



Towards Full Automation and Opportunities with Text Analytics and the National Student Survey

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Kingston University

- ▶ 15,000 students
- ▶ 4 faculties, 12 schools, 37 departments
- ▶ 1,800 individual modules per year
- ▶ Significant percentage commuter students and non-traditional students (e.g., mature students, first in family to attend university, carers)
- ▶ Tribal student information system (SITS)
- ▶ Canvas LMS



Background

- ▶ Module Evaluation Questionnaires (MEQs) re-introduced in 2017
- ▶ Same questionnaire for all students, all modules, undergraduate and postgraduate
- ▶ 10 multiple choice questions and 2 free-response questions



MEQ Schedule

- ▶ Main window: beginning of March
 - ▶ ~1,200 surveys
- ▶ Autumn window: mid-November
 - ▶ ~200 surveys (mostly postgraduate)
- ▶ There's always a survey running...
 - ▶ ~200 surveys
- ▶ Some modules never run a survey



In the beginning... Autumn 2017

- ▶ Manually created spreadsheet of all modules sent to faculties for review
- ▶ Requested changes recorded in CSV
- ▶ CSV files sent to Oracle developer to upload
- ▶ Process pulled data from SITS
- ▶ Linked that data to Data Sync Tool daily



Challenges

- ▶ Inefficient
- ▶ Hard to notice an absence
- ▶ Inaccurate data submitted
- ▶ Special characters prevented survey upload
- ▶ Data entry mistakes
- ▶ All subsequent date changes via Task/Subject Management



Some improvement: July 2019

- ▶ Nightly SQL process uploads CSV file
- ▶ Automated email notification with errors

● Completely New & Much Improved

- ▶ Integrate SITS directly with Data Sync Tool
- ▶ Changes made in SITS rather than Blue
 - ▶ “Single point of truth”
 - ▶ Datasources become reliable sources of data
- ▶ Include all modules by default
- ▶ Include MEQ start/end dates
- ▶ Accurate data
- ▶ Give more control and responsibility to the faculties



Updated Business Rules

- ▶ Removed unrelated validation rules
- ▶ Shortened survey length from 16 to 14 days
- ▶ No MEQ for modules with <5 students
- ▶ Once per year - no “do overs”



Build from Scratch

- ▶ Initial decision to stay with existing data sources
 - ▶ Avoid creation of new definition and projects
- ▶ Data field types not fit for purpose
- ▶ Several months into project decided to build new data sources
 - ▶ Late creation of new definition, projects

Other Benefits: New Reporting Tools

- ▶ MEQ start/end date reports available to all academic staff via an existing, familiar tool
- ▶ Easy reports to find unscheduled or unapproved modules
- ▶ First step in larger project to roll-over new module records every year



Changes to SITS

- ▶ 5 new UDF (User Defined Fields) added to the MAV (Module Availability View)
 - ▶ MEQ Module
 - ▶ MEQ Approved
 - ▶ Start date
 - ▶ End date
 - ▶ MEQ Extended
- ▶ Access via web-based tool (eVision/OSIS)
 - ▶ 1-2 named staff in each faculty
- ▶ Planned: New module records will include start date automatically (for most modules)



New OSIS screens

- ▶ Professional staff search, review, make changes
 - ▶ Global changes/approvals
- ▶ Business rules
 - ▶ No changes <2 days before survey start or end
 - ▶ No changes to completed survey
 - ▶ Surveys can be extended once, by 7 days



New OSIS screens

MEQ Management

- Please use the search functionality below to retrieve the modules you wish to set MEQ data for.
- You can use a variety of retrieve criteria including wild cards for example in module code enter EL4*

Module code	<input type="text"/>	List
Academic Year code	<input type="text"/>	▼
Department Code	<input type="text"/>	▼
Period	<input type="text"/>	▼
Occurrence	<input type="text"/>	
Module Leader	<input type="text"/>	List
Start Date	<input type="text"/>	
End Date	<input type="text"/>	
MEQ Module?	<input type="text"/>	▼
MEQ Approved?	<input type="text"/>	▼
MEQ Extended?	<input type="text"/>	▼

Clear

Retrieve



Managing the Data

MEQ Management

Select All ▾ Now showing records 1 - 10 of 10 Sort By Sort

- In order for an MEQ to be made live the MEQ must have a start date, be approved and MEQ Module? set to Yes.
- Please note if a module has multiple occurrences which are treated as 'ALL' in canvas they must all have the same start date.
- An MEQ start date cannot be set to the past and must be two days into the future to be valid.

Select	Module code	Occ	Canvas Occ	Academic Year	Period	Department	Module Leader	Location	Start date	End Date	MEQ Module?	MEQ Approved?
<input type="checkbox"/>	QB4000	A	A	2019/0	TY13	CC0014	65088	KKH	06/Jul/2020	26/Jul/2020	Yes ▾	Yes ▾
<input type="checkbox"/>	QB4010	A	A	2019/0	TY13	CC0014	66156	KKH	01/Mar/2020	14/Mar/2020	Yes ▾	<input type="text"/>
<input type="checkbox"/>	QB4030	A	A	2019/0	TY13	CC0014	43613	KKH	01/Mar/2020	14/Mar/2020	Yes ▾	<input type="text"/>
<input type="checkbox"/>	QB4040	A	A	2019/0	TY13	CC0014	57526	KKH	01/Mar/2020	14/Mar/2020	Yes ▾	<input type="text"/>
<input type="checkbox"/>	QB4100	A		2019/0	ACYR	CC0014		KKH	20/Jul/2020	02/Aug/2020	<input type="text"/>	Yes ▾
<input type="checkbox"/>	QB4444	A	A	2019/0	ACYR	CC0014	65088	KKH	11/Jul/2020	24/Jul/2020	Yes ▾	Yes ▾
<input type="checkbox"/>	QB5000	A	A	2019/0	TY13	CC0014	57526	KKH	01/Mar/2020	14/Mar/2020	Yes ▾	<input type="text"/>
<input type="checkbox"/>	QB5010	A	A	2019/0	TY13	CC0014	60118	KKH	01/Mar/2020	14/Mar/2020	Yes ▾	<input type="text"/>
<input type="checkbox"/>	QB5020	A	A	2019/0	TY13	CC0014	66156	KKH	01/Mar/2020	14/Mar/2020	Yes ▾	<input type="text"/>
<input type="checkbox"/>	QB5030	A	A	2019/0	TY13	CC0014	47474	KKH	01/Mar/2020	14/Mar/2020	Yes ▾	<input type="text"/>

Replace Back Drop **Store**



Reports

MEQ Totals

Overall MEQ Counts

MEQs Awaiting Approved	69
MEQs Approved	1418
Modules Excluded from MEQ	3
MEQs Extended	10

[Back](#)

[Click here to search and export applications](#)



Reports

[← Back to search](#)

MEQ management report

Copy

Excel

Search:

Module Code	Academic Year	Occurence	Canvas Occurence	Period	Department	Faculty	Location	Module Leader	MEQ Module?	MEQ Start Date	End Date	MEQ Approved?	MEQ Extended?
AR7204	2019/0	A	O	TB3	CC0004	DE	KPR	62557	Y	01/01/2020	13/01/2020	Y	
AR7402	2019/0	A		SPAN2	CC0004	DE	KKP	04820	Y	01/01/2020	15/01/2020	Y	
AR4001	2019/0	A	A	TY13	CC0004	DE	KKP	58333	Y	01/03/2020	14/Mar/2020	Y	
AR4002	2019/0	A	A	TY13	CC0004	DE	KKP	36084	Y	01/03/2020	14/Mar/2020	Y	
AR4003	2019/0	A	A	TY13	CC0004	DE	KKP	58269	Y	01/03/2020	14/Mar/2020	Y	
AR4004	2019/0	A	A	TY13	CC0004	DE	KKP	44003	Y	01/03/2020	14/Mar/2020	Y	
AR4201	2019/0	A	A	TY13	CC0004	DE	FBU	60530	Y	01/03/2020	14/Mar/2020	Y	
AR4202	2019/0	A	A	TY13	CC0004	DE	FBU	66053	Y	01/03/2020	14/Mar/2020	Y	
AR4203	2019/0	A	A	TY13	CC0004	DE	FBU	66053	Y	01/03/2020	14/Mar/2020	Y	



Reports

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	MEQ Management report													
2	Module Code	Academic Year	Occurrence	Canvas Occurrence	Period	Department	Faculty	Location	Module Leader	MEQ Module?	MEQ Start Date	End Date	MEQ Approved?	MEQ Extended?
3	AR7204	2019/0	A	O	TB3	CC0004	DE	KPR	62557	Y	01/01/2020	13/01/2020	Y	
4	AR7402	2019/0	A		SPAN2	CC0004	DE	KKP	04820	Y	01/01/2020	15/01/2020	Y	
5	AR4001	2019/0	A	A	TY13	CC0004	DE	KKP	58333	Y	01/03/2020	14/Mar/2020	Y	
6	AR4002	2019/0	A	A	TY13	CC0004	DE	KKP	36084	Y	01/03/2020	14/Mar/2020	Y	
7	AR4003	2019/0	A	A	TY13	CC0004	DE	KKP	58269	Y	01/03/2020	14/Mar/2020	Y	
8	AR4004	2019/0	A	A	TY13	CC0004	DE	KKP	44003	Y	01/03/2020	14/Mar/2020	Y	
9	AR4201	2019/0	A	A	TY13	CC0004	DE	FBU	60530	Y	01/03/2020	14/Mar/2020	Y	
10	AR4202	2019/0	A	A	TY13	CC0004	DE	FBU	66053	Y	01/03/2020	14/Mar/2020	Y	
11	AR4203	2019/0	A	A	TY13	CC0004	DE	FBU	66053	Y	01/03/2020	14/Mar/2020	Y	
12	AR4204	2019/0	A	A	TY13	CC0004	DE	FBU	66053	Y	01/03/2020	14/Mar/2020	Y	
13	AR5001	2019/0	A	A	TY13	CC0004	DE	KKP	19839	Y	01/03/2020	14/Mar/2020	Y	
14	AR5002	2019/0	A	A	TY13	CC0004	DE	KKP	49128	Y	01/03/2020	14/Mar/2020	Y	
15	AR5003	2019/0	A	A	TY13	CC0004	DE	KKP	41431	Y	01/03/2020	14/Mar/2020	Y	
16	AR5004	2019/0	A	A	TY13	CC0004	DE	KKP	48243	Y	01/03/2020	14/Mar/2020	Y	
17	AR5201	2019/0	A	A	TY13	CC0004	DE	FBU	66053	Y	01/03/2020	14/Mar/2020	Y	
18	AR5202	2019/0	A	A	TY13	CC0004	DE	FBU	66053	Y	01/03/2020	14/Mar/2020	Y	
19	AR5203	2019/0	A	A	TY13	CC0004	DE	EGA	60530	Y	01/03/2020	14/Mar/2020	Y	
20	AR5204	2019/0	A	A	TY13	CC0004	DE	FBU	66053	Y	01/03/2020	14/Mar/2020	Y	
21	AR6001	2019/0	A	A	TY13	CC0004	DE	KKP	19839	Y	01/03/2020	14/Mar/2020	Y	
22	AR6002	2019/0	A	A	TY13	CC0004	DE	KKP	49128	Y	01/03/2020	14/Mar/2020	Y	
23	AR6003	2019/0	A	A	TY13	CC0004	DE	KKP	41431	Y	01/03/2020	14/Mar/2020	Y	
24	AR6004	2019/0	A	A	TY13	CC0004	DE	KKP	64538	Y	01/03/2020	14/Mar/2020	Y	
25	AR6101	2019/0	A	A	TY13	CC0004	DE	KKP	14157	Y	01/03/2020	14/Mar/2020	Y	
26	AR6102	2019/0	A	A	TY13	CC0004	DE	KKP	62557	Y	01/03/2020	14/Mar/2020	Y	
27	AR6103	2019/0	A	A	TY13	CC0004	DE	KKP	41410	Y	01/03/2020	14/Mar/2020	Y	
28	AR6104	2019/0	A	A	TY13	CC0004	DE	KKP	41410	Y	01/03/2020	14/Mar/2020	Y	
29	AR6201	2019/0	A	A	TY13	CC0004	DE	KKP	04820	Y	01/03/2020	14/Mar/2020	Y	
30	AR6202	2019/0	A	A	TY13	CC0004	DE	KKP	04820	Y	01/03/2020	14/Mar/2020	Y	
31	AR6203	2019/0	A	A	TY13	CC0004	DE	KKP	12481	Y	01/03/2020	14/Mar/2020	Y	



Challenges

- ▶ SVM tasks are not updated when the datasource updates
 - ▶ Experimenting with subject date filters
- ▶ New work function for professional staff
 - ▶ Biggest concern of Education Committee
- ▶ New business process for academic staff
- ▶ Keeping start date consistent when not a centralized function



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Questions?

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Opportunities with Text Analytics and the National Student Survey

What is the National Student Survey (NSS)?

- Survey of all final-year undergraduates in England, Wales, Scotland and Northern Ireland about their university experience
- Survey administered by Ipsos Mori
- Anonymized and redacted results provided to universities that meet minimum thresholds
- Quantitative data is public



What does the data look like?

- ▶ Two free-text questions: positive and negative
- ▶ Downloaded in spreadsheet form
- ▶ Can also generate reports based on specific terms (e.g., “Canvas” or “catering”)



What did we do with the data?

- ▶ Comments divided by faculty
- ▶ Distributed to the faculty for careful cascading
- ▶ Spreadsheet format
 - ▶ Must read through every comment
 - ▶ No analysis of the bigger picture



Goal: Use NSS data for more in-depth analysis

- ▶ Blue Text Analytics will work on any text
- ▶ Must mimic actual survey but can upload the response data
- ▶ UK-specific educational dictionaries



Limitation: No cross-tabulation analysis

- ▶ Demographic data: provided at university level
- ▶ Quantitative data: provided at course group level
- ▶ Qualitative data: provided at individual rater level



Quick BTA Overview

▶ Attributes (adjectives)

Examples of themes: engaging, disrespectful, boring, adequate

Categorized into positive, negative, neutral, and ambiguous subcategories.

▶ Elements (nouns)

Examples of themes: professors, guest lecturers, group projects, office hours, textbooks, exams, grading

▶ Possible Alerts

Identify themes (such as suicide, mental illness, and weapons) or discrimination (such as sexism and racism) that are expressed in student comments.



Process Overview for NSS Data

- ▶ Create data sources
 - ▶ Users - not real; just placeholders
 - ▶ Object - Course groups from Planning office
 - ▶ Relationship - users to course group
 - ▶ used actual results data to create this
- ▶ Create definition and groups
- ▶ Create project and import response data
- ▶ Create report



Nitty Gritty: Coursegroup Datasource

Course group	Name	Faculty	Dept code	Department	School code
G02050	Real Estate Management	FBSS	CC0001	Department of Accounting, Finance and Info	CCRA1003
G04051	Accounting & Finance with Busine	FBSS	CC0001	Department of Accounting, Finance and Info	CCRA1003
G28050	Criminology	FBSS	CC0010	Department of Criminology and Sociology	CCRA1114
G28550	Sociology	FBSS	CC0010	Department of Criminology and Sociology	CCRA1114
G20550	Business Economics	FBSS	CC0013	Department of Economics	CCRA1114
G21050	Economics	FBSS	CC0013	Department of Economics	CCRA1114
G21550	Financial Economics	FBSS	CC0013	Department of Economics	CCRA1114

Coursegroup: Unique identifier
Other organizational elements included for convenience
Included “Unknown” for anonymized coursegroups



Nitty Gritty: Users Datasource

StudentID	FirstName	LastName	Blue_Role
Student0001	Pat	Student1	3
Student0002	Pat	Student2	3
Student0003	Pat	Student3	3
Student0004	Pat	Student4	3
Student0005	Pat	Student5	3
Student0006	Pat	Student6	3
Student0007	Pat	Student7	3
Student0008	Pat	Student8	3
Student0009	Pat	Student9	3
Student0010	Pat	Student10	3
Student0011	Pat	Student11	3

**** Remember to set up authentication for Users datasource! ****

Nitty Gritty: Student-Coursegroup Relationship Datasource (placeholder)

- Initial data to establish the data fields
- Need datasource to create definition
- Once the response data is created, this creates the actual relationship data that will be used

Coursegroup	StudentID
Unknown	Unknown
G04051	Student0001
G04051	Student0002
G04051	Student0003
G04051	Student0004
G04051	Student0005
G04051	Student0006
G04051	Student0007
G04051	Student0008
G04051	Student0009
G04051	Student0010
G04051	Student0011



Nitty Gritty: Create Definition

Definition

Editing: **NSS 2019 text analytics**

Info Organizational Links Groups Shared Groups Filters Language

Definition Title en ★

Description en

Type

- Subjects
- Primary/Secondary Subject Pairings
- Primary/Secondary Subject Pairings - Multiple Secondary (Multiple Secondary Pairings)

Subject Source ▼ ★ en ★ (Primary Caption)

Secondary Source ▼ en (Secondary Caption)

Pairing Source N/A (Primary/Secondary)



Nitty Gritty: Create Group

Only one group is required:
FFO

Group Name	<input type="text" value="NSSStudents2019"/> <small>en</small> ★
Link Type	<input type="text" value="Relationship Datasource"/> ▼
Datasource	<input type="text" value="NSSStudents2019"/> ▼ ★
Relationship Table	<input type="text" value="Coursegroup_NSSstudents2019"/> ▼ ★
Privileges	<ul style="list-style-type: none"><input type="checkbox"/> Member Selection [RS]<input type="checkbox"/> Member Selection Approval [RSS]<input type="checkbox"/> Question Personalization [QP]<input type="checkbox"/> Question Personalization Approval [QPS]<input checked="" type="checkbox"/> Form Fill Out [FO]<input type="checkbox"/> Form Fill Out Approval [FOS]<input type="checkbox"/> Report Creation [RC]<input type="checkbox"/> Report Viewing [RV]<input type="checkbox"/> Subject View [SV]<input type="checkbox"/> Subject View Management [SVM]<input type="checkbox"/> Subject Fill Out [SFO]

Note: Only one Member Selection group and per project.



Nitty Gritty: Questionnaire

Info **Questionnaire** Definition Subjects Members Triggers Access

Tasks Language Publish

Question List Options Print Forms Alternative Display Order Virtual Question

Question Bank Mapping Deleted Question List **Text Analytics**

Text Analytics

Name	Dictionary Type	Upload Date	Edit
eXplorance General	Explorance Dictionary	3/21/2018 10:21:58 AM	Edit
eXplorance Sentiments	Explorance Dictionary	3/21/2018 10:22:33 AM	Edit
Teaching and Learning - American English	Explorance Dictionary	5/16/2019 9:42:12 AM	Edit
Sentiments - American English	Explorance Dictionary	5/16/2019 9:42:12 AM	Edit
Teaching and Learning - British English	Explorance Dictionary	5/16/2019 9:42:12 AM	Edit
Sentiments - British English	Explorance Dictionary	5/16/2019 9:42:12 AM	Edit

Dictionary - Teaching and

<input type="checkbox"/>	Question List Index	
<input checked="" type="checkbox"/>	1	Negative
<input checked="" type="checkbox"/>	2	Positive
<input type="checkbox"/>	3	work hours

Apply Cancel



Nitty Gritty: Publish Project

- ▶ Project: Subject
- ▶ Populate Subjects and Members
- ▶ Tasks: FFO only
- ▶ Publish



Nitty Gritty: Response Data

- ▶ Export response data from project
 - ▶ Determines data format
- ▶ Add actual response data
- ▶ Replace all “*” with “Unknown”
- ▶ Add Student IDs, first name, last name
- ▶ Don't import yet



Nitty Gritty: Student-Coursegroup Relationship Datasource

- ▶ Use response data set to create Student-Coursegroup relationship datasource
- ▶ Update Student-Coursegroup datasource
- ▶ Update project Members
- ▶ Now import full response data set



Run Text Analytics

Management

Managing: **NSS 2019 Text Analytics v2**

Task Management Subject Management Field Management Response Management **Text Analytics**

Analyze Comment Responses

Last time comments analyzed:	Mon, Aug 12, 2019, 06:29
Total number of comments:	7460
Total number of unanalyzed comments:	0

Analyze new comments since last analysis.
 Analyze all comments

Start



Create Reports

- ▶ Included explanation of text analysis, attributes, elements, etc
- ▶ Distributed via shared folder rather than creating viewers



To consider and lessons learned

- ▶ Need significant amount of data (100+)
 - ▶ More data creates more accurate analysis
- ▶ Would be even more useful if tied to quantitative data - but still good to review the comments from a different perspective
- ▶ Custom dictionaries



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Thank you!

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