kabiqeya	Asithandile	2015	Q4100	AUD20Q1	MISS A kabiqeya	WSU - Queenstown	2	1	30	76
215185137	Gwadel	Kwandakwethu	2015	Q4100	AUD20Q1	MR K GWADELA	WSU - Queenstown	2	2	0	0

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An Example 1st Test Intervention
Food and Beverages Operations 3

12 were flagged but only 3 attended

Student	Mark before intervention	Mark After the intervention
1	20%	86%
2	32%	78%
3	18%	82%

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EXPERIENCES

CHALLENGES

- Resistance to change
 - fear of technology
 - lack of skills
 - stick to old rules (chalk and board)
- Delay in uploading marks
- Few wireless spots

RECOMMENDATIONS

- HoD's to motivate their staff to use WiSeUp.
- Trained users must use WiSeUp frequently.
- Marks must be uploaded, on the system on time
- Systems must be linked ITS, WiSeUp and HEDA
- Pilot to employ student assistants to assist in data capturing

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Achievements

- High usage of WiSeUp
 - Tests written
 - Teaching materials uploaded
 - Assignments and assessment - (Crocodoc Tool)
 - Grade centre (marks)
 - Retention centre (intervention)
 - Communication tools
 - Safe Assign –(Plagiarism Tool)
 - Evaluations done
- E-learning centers
- ICDL SLP

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THANK YOU!!
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:WSU
Walter Sisulu University