GMIT
INSTITIÚID TEICNEOLAÍOCHTA NA GAILLIMHE-MAIGH EO
GALWAY-MAYO INSTITUTE OF TECHNOLOGY

Data Analytics to Inform and Enhance Learning

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DCU
2nd November 2021

NATIONAL FORUM
FOR THE ENHANCEMENT OF TEACHING
AND LEARNING IN HIGHER EDUCATION

The Education Awards 2019
WINNER
Best Use of Educational Technology/ICT Initiative of the Year

Data Analytics to Inform and Enrich Education

Collaborative and multi-disciplinary project

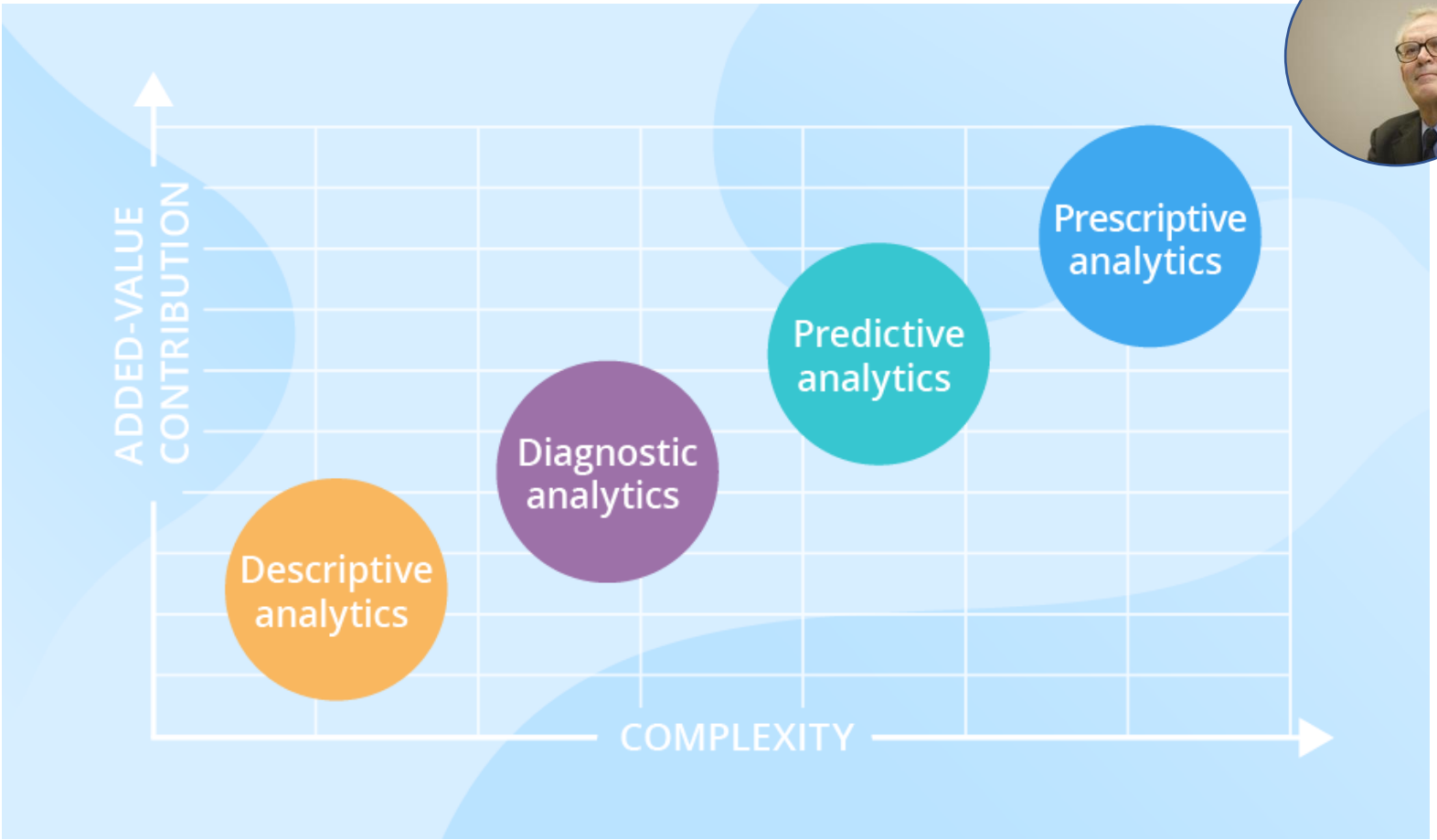
Science	Etain Kiely Cormac Quigley
Computing	Garrett Jordan Elaine Leavy Donal McGinty Fiona Doughan
Technician	Mark Gill
Research Scholar	Ikechukwu Ogbuchi

Analytics – What's That?

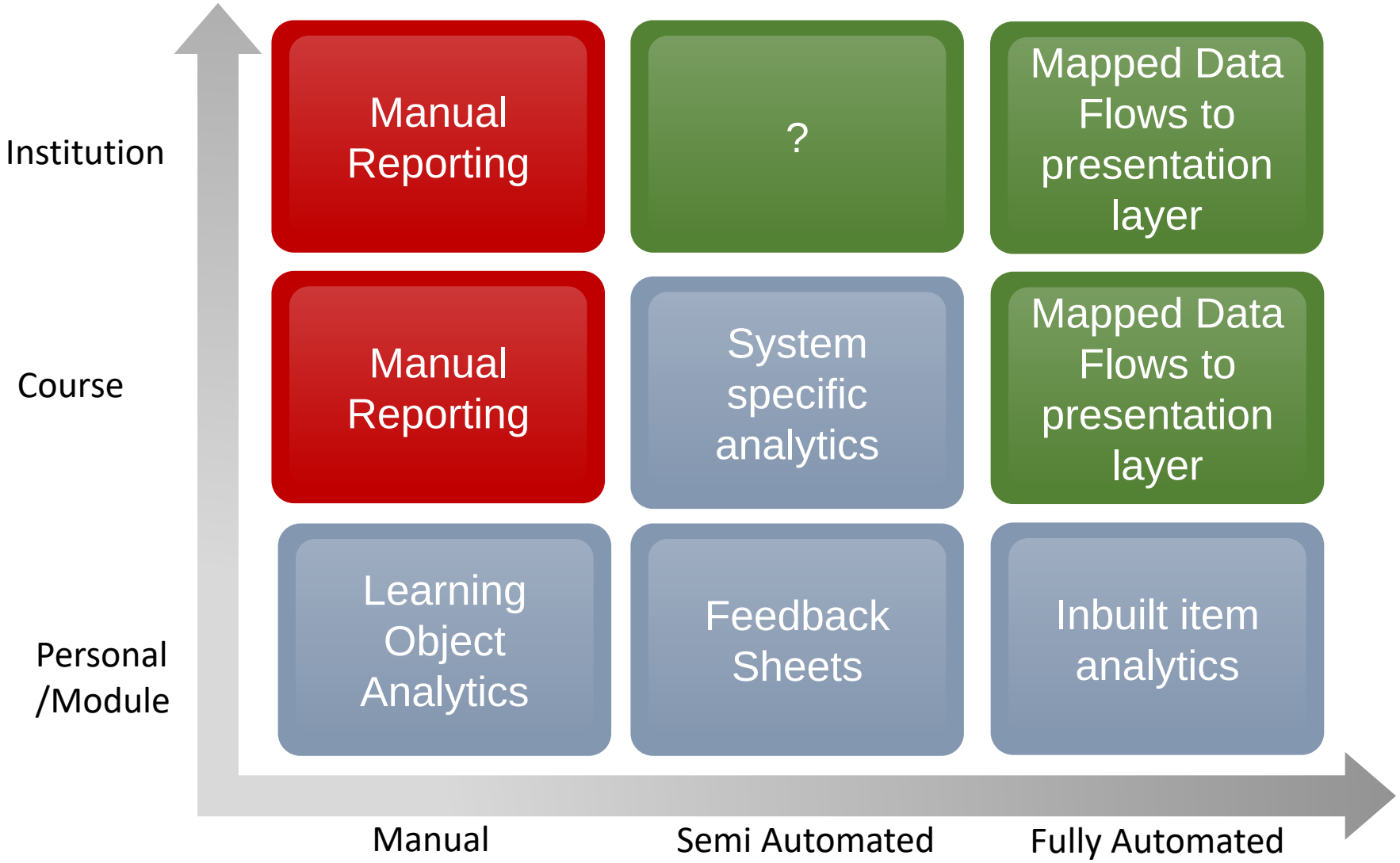
The model of analytics

used for commercial applications may not fit our purposes:

Academia has more than one target outcome



Analytics at many levels:



Analytics – Policy under review

Policy sets out aims and limitations:

- Primary focus is on benefit to learning
- Analysis of data will never result in a significant action without human intervention

- Duty of care to students:
  - empowers students to improve their likelihood of success
  - provide a uniform experience for all students
  - limitations and potential biases in the data are understood

- Duty of care to staff:
  - Learning analytics will not be used to monitor or evaluate staff performance

GMIT

GMIT Academic Council

Policy document (draft)

"Learning Analytics for Student Success"

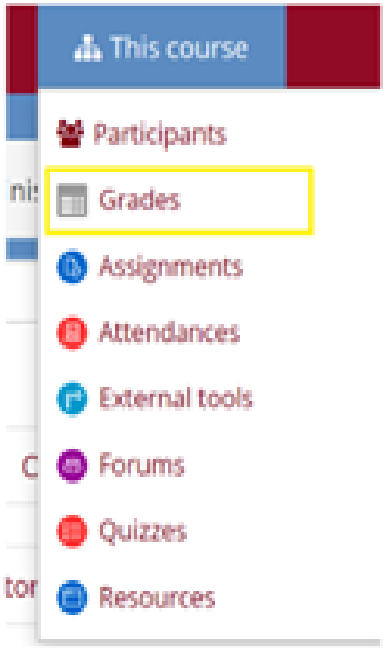
Version 1.0

As approved by Academic Council on 30th May 2019 and approved by Governing Body on 29th August 2019

"Learning Analytics and Artificial Intelligence (for Student Success)"

TUTF Project

The events, characters and firms depicted in this photoplay are fictitious. Any similarity to actual persons, living or dead, or to actual firms, is purely coincidental.



moodle

Journal

Item name

Calculation

```
=((([J1]]+[[J2]]+[[J3]]+[[J4]]+[[J5]]+[[J6]]+[[J7]]+[[J81]])/8)*([[JA]]/100)*(20/100)
```

Student 1	Thursday, 23 April 2020, 7:27 PM		52%
Student 2	Tuesday, 5 May 2020, 8:15 PM		97%

Journal 1 Grade	100.00
Journal 2 Grade (no late grading on this)	83.33
Journal 3 Grade (no late grading)	100.00
Journal 4 Grade (Upload Excel work here)	100.00
Journal 5 Grade (Upload Excel 5 Here)	-
Journal 6 Grade (Upload Excel 6 Here)	-
Journal 7 Grade	100.00
Journal 8 Quiz Score	100.00
Journal Include empty grades.	**12.87**
Exam 1	
Exam 1 (Week 7)	9.00
Exam 1 Include empty grades.	**9.00**
Exam 2 Christmas	
Exam 2 (Week 13, SM1)	8.25
Exam 2 Christmas total Include empty grades.	**8.25**
Exam 3 Sem 2	
Exam 3: Lab Exam Excel	5.58
Exam 3 Sem 2 total Include empty grades.	**5.58**
Upload your Exam 3 Excel File Here	-
Average Grade so far	
Average Grade so far total Include empty grades.	**72.43**
Practice Final Exam (more questions)	-
Course total Include empty grades.	**50.7**

Heatmap

Total views: 187272
Distinct user views: 6432
(Since course start date)
Updated: Thu, 11 Mar 2021, 10:28 PM
Toggle heatmap

Mastery Quizzes (100%)

Edit

Quiz Fundamentals 1 (100%)

Edit

36788 208

Quiz 2: Measurements in Science (100%)

Edit

21702 201

Quiz 3: Functions and Graphs (100%) (13/10/20)

Edit

25783 192

Quiz 4: Physics Calculations (04/12/20)

Edit

10279 170

Quiz 5: Chemistry Calculations (11/12/20)

Edit

13007 168

Quiz 6: Statistics (12/02/20)

Edit

11491 167

Quiz 7 Exponential Growth (26/02/21)

Edit

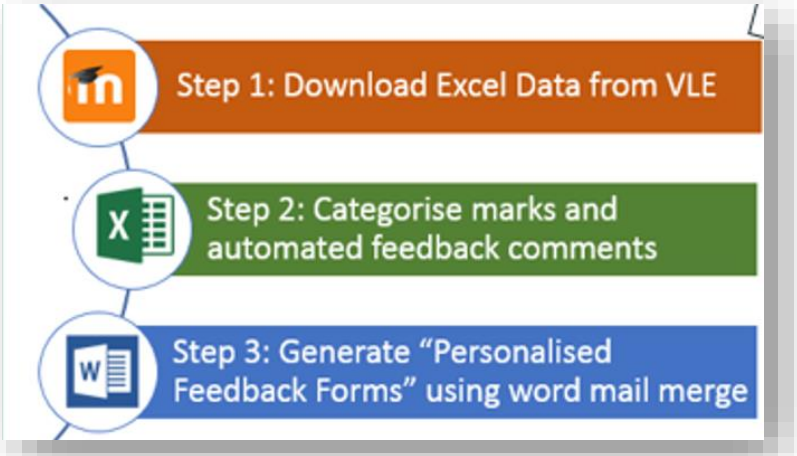
9059 162

Lecture Attendance

Course	Chemistry Labs																	
Group	Group F																	
Student II	Username	Surr	Fir	Gro	12.09.201	19.09.201	26.09.201	3.10.2016	10.10.201	17.10.201	24.10.201	31.10.201	7.11.2016	14.11.201	21.11.201	28.11.201	5.12.2016	12.12.201	Grade
4308	g00345017	BEV	RO	Gro	P	P	P	P	P	P	P	P	P	P	A	P	P	?	24.0 / 26.0
4134	g00327570	BOY	ELI	Gro	P	P	P	P	P	P	P	P	P	A	P	A	A	?	20.0 / 26.0
5998	g00342843	BUC	RA	Gro	P	P	P	P	P	P	P	P	P	P	P	P	P	?	26.0 / 26.0
4191	g00344367	CAS	MI	Gro	P	P	P	P	P	P	P	P	P	P	A	P	P	?	24.0 / 26.0
8614	g00343218	CON	OL	Gro	A	P	P	P	A	P	P	P	P	P	P	P	P	?	22.0 / 26.0
4135	g00346587	DEV	NE	Gro	A	P	P	P	P	P	P	P	P	P	P	P	P	?	24.0 / 26.0
10108	g00343753	DOV	AM	Gro	A	P	P	P	P	P	P	P	P	A	P	P	P	?	22.0 / 26.0
4326	g00335193	FOR	FIC	Gro	P	P	P	P	P	E	P	P	A	A	A	P	P	?	19.0 / 26.0
5454	g00346547	GAL	CIA	Gro	P	A	P	P	P	P	P	P	P	P	P	P	P	?	24.0 / 26.0
4342	g00350490	GRE	MA	Gro	P	P	P	P	P	P	P	P	E	P	A	P	P	?	23.0 / 26.0
4542	g00334529	JOR	TAI	Gro	P	P	P	P	P	P	P	P	P	P	P	P	P	?	26.0 / 26.0
4248	g00343296	KEL	CH	Gro	P	P	P	P	P	P							P	?	26.0 / 26.0
1491	g00314406	KNC	ALI	Gro	P	P	P	P	P	P							P	?	26.0 / 26.0
3012	g00345947	MC I	CH	Gro	P	P	P	P	P	P							P	?	26.0 / 26.0
4956	g00343022	MC I	DA	Gro	P	P	P	P	P	A							A	?	12.0 / 26.0
4563	g00343046	PRC	NIA	Gro	P	P	P	P	P	P							P	?	26.0 / 26.0

- Chemistry Labs
  - Participants
  - Badges
  - Grades
  - Chemistry Labs
  - Term 1
  - Attendance
  - Lecturers area, do not unhide please
  - Lab Week 1 Welcome to GMIT
  - Lab Week 2 (Recrystallisation)
  - Lab Week 3 (Solvent Extraction)
  - Lab Week 4 (Distillation)

Personalized Feedback Forms



Step 1:

- Extract Data from Moodle

Step 2:

- Anonymize Data
- Clean data using excel functions
- Automate Feedback Comments

Step 3:

- Generate Feedback forms

For more information:

Cormac Quigley, Etain Kiely (2020). National Forum for the Enhancement of Teaching and Learning in Higher Education**, "Harnessing Student Engagement Data for Personalised Feedback"** in *teachingandlearning.ie*, Published January 28, 2020, Last Accessed April 9, 2021, https://www.teachingandlearning.ie/resource/harnessing-student-engagement-data-for-personalised-feedback/.

Cormac Quigley, Etain Kiely (2021). **An Accessible Method of Delivering Timely Personalized Feedback to Large Student Cohorts** in F.M. Fung & C. Zimmermann (Eds.) Technology-Enabled Blended Learning Experiences for Chemistry Education and Outreach, ISBN 9780128228791, Elsevier, 2021

Comments for:	Perfect Score	Positive	Medium	Poor	Zero	Missing	Perfect Score (score = this)	Positive (Score > below but less than perfect	Medium (Score > below but less then positive)	Poor (Score < medium but > 0)	Zero (Score = 0, non attendance comment)	Excused/ Resit required/ other
Lab Grade	You lab work is going very well, keep up the good work.	Your lab work is going well, keep it up. Don't forget to read your lab book before labs.	You are passing your labs but your performance could be improved. Remember to read your lab book before you come to labs.	It looks like you are struggling with the labs. If you feel you need extra help come talk to me.			9	8	6		0	ex
Lab Attendance	You have attended every lab so far, well done.	Keep up the good attendance at labs.	Your lab attendance needs to improve. Remember there is an 80% attendance minimum to pass the labs. You must pass the chemistry labs to progress to second year.	You have missed a large number of labs. If I have not already spoken to you about this come see me.			100	80	70		0	ex
Test Grade	Well done on a perfect score!										0	abs ent
Quiz Grade	Well done on a perfect score!										0	-1
Final Comment	keep up the											

```
=IF(N2='CommentSheet'!$O$3,'CommentSheet'!$G$3,
IF(N2='Comment Sheet'!$J$3,'CommentSheet'!$B$3,
IF(N2>='Comment Sheet'!$K$3,'Comment Sheet'!$C$3,
IF(N2>='Comment Sheet'!$L$3,'Comment Sheet'!$D$3,
IF(N2>'Comment Sheet'!$N$3,'Comment Sheet'!$E$3,
IF(N2='Comment Sheet'!$N$3,'Comment Sheet'!$F$3,0))))))
```

The Impact of Automated Feedback:

Students

94% of students *(n= 161)* found the automated personalised feedback useful

72% agree *(n= 159)* *"Getting the feedback letter at the beginning of this term changed my approach to studying chemistry"*

"I used the feedback forms, to touch up on what I was lacking."

I received a lot of feedback regarding my performance and grades which was helpful in knowing how well I was doing in the module. It made me less anxious to know I was doing well".

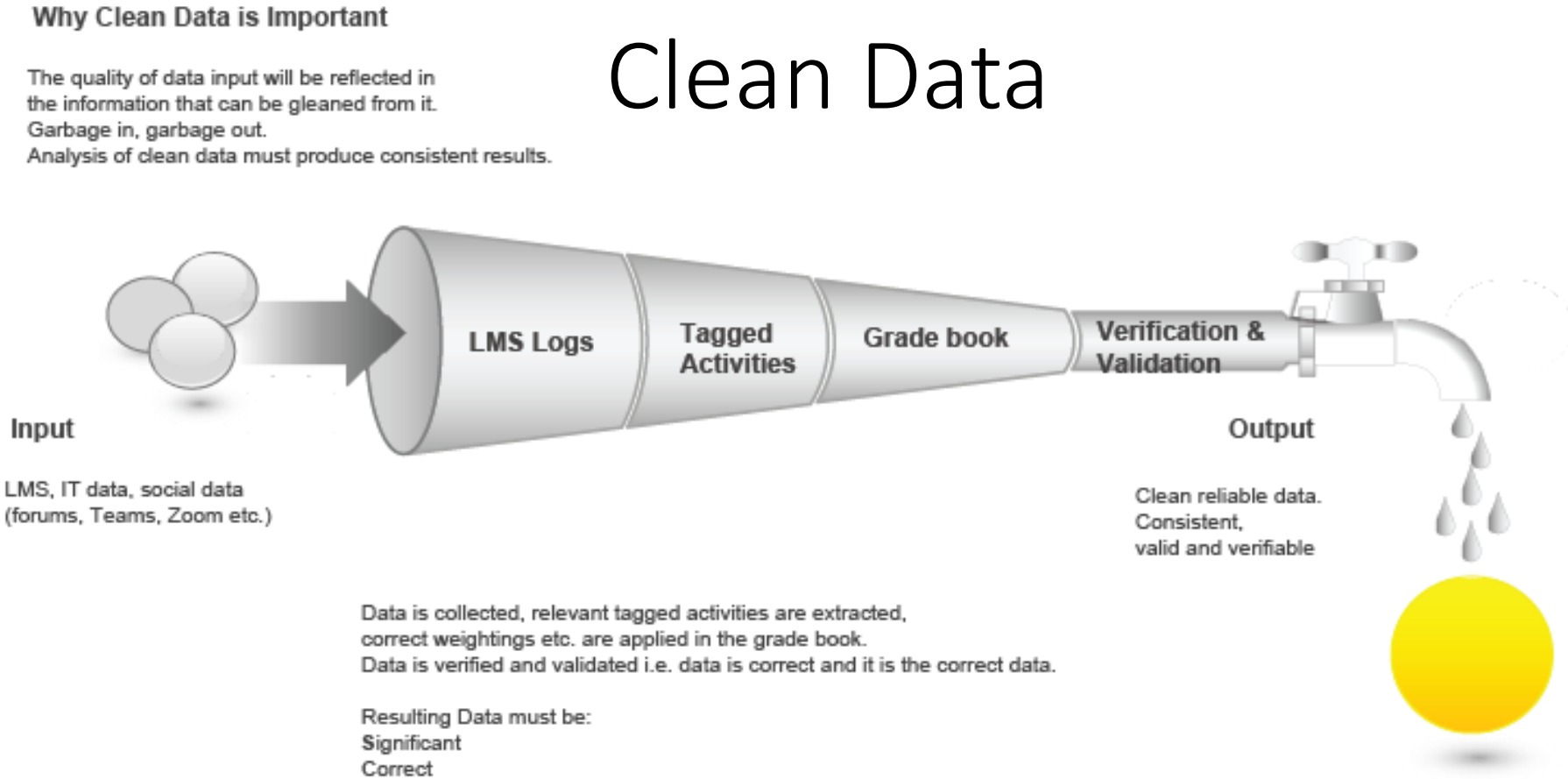
"Feedback forms were informative [and] very good as well because we know how we are doing and what we have to improve."

"I felt it was good to see my progress early on in the year, it gave me more confidence that I was on the right track".

The Impact of Automated Feedback:

Lecturer		Department
"It gives an overview where the lecturer normally only sees one aspect of student performance"	Student performance is evaluated for: • Attendance • Online Engagement • CA Work • Theory Assessments • Practical Class Performance • Overall Grades	The feedback creates a centrally accessible overview of student performance - at risk students can be identified
"Student performance is ready at a glance and facilitates an honest one on one discussion"		Feedback is targeted to high attrition times of the year.

Clean Data



Cormac Quigley, Elaine Leavey, Etain Kiely, Garrett Jordan (2021). The design of blended learning experiences for clean data to allow proper observation of student participation. In F.M. Fung & C. Zimmermann (Eds.) Technology-Enabled Blended Learning Experiences for Chemistry Education and Outreach, ISBN 9780128228791, Elsevier, 2021

Experiment No.7 [Volumetric Analysis]

2.7 **Determination of acetic acid content of vinegar**

Don't forget the pre and post lab work on Moodle!

Introduction

Acetic (ethanoic) acid is a weak acid that reacts with strong bases to give salts called acetates (ethanoates). Since the acetate anion is the conjugate base of acetic acid, any solution of an acetate salt in water will be alkaline.

At the endpoint of a titration the pH of the solution will be > 7. To mark the end-point correctly it is necessary therefore to use an indicator, which changes colour at an alkaline pH.

The indicator used in this experiment is **phenolphthalein** that changes from colourless to pink in the pH range 8.2 - 10.0, which includes the pH value at the **equivalence point** in the ethanoic acid - sodium hydroxide titration. The equivalence point is the point in the titration when exactly enough (and no more) base has been added to react with all the acid – this is when the endpoint of the titration occurs.

Procedure

Pipette 25 cm^3 of commercial vinegar into a 200 cm^3 volumetric flask and make up to the mark with distilled water. Mix vigorously to ensure a homogeneous solution.

Pipette a 25 cm^3 aliquot of this **diluted** solution into a conical flask and titrate with the 0.1000 M sodium hydroxide solution provided using 1 drop of phenolphthalein as indicator.

The end-point is denoted by the first permanent pink tinge. Repeat until three consistent titres are obtained.

The equation for the reaction is:

$$CH_3COOH + NaOH \rightarrow CH_3COONa + H_2O$$

RESULTS

	Burette Readings		
Volume of diluted vinegar solution (cm^3)	Initial reading (cm^3)	Final reading (cm^3)	Volume of NaOH solution (cm^3)
25.00			
25.00			
25.00			
25.00			

Don't forget the rules for taking measurements when reading the burette!

Experiment No.7

2.7 **Determination of acetic acid content of**

Don't

Introduction

Acetic (ethanoic) acid is a weak acid that rea
acetates (ethanoates). Since the acetate anion
solution of an acetate salt in water will be alkalir

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when exactly enough (and no more) base has b
when the endpoint of the titration occurs.

Procedure

Pipette 25 cm^3 of commercial vinegar into a 20
mark with distilled water. Mix vigorously to ensu

Pipette a 25 cm^3 aliquot of this **diluted** solutic
0.1000 M sodium hydroxide solution provided u

The end-point is denoted by the first permane
titres are obtained.
The equation for the reaction is:

$CH_3COOH + NaOH \rightarrow CH_3$

RESULTS

		Bur
Volume of diluted vinegar solution (cm^3)	Initial reading (cm^3)	Fin
25.00		
25.00		
25.00		
25.00		

Don't forget the rules for taking measure

Calculations

Mean titre (correct to four significant figures) = _____ cm^3 _____ l

Molarity of NaOH solution (from label on bottle) = _____ $mol.l^{-1}$

Calculations

No. of moles of NaOH used in titration = _____mol

No. of moles of CH_3COOH present in titration = _____ mol

Volume of CH_3COOH = _____ cm^3_____ l

Calculations

Molarity of diluted vinegar solution = _____ $mol.l^{-1}$

Calculations

Molarity of original vinegar = _____ $mol.l^{-1}$

M_m CH_3COOH = _____ $g\ mol^{-1}$

Calculations

Acetic acid conc. of original vinegar = _____ $g.l^{-1}$
Acetic acid conc. of original vinegar = _____ % m/v (2 decimal places)

Experiment No.7

2.7 **Determination of acetic acid content of**

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		Bur
Volume of diluted vinegar solution (cm^3)	Initial reading (cm^3)	Fin
25.00		
25.00		
25.00		
25.00		

Don't forget the rules for taking measure

Calculatio

Mean titre (

Molarity of

No. of mole

No. of mole

Volume of C

Molarity of

Molarity of

M_m CH_3COC

Acetic acid c
Acetic acid c

Question **1**

Not complete

Marked out of 7.10

What were your three precise titration values?

[ ] mL, [ ] mL, [ ] mL

What is the average titre value? [ ] mL

Was the liquid you dispensed from the burette flask with the pipette the analyte or the standard?

If it was the standard, what was its concentration? [ ] M

What was your average titre in litres? [ ]

What then, was the number of moles of standard (NaOH) dispensed into the conical flask to reach the endpoint? [ ]

The reaction ratio of this titration is NaOH:CH_3COOH 1:[ ]

Therefore at the endpoint of your titration [ ] moles of NaOH have reacted with [ ] moles of CH_3COOH.

This number of moles of CH_3COOH was contained in [ ] ml of liquid. Or [ ] L.

Therefore the concentration is given by [ ] mol in [ ] L

which gives a concentration of [ ] M

The diluted vinegar solution which had a concentration of [ ] M (you just calculated this) was made by diluting [ ] ml of vinegar to [ ] ml in a volumetric flask.

Using $C_1V_1 = C_2V_2$ What is the original concentration? [ ] M

The molar mass of acetic acid (CH_3COOH) is [ ] $g.mol^{-1}$? ****Two decimal places only****

The concentration of the concentrated vinegar is [ ] $mol.l^{-1}$.

Therefore the concentration in grams per liter is: [ ] $g.l^{-1}$.

Finally then, if we take your concentration of [ ] grams per liter and convert it to %*m/v* (Which is the same as grams per 100 ml.) we get an answer of:

[ ] %*m/v*

Check

Step by step analysis of answer

- Feedback possible on each part
- Can include directions to instructions (video etc.)
- Formula Questions

For more information:
https://www.youtube.com/c/CVPQChemistry/videos

What were your three precise titration values?

28.63 mL, 28.53 mL, 28.56 mL

What is the average titre value? 28.57 mL

✔

A precise titre is within 0.1 mL this means that the difference between the largest and smallest titre should be 0.1 mL or less.

One possible correct answer is: 25, 25, 25, 25

Was the liquid you dispensed from the burette flask with the pipette the analyte or the standard?

If it was the standard, what was its concentration? 0.100 M

✔

The liquid you dispensed by burette was the standard 0.1 M NaOH solution.

One possible correct answer is: 0.1

What was your average titre in litres? 28.57

What then, was the number of moles of standard (NaOH) dispensed into the conical flask to reach the endpoint? 0.002

✖

Number of moles = Molarity by volume in litres

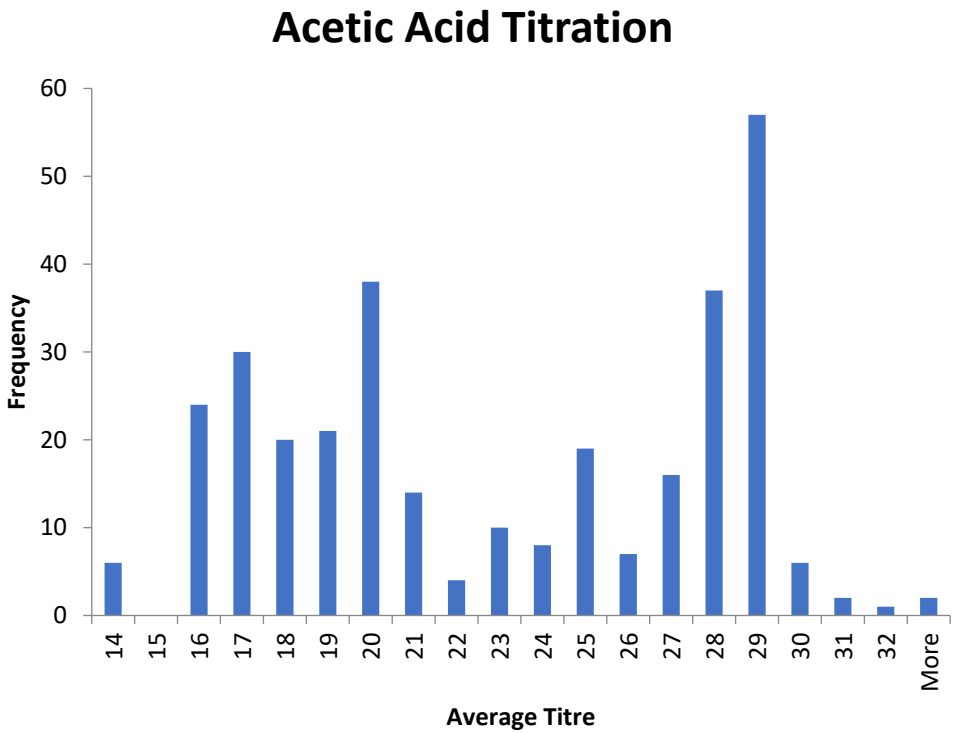
One possible correct answer is: 0.025, 0.0025

The reaction ratio of this titration is NaOH:CH_3COOH 1:1

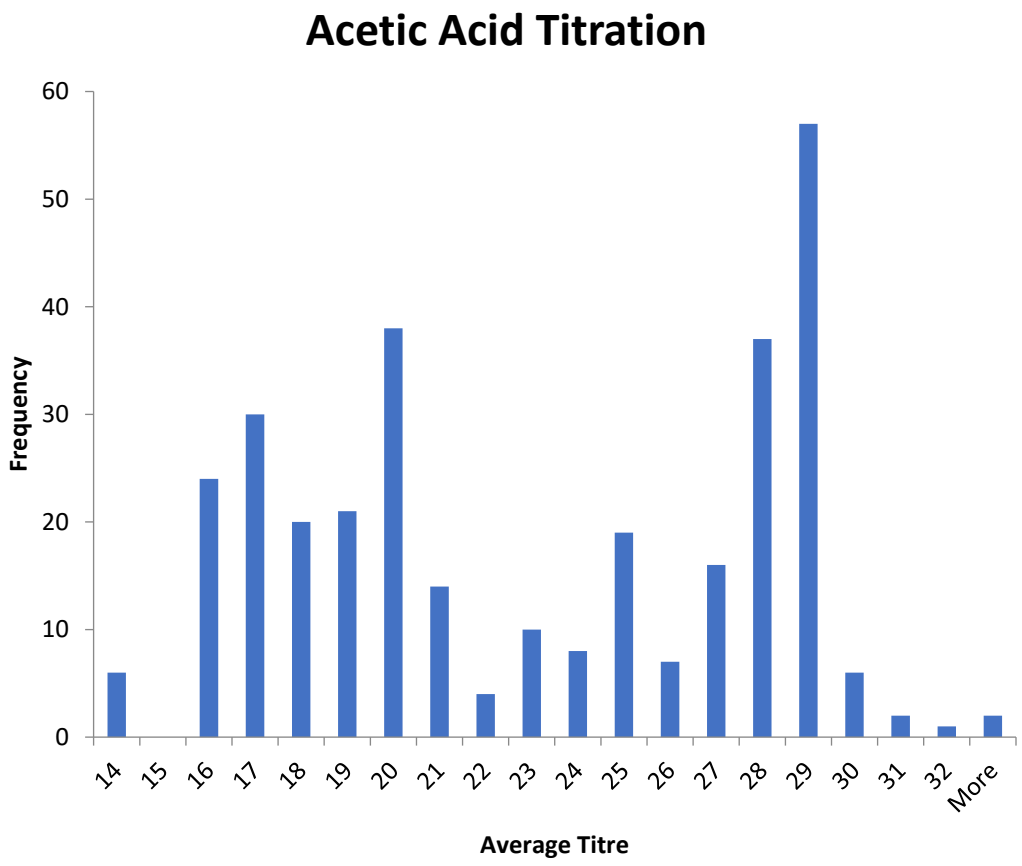
Therefore at the endpoint of your titration 0.002 moles of NaOH have reacted with 0.002 moles of CH_3COOH.

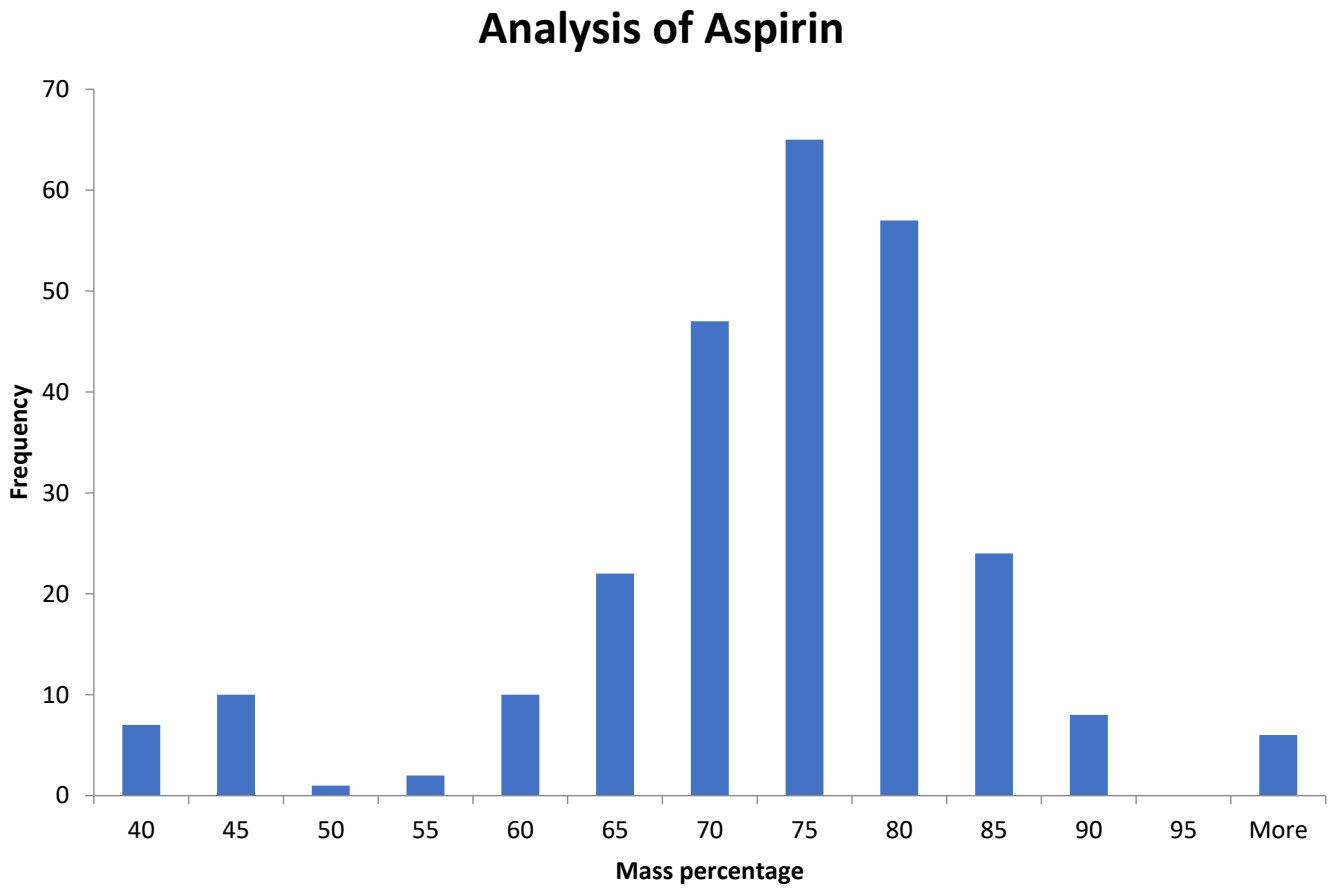
An overview:

		First name / Surname	Email address	State	Grade/10.00	Response 1
☐		[redacted] Review attempt	G00[redacted]@gmit.ie	Finished	6.46	☑ 28.28, 28.16, 28.13, 28.19, 0.1, 0.02819, 0.0028, 1, 0.0028, 0.0028, 25, 0.025, 0.0028, 0.025, 0.112, 0.112, 25, 200, 0.896, 60.05, 0.896, 53.8048, 53.8048, 5.38
☐		[redacted] Review attempt		Finished	8.32	☑ 28.18, 28.16, 28.13, 28.16, 0.1, 0.025, 0.0025, 1, 0.0025, 0.0025, 25, 0.025, 0.0025, 0.025, 0.112, 0.112, 25, 200, 0.896, 60.05, 0.896, 53.80, 53.80, 5.38



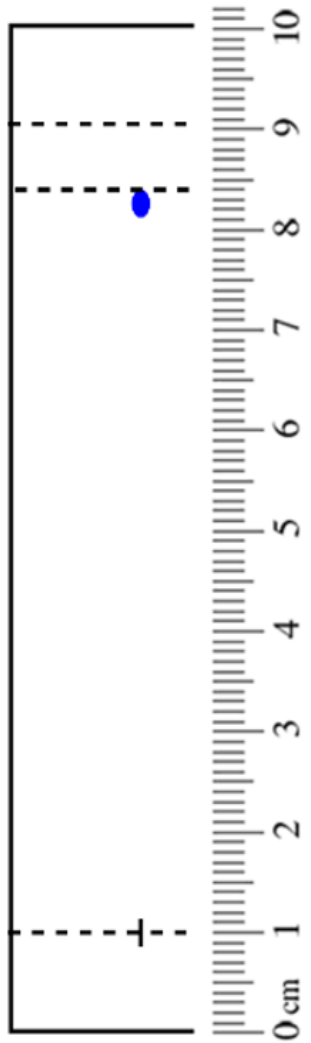
Improvement can be seen:





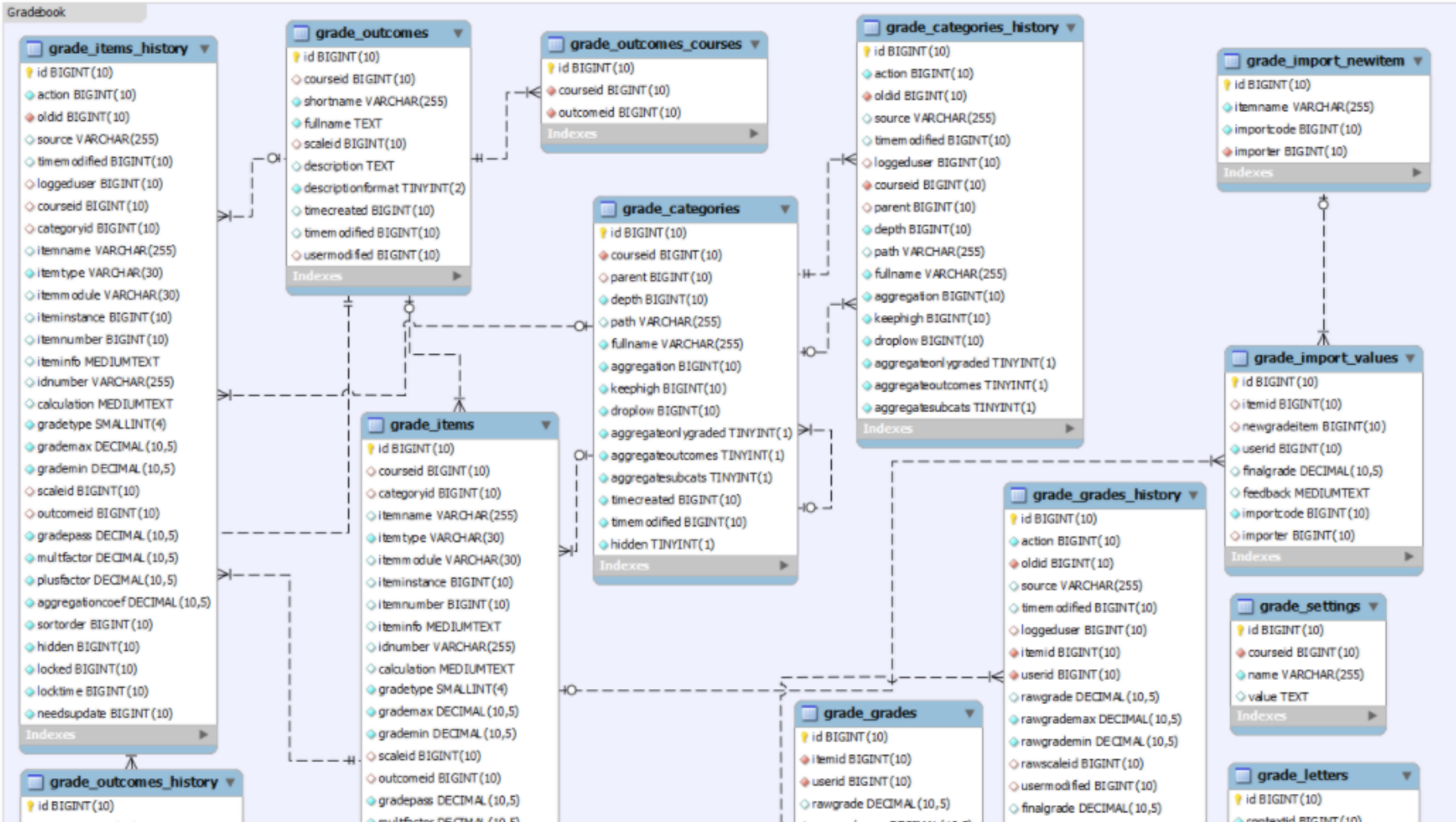
Ability to calculate Rf on a TLC plate:

What is the Rf of the spot on the TLC shown here:



Answer:

- 68% (n = 259) of students gave at least one answer which was inaccurately measured (i.e. not within experimental tolerance)
- Reduced to 10% (n = 259) students in final attempt.
- 39% (n = 259) of students gave a response committing an error of inverting {x}/{y}
- Reduced to 7% (n = 259) in final attempt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id BIGINT(10)
action BIGINT(10)
oldid BIGINT(10)
source VARCHAR(255)
timemodified BIGINT(10)
loggeduser BIGINT(10)
courseid BIGINT(10)
categoryid BIGINT(10)
itemname VARCHAR(255)
itemtype VARCHAR(30)
itemmodule VARCHAR(30)
iteminstance BIGINT(10)
itemnumber BIGINT(10)
iteminfo MEDIUMTEXT
idnumber VARCHAR(255)
calculation MEDIUMTEXT
gradetype SMALLINT(4)
grademax DECIMAL(10,5)
grademin DECIMAL(10,5)
scaleid BIGINT(10)
outcomeid BIGINT(10)
gradepass DECIMAL(10,5)
multfactor DECIMAL(10,5)
plusfactor DECIMAL(10,5)
aggregationcoef DECIMAL(10,5)
sortorder BIGINT(10)
hidden BIGINT(10)
locked BIGINT(10)
locktime BIGINT(10)
needsupdate BIGINT(10)
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courseid BIGINT(10)
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fullname TEXT
scaleid BIGINT(10)
description TEXT
descriptionformat TINYINT(2)
timecreated BIGINT(10)
timemodified BIGINT(10)
usermodified BIGINT(10)
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courseid BIGINT(10)
outcomeid BIGINT(10)
Indexes
grade_categories_history
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source VARCHAR(255)
timemodified BIGINT(10)
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courseid BIGINT(10)
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path VARCHAR(255)
fullname VARCHAR(255)
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keephigh BIGINT(10)
droplow BIGINT(10)
aggregateonlygraded TINYINT(1)
aggregateoutcomes TINYINT(1)
aggregatesubcats TINYINT(1)
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importer BIGINT(10)
Indexes
grade_categories
id BIGINT(10)
courseid BIGINT(10)
parent BIGINT(10)
depth BIGINT(10)
path VARCHAR(255)
fullname VARCHAR(255)
aggregation BIGINT(10)
keephigh BIGINT(10)
droplow BIGINT(10)
aggregateonlygraded TINYINT(1)
aggregateoutcomes TINYINT(1)
aggregatesubcats TINYINT(1)
timecreated BIGINT(10)
timemodified BIGINT(10)
hidden TINYINT(1)
Indexes
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itemid BIGINT(10)
newgradeitem BIGINT(10)
userid BIGINT(10)
finalgrade DECIMAL(10,5)
feedback MEDIUMTEXT
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importer BIGINT(10)
Indexes
grade_items
id BIGINT(10)
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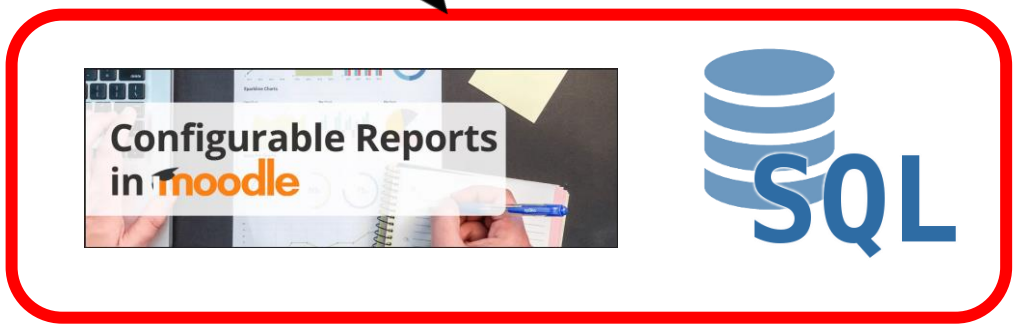
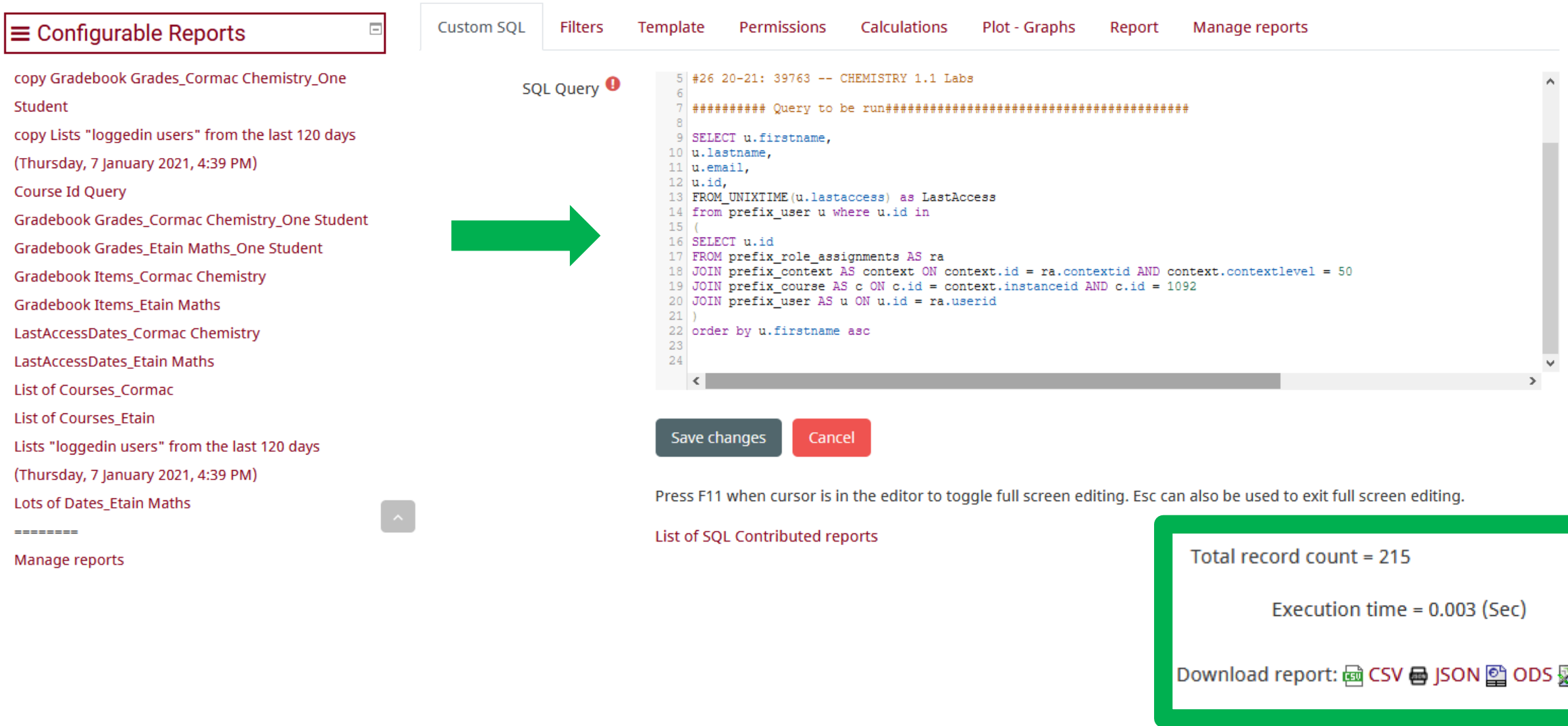
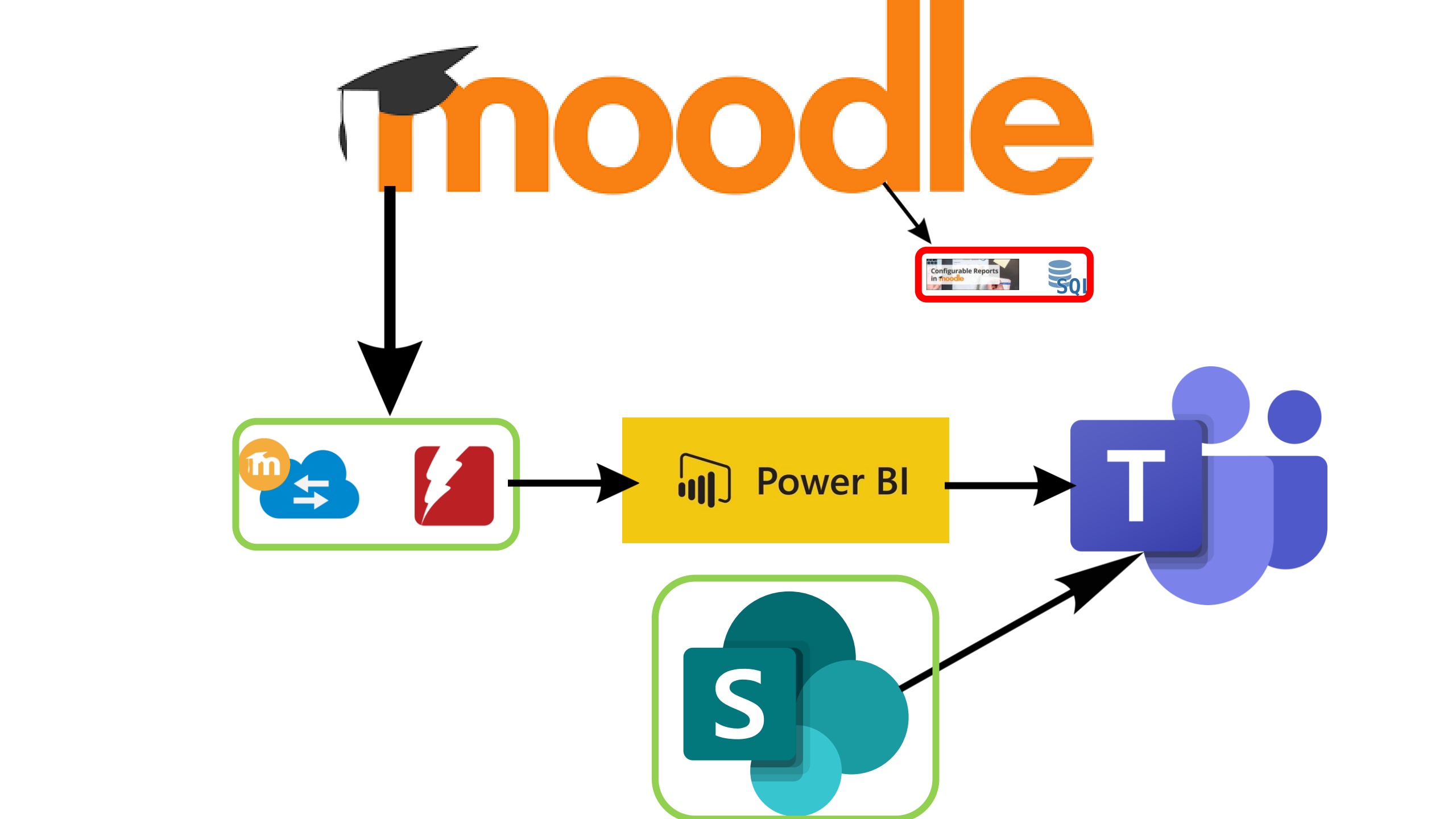
categoryid BIGINT(10)
itemname VARCHAR(255)
itemtype VARCHAR(30)
itemmodule VARCHAR(30)
iteminstance BIGINT(10)
itemnumber BIGINT(10)
iteminfo MEDIUMTEXT
idnumber VARCHAR(255)
calculation MEDIUMTEXT
gradetype SMALLINT(4)
grademax DECIMAL(10,5)
grademin DECIMAL(10,5)
scaleid BIGINT(10)
outcomeid BIGINT(10)
gradepass DECIMAL(10,5)
grade_grades_history
id BIGINT(10)
action BIGINT(10)
oldid BIGINT(10)
source VARCHAR(255)
timemodified BIGINT(10)
loggeduser BIGINT(10)
itemid BIGINT(10)
userid BIGINT(10)
rawgrade DECIMAL(10,5)
rawgrademax DECIMAL(10,5)
rawgrademin DECIMAL(10,5)
rawscaleid BIGINT(10)
usermodified BIGINT(10)
finalgrade DECIMAL(10,5)
grade_settings
id BIGINT(10)
courseid BIGINT(10)
name VARCHAR(255)
value TEXT
Indexes
grade_outcomes_history
id BIGINT(10)
grade_grades
id BIGINT(10)
itemid BIGINT(10)
userid BIGINT(10)
rawgrade DECIMAL(10,5)
grade_letters
id BIGINT(10)

moodle



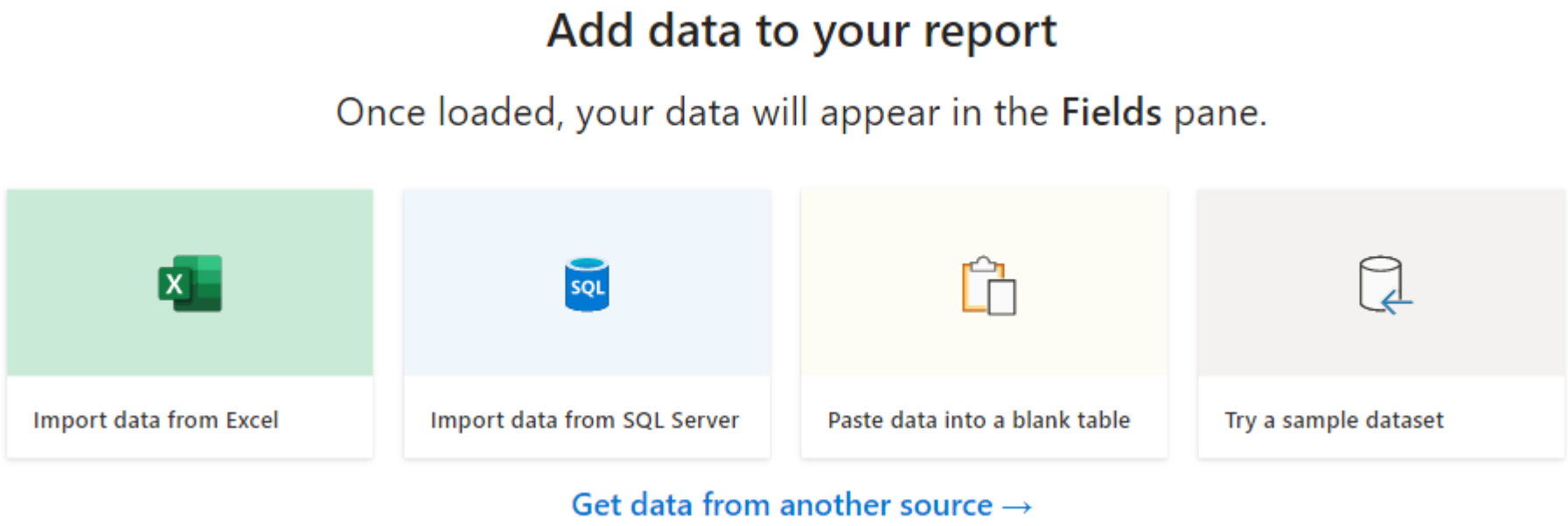
Configurable Reports (WARNING!)

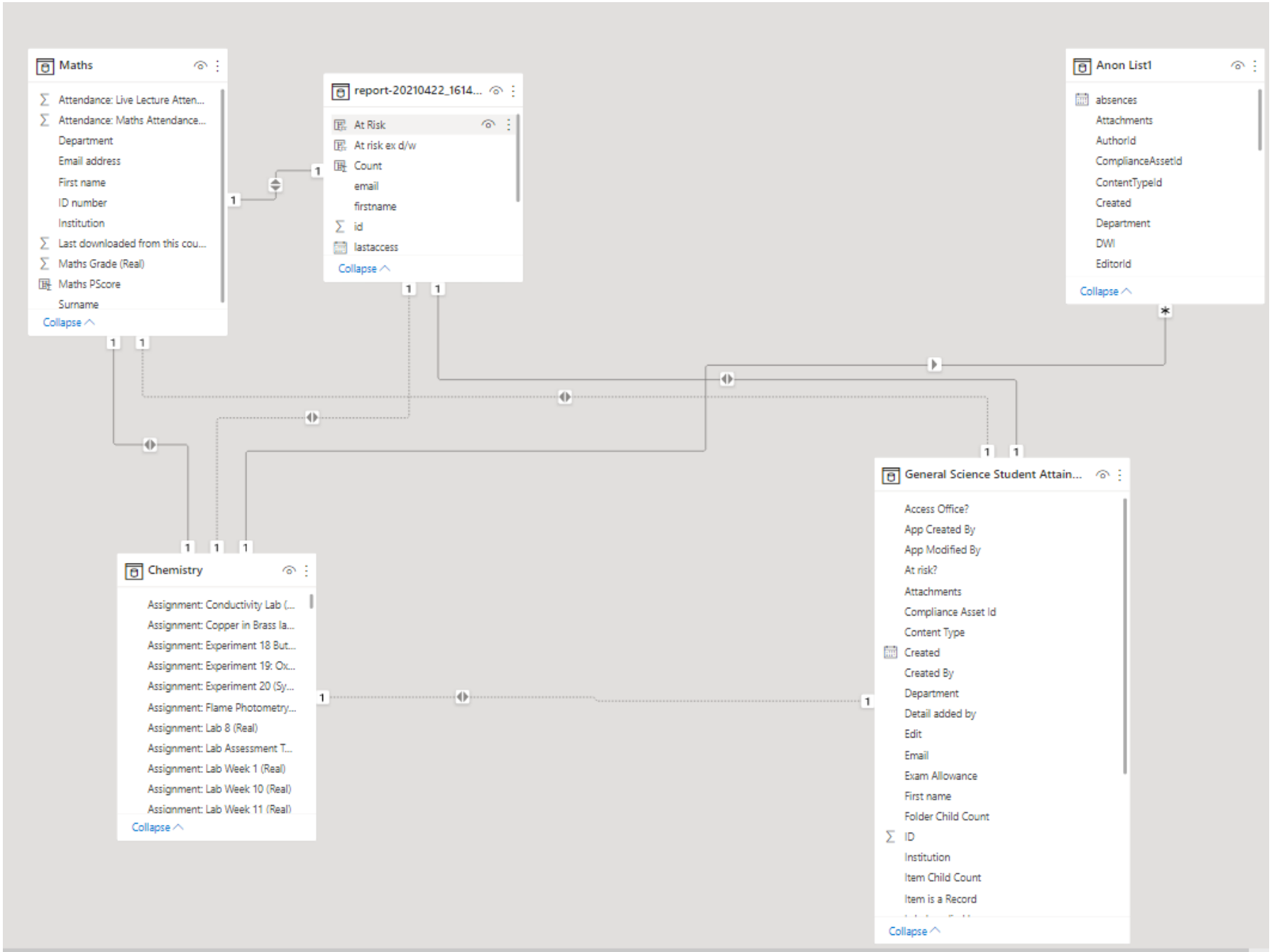



moodle
Configurable Reports in moodle
SQL
Power BI

Presentation through PowerBI

- Multiple sources easily combined
- Readily offers multiple views and specific details
- Capable of significant data processing from multiple sources




Maths
Attendance: Live Lecture Atten...
Attendance: Maths Attendance...
Department
Email address
First name
ID number
Institution
Last downloaded from this cou...
Maths Grade (Real)
Maths PScore
Surname
Collapse
report-20210422_1614...
At Risk
At risk ex d/w
Count
email
firstname
id
lastaccess
Collapse
Anon List1
absences
Attachments
AuthorId
ComplianceAssetId
ContentTypeId
Created
Department
DWI
EditorId
Collapse
Chemistry
Assignment: Conductivity Lab (...
Assignment: Copper in Brass la...
Assignment: Experiment 18 But...
Assignment: Experiment 19: Ox...
Assignment: Experiment 20 (Sy...
Assignment: Flame Photometry...
Assignment: Lab 8 (Real)
Assignment: Lab Assessment T...
Assignment: Lab Week 1 (Real)
Assignment: Lab Week 10 (Real)
Assignment: Lab Week 11 (Real)
Collapse
General Science Student Attain...
Access Office?
App Created By
App Modified By
At risk?
Attachments
Compliance Asset Id
Content Type
Created
Created By
Department
Detail added by
Edit
Email
Exam Allowance
First name
Folder Child Count
ID
Institution
Item Child Count
Item is a Record
Collapse

Presentation and processing

- Establish criteria

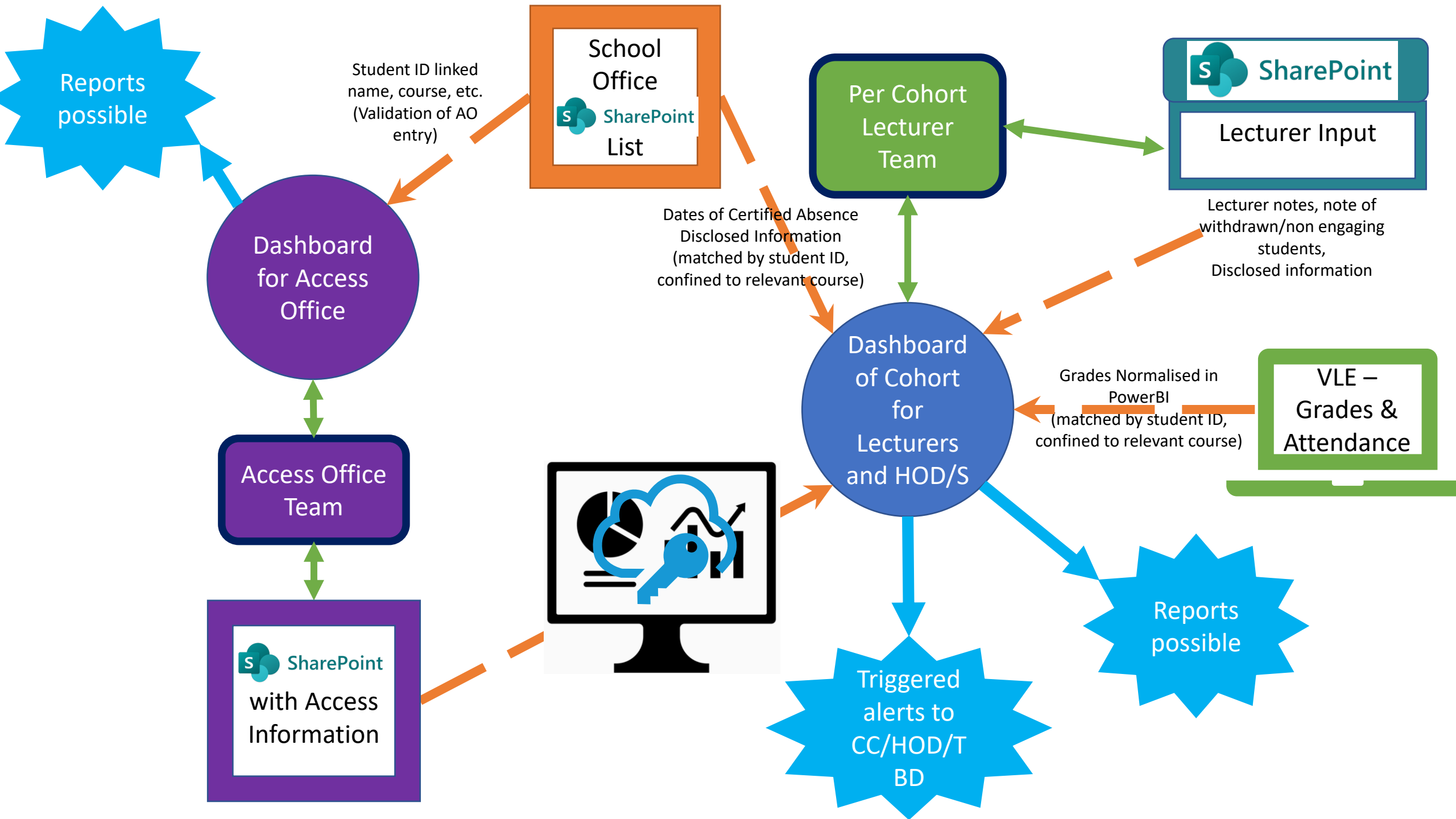
```
1 Students at Risk =
2     IF(RELATED(Chemistry[Attendance: Attendance (Real)]) < 0.4
3         || RELATED(Maths[Attendance: Journal Attendance (Real)]) < 0.4
4         || RELATED(Chemistry[Overall (Real)]) < PERCENTILE.EXC(Chemistry[Overall (Real)], 0.25)
5         || RELATED(Maths[Course total (Real)]) < PERCENTILE.EXC( Maths[Course total (Real)], 0.25)
6         , TRUE(), FALSE() )
```

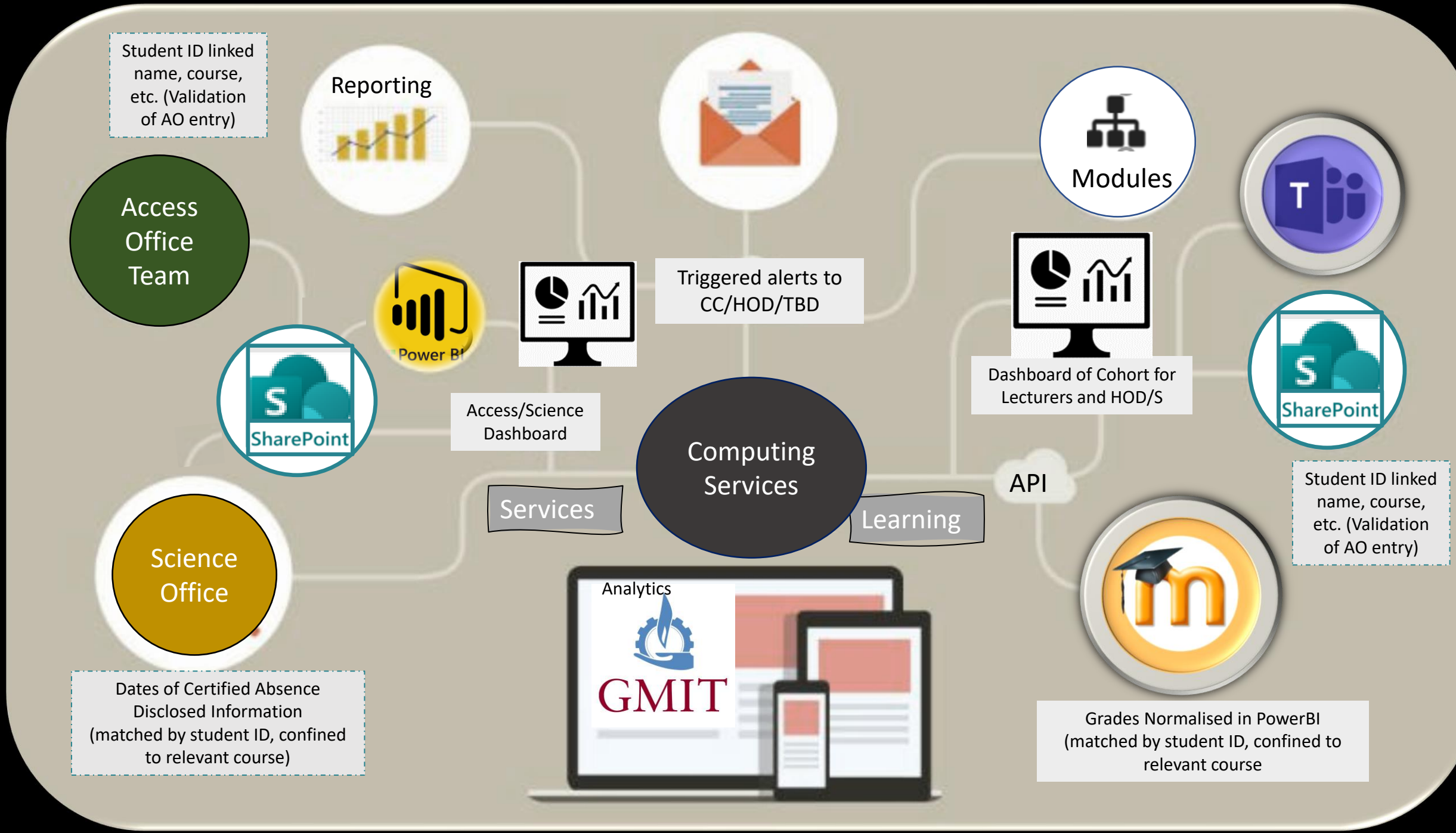
- If any of the conditions are triggered (A || B) flag as at risk
- **Inhouse skill base and resources** required to enable an institutional solution

Microsoft

Spanish Point technologies ltd

AZURE Data Analytics & Machine Learning BOOTCAMP


Reports possible
Student ID linked name, course, etc. (Validation of AO entry)
School Office
SharePoint
List
Per Cohort Lecturer Team
SharePoint
Lecturer Input
Dashboard for Access Office
Dates of Certified Absence Disclosed Information (matched by student ID, confined to relevant course)
Lecturer notes, note of withdrawn/non engaging students, Disclosed information
Dashboard of Cohort for Lecturers and HOD/S
Grades Normalised in PowerBI (matched by student ID, confined to relevant course)
VLE – Grades & Attendance
Access Office Team
SharePoint
with Access Information
Triggered alerts to CC/HOD/TBD
Reports possible

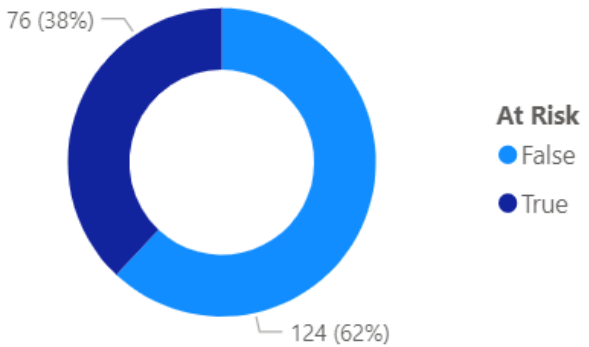

Student ID linked name, course, etc. (Validation of AO entry)
Reporting
Modules
Access Office Team
Power BI
Triggered alerts to CC/HOD/TBD
Dashboard of Cohort for Lecturers and HOD/S
SharePoint
Access/Science Dashboard
Computing Services
API
Services
Learning
SharePoint
Student ID linked name, course, etc. (Validation of AO entry)
Science Office
Analytics
GMIT
Dates of Certified Absence Disclosed Information (matched by student ID, confined to relevant course)
Grades Normalised in PowerBI (matched by student ID, confined to relevant course

First Name	Surname	Department	Since Last Logon	Maths PScore	Chemistry PScore	Chemistry Lab Attendance	Maths Tutorial Attendance	Status
Abdul	Anding	SAFMG_H08_Y1	9	81.00	73.00	10.00	95.24	
Abdul	August	SFSCG_H08_Y1	9	93.00	78.00	9.47	100.00	
Adam	Aubry	SFSCG_H08_Y1	11	26.00	57.00	7.14	42.86	
Adelina	Asbury	SABBG_B07_Y1			10.00	5.00		
Adena	Aquilar	SAFMG_B07_Y1	96	17.00	21.00	6.36	34.09	
Alejandrina	Audet	SAFMG_H08_Y1	9	90.00	77.00	10.00	100.00	
Alexandria	Arrowood	SABBG_H08_Y1	11	90.00	75.00	10.00	100.00	
Alisha	Aslett	SCOMG_B07_Y1	9	23.00	40.00	8.00	85.71	
Alline	Arrieta	SABBG_H08_Y1	11	21.00	69.00	8.57	77.50	
Andria	Ashalintubbi	SCHPG_H08_Y1	12	88.00	92.00	10.00	100.00	
Anja	Artz	SCHPG_H08_Y1	11	35.00	73.00	8.81	54.76	
Annetta	Axel	Biopharmaceutical And Medical Science			0.00	0.00		
Annice	Abrams	SCOMG_H08_Y1	12	87.00	88.00	8.50	95.24	
Anya	Accardi	SAFMG_H08_Y1	32	41.00	58.00	5.71	47.62	
Argentina	Avey	SABBG_H08_Y1	9	54.00	39.00	7.89	90.91	
Arlie	Abe	SAFMG_H08_Y1	12	91.00	82.00	10.00	100.00	
Assunta	Abrev	SAFMG_H08_Y1	13	22.00	37.00	9.05	85.71	
Barabara	Bott	SABBG_H08_Y1	10	97.00	78.00	9.09	100.00	
Bernard	Bechtel	SABBG_H08_Y1	9	78.00	78.00	9.47	85.71	
Bernice	Blau	SCOMG_H08_Y1	9	93.00	97.00	10.00	100.00	
Bettina	Boulay	SABBG_H08_Y1	9	90.00	88.00	9.50	100.00	
Bettina	Bethke	SCHPG_H08_Y1	13	83.00	82.00	10.00	100.00	
Beverley	Barkett	SCOMG_H08_Y1	9	91.00	89.00	10.00	100.00	
Birdie	Buchannon	SABBG_B07_Y1	13	66.00	58.00	9.52	95.24	
Blake	Baeza	SAFMG_H08_Y1	11	82.00	76.00	8.81	90.48	
Bobby	Barry	SCOMG_B07_Y1	11	44.00	54.00	7.38	66.67	
Bonita	Burghardt	SABBG_B07_Y1	11	54.00	52.00	8.81	95.24	

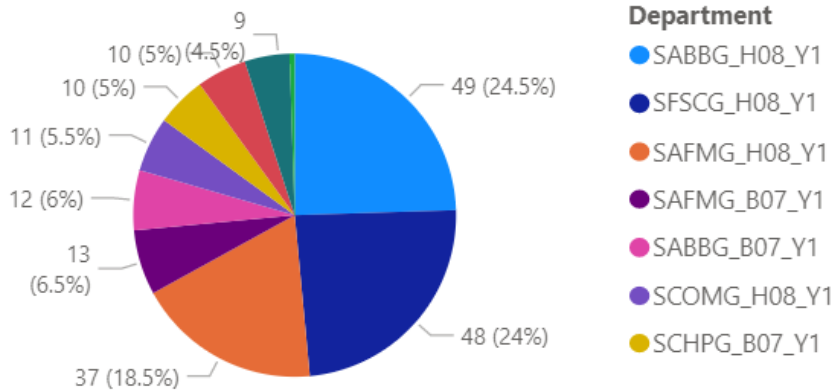
76
Count of At Risk

73
Count of At risk ex d/w

Count by At Risk



Count by Department



Department Selection

- SABBG_B07_Y1
- SABBG_H08_Y1
- SAFMG_B07_Y1
- SAFMG_H08_Y1
- SCHPG_B07_Y1
- SCHPG_H08_Y1
- SCMLG_H08_Y1
- SCOMG_B07_Y1
- SCOMG_H08_Y1
- SFSCG_H08_Y1
- SPHNG_H08_Y1
- SPHNG_H08_Y2
- SPHYG_H08_Y1

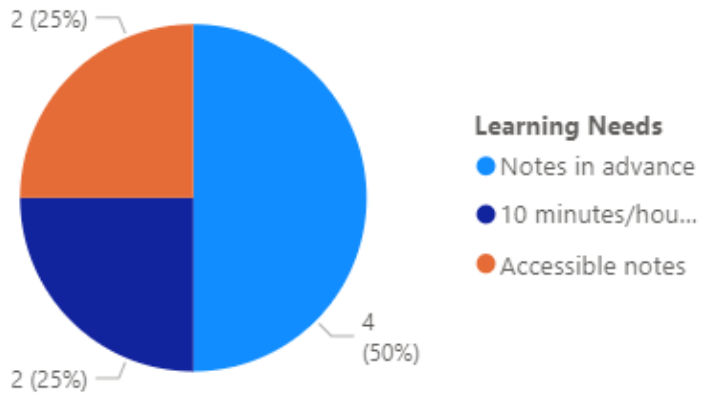
Certified Absences

Fake name	Fake Sname	Cerified Absences	Department
Emile	Euler	Tuesday 2 March 2021	SABBG_B07_Y1
Josphine	Jamerson	Sunday 30 May 2021	SCMLG_H08_Y1
Wayne	Winkle	Sunday 6 June 2021	SSESG_H08_Y1
Jennell	Jordan	Tuesday 15 June 2021	SCMLG_H08_Y1

Access Office Registration

Fake name	Fake Sname	RegisteredwithAccess?	Department	SpecificLearningDifficulty	SupportStaffMember
Jami	Jager	Yes	SCMLG_H08_Y1	Visual	Anne
Jennell	Jordan	Yes	SCMLG_H08_Y1	Social Anxiety	Anne
Josphine	Jamerson	Yes	SCMLG_H08_Y1	Grammar Waiver	Bob
Shemeka	Seldon	Yes	SCMLG_H08_Y1	Social Anxiety	Bob
Kristle	Koren	Yes	SCOMG_B07_Y1	Social Anxiety	Cormac
Cathryn	Cascio	Yes	SFSCG_H08_Y1		
Ila	Irons	Yes	SPHNG_H08_Y1	Grammar Waiver	Cormac
Lorene	Layton	Yes	SPHNG_H08_Y1	Grammar Waiver	Bob
Verona	Vallecillo	Yes	SSESG_H08_Y1	Visual	Bob

Learning Needs Breakdown



Department	Fake name	Fake Sname	Registered with Acc...	Learning Needs	Specific Learning Di...	Support Staff Mem...	Certifiied absences	Reported Difficulty	DWI
SCMLG_H08_Y1	Jennell	Jordan	Yes		Social Anxiety	Anne	June 16		
SFSCG_H08_Y1	Cathryn	Cascio	Yes					Finance	
SCMLG_H08_Y1	Debrah	Darsey							
SCMLG_H08_Y1	Josphine	Jamerson	Yes	10 minutes/h...	Grammar Wai...	Bob	May 31	Wrong Course	
SAFMG_H08_Y1	Arlie	Abe							Defe
SCHPG_H08_Y1	Gertha	Grey							
SSESG_H08_Y1	Verona	Vallecillo	Yes	Notes in adva...	Visual	Bob		Mental Health	
SFSCG_H08_Y1	Deborah	Duffield							Defe
SABBG_H08_Y1	Barabara	Bott	Yes					Wrong Course	
SSESG_H08_Y1	Wayne	Winkle					June 7		
SSESG_H08_Y1	Abbey	Albers	Yes	10 minutes/h...		Anne			
SCMLG_H08_Y1	Barrie	Bross							
SAFMG_H08_Y1	Lanora	Lundstrom							
SSESG_H08_Y1	Stacie	Schulman							
SSESG_H08_Y1	Melanie	May							
SAFMG_H08_Y1	Elisa	Eden							
SFSCG_H08_Y1	Jacque	Jessen							
SABBG_H08_Y1	Buck	Bement						Motivation	
SPHNG_H08_Y1	Sherman	Shorty							

Analytics for Intervention

- Remember
  - Primary focus is on benefit to learning
  - Analysis of data will never result in a significant action without human intervention

- Duty of care to students:
  - empowers students to improve their likelihood of success
  - provide a uniform experience for all students
  - limitations and potential biases in the data are understood

Thanks for Listening

GMIT

INSTITIÚID TEICNEOLAÍOCHTA NA GAILLIMHE-MAIGH EO

GALWAY-MAYO INSTITUTE OF TECHNOLOGY