# View the aggregate dashboard

The aggregate dashboard is the space to analyze results at the organizational level or per unit level. With core statistics, trend analyses, comparisons, and smart confidentiality filtering, stakeholders in every level of the organization can safely explore and make data driven decisions based on the available data.

The aggregate dashboard determines what data set is available to you based on your role in the organizational hierarchy as defined by the Blue administrator. The primary subject data that can be accessed by the user will load by default.

### NOTE

**Questions** - Blue questions are the questions created within a project. The Blue Dashboard pulls single selection, single selection table and comment questions from projects in Blue.

**Dashboard Questions (DQ)** - A DQ is a question that appears in the dashboard and maps across many projects as a question that makes up one part of a question group.

**Question group** - A question group is a group of Dashboard Questions that focus on a single central theme, such as communication skills, course structure, or quality of learning. This can be referred to as an area, theme, competency, or KPI. Data can be spread across a number of projects, over a period of time, and among various subjects, but ultimately the resulting data is presented together to provide valuable insights.

**Time scale** - Meaningful time periods that can be established by the administrator to best represent the operations of their specific organization. For example, an administrator could define Spring 2016 as taking place from January 20, 2016 through April 30, 2016.

**Threshold** - In an effort to ensure that specific feedback cannot be traced back to a specific user, minimum response thresholds have been created for both subjects, and respondent demographic data.

# **Dashboard landing page**

- 1. Log in to Blue.
- 2. Navigate to Blue Dashboard.
- 3. Select the link for the aggregate dashboard. The aggregate dashboard will open.

Home  Kesponse Rate  Dashboards	Blue Dashboards
form	Evaluation Dashboard     AGGREGATE
	Evaluation Dashboard  Published site
	Evaluation Dashboard • Published site

Figure 1: Blue dashboard landing page

# Aggregate dashboard header section



Figure 2: Header section of aggregate dashboard

- a. Follow the breadcrumb to easily find where you are in the dashboard.
- b. Select the (i) icon to display the legend information.
- c. Pop-out the Dashboard in a new tab or window.
- d. Edit the settings menu to customize the dashboard to your liking, select statistics to display, change the order of the views.

- e. Data selection supplements standard filters by supporting more powerful filtering capabilities, such as complex filters, exclusion of certain records, and visual representations of the organizational hierarchies
- f. Export the aggregate dashboard raw response data in a set of CSV files which can be used in third party analytics tools.
- g. Switch between the available views.

# Settings menu

The settings menu will pop-up allowing users to select the default statistic that will appear in the dashboard and add or remove additional statistics from the dashboard. Users can also choose the order of the views. Changes made to the settings are saved to the user preferences and will be remembered when the user returns.

### DEFAULT STATISTICS AND DISPLAY STATISTICS

Select the default statistic that will appear in the dashboard and add or remove additional statistics from the dashboard.

The default statistic is the statistic that all of the trend charts and subject summary details initially load. The display statistics can be enabled or disabled. The disabled statistics will not be available on the dashboard views.

## NOTE

It is important to note that using the median or interpolated median as a statistical measure for a group of questions is generally not appropriate. If you select either of these measures for a group of questions, the resulting value will be calculated as if all the questions in the group were combined into one question.

ettings		×
Default statistic		×
O Mean		
O Median ()		
O Interpolated median ()		
O % Favorable		
O Response rate ①		
Display statistics		ž
Mean		
Standard deviation		
Median 🕕		
Interpolated median (1)		
% Favorable		
Min		
Max Max		
Responses		
Invitations		
Response rate ()		
Arrangement of views		×
	Cancel	Apply

Figure 3: Change statistics on the Blue feedback dashboard

### ARRANGEMENT OF VIEWS

Use the up and down arrows to determine the order of the views displayed when the dashboard opens.



Figure 4: Arrangement of views

#### **HIERARCHY BASED GROUPING**

The hierarchy based grouping feature enables easier digestion of large amounts of information by breaking it down into smaller, more manageable chunks. This feature automatically determines the next level of items to display during drill down navigation, allowing users to navigate through layers of aggregated data before reaching a specific subject's detail. By default hierarchy based grouping is enabled, but users do have the option to disable it.

### NOTE

If a user belongs to multiple dynamic groups, their highest ranked group from the configuration will be used as the default group for the hierarchy based grouping.

Hierarchy based g	rouping	ž
The dashboard will You can then drill de	group items according to the selected user group and the organizational hierarchy. own further into an organizational level.	
Hierarchy ba	ased grouping D Off	
Group	Provost (Course based)	

Figure 5: Hierarchy based grouping

## **Data selection**

In addition to the filters of the analysis menu bar, the **Data Selection** button supports more powerful filtering capabilities, such as complex filters, exclusion of certain records, and visual representations of the organizational hierarchies

Information can be organized into two types of hierarchies. One is the primary subject based hierarchy and the other is an secondary subject based hierarchy and the Blue administrator has the option to implement one or both of these hierarchies. By default the data from the primary subject is loaded. Use the **Data Selection** button to load alternative hierarchies.

Select the data to be viewed in the aggregate dashboard:

- 1. Click **Data Selection** and a window will load with the available data.
- 2. Select the data to be viewed in the aggregate dashboard using one of three methods:
  - a. Filter the list of primary subjects using the available primary subject demographics and then select the desired primary subject/secondary subject pairs to be viewed in the dashboard (if the system is using the primary subject based hierarchy).

Course see	ctions Instructors	Organizational unit					
lect items	, that you want to view on your da	ashboard then click Apply to proceed.					
						Apply (0)	Cancel
Search						View 15	✓ items per pa
	Course sections ID $\diamond$	Course sections	Instructors 0	Respondent 🗘	COLL_CODE 0	COLL_DESC \0	DEPT_CODE 0
				7 <b>7</b>	▼	7	
	21456_201720_00414691	Advanced Calculus	D Whittle	19	sc	Sciences	MAT
	23103_201720_00955916	Advanced Organic Chemistry	J Hidalgo Nava	16	sc	Sciences	СНМ
	22838_201720_00488616	AST:Astronomy Lab - Planets	M Schrad	14	sc	Sciences	AST
	22839_201720_00416989	AST:Astronomy Lab - Planets	H Olson	11	sc	Sciences	AST
	22831_201720_00510642	AST:Earth-Our Habitable World	R McGeary	41	sc	Sciences	AST
	22831_201720_00589025	AST:Earth-Our Habitable World	J Napier	31	SC	Sciences	AST
	22840_201720_00510642	AST:Planet Earth Lab I	R McGeary	9	sc	Sciences	AST
	22840_201720_00589025	AST:Planet Earth Lab I	J Napier	9	SC	Sciences	AST
	22841_201720_00510642	AST:Planet Earth Lab I	R McGeary	10	SC	Sciences	AST
	22841_201720_00589025	AST:Planet Earth Lab I	J Napier	8	SC	Sciences	AST
	22842_201720_00510642	AST:Planet Earth Lab I	R McGeary	9	SC	Sciences	AST
	22842_201720_00638567	AST:Planet Earth Lab I	N Stark	6	SC	Sciences	AST
	22843_201720_00510642	AST:Planet Earth Lab I	R McGeary	7	SC	Sciences	AST
	22843_201720_00638567	AST:Planet Earth Lab I	N Stark	7	SC	Sciences	AST
	22829_201720_00620589	AST:Planetary Skies/Landscapes	R Lahiri	22	SC	Sciences	AST

Figure 6: Primary subject list

b. Filter the list of secondary subjects using the available secondary subject demographics and then select the desired secondary subject/primary subject pairs to be viewed in the dashboard (if the system is using the secondary subject based hierarchy).

Course s	ections Instructor	S Organizational unit						
elect item	ns that you want to view or	n your dashboard then click	Apply to proceed.			Арріу	<b>(0) C:</b> View 15 ♥ item	a <b>ncel</b> s per pa
	Instructors ID $\diamond$	Instructors 0	Course sections 0	Respondent 🗘	COLL_CODE 0	DEPT_CODE 0	GENDER 🗘	FCTG
	Σ		2	▽	▼	<b>▽</b>	▼	
	rdevos	D Whittle	Advanced Calculus	19	sc	MAT	М	F
	rdevos	D Whittle	Advanced Calculus	9	sc	MAT	м	F
	rdevos	D Whittle	Foundation of Math I	11	sc	MAT	м	F
	rdevos	D Whittle	Foundation of Math I	11	sc	MAT	м	F
	rdevos	D Whittle	Foundation of Math I	14	sc	MAT	М	F
	kminbiol	J Hidalgo Nava	Advanced Organic Chemistry	16	sc	CHM	М	,
	kminbiol	J Hidalgo Nava	Advanced Organic Chemistry	19	sc	CHM	м	F
	kminbiol	J Hidalgo Nava	Profesl Development Sem	7	sc	CHM	М	F
	kminbiol	J Hidalgo Nava	Profesl Development Sem	9	sc	CHM	М	F
	kminbiol	J Hidalgo Nava	General Chemistry Lab: Nursing	38	sc	CHM	М	F
	kminbiol	J Hidalgo Nava	General Chemistry Lab: Nursing	16	sc	СНМ	м	ŗ
	kminbiol	J Hidalgo Nava	Organic Chemistry II	9	sc	CHM	м	
	kminbiol	J Hidalgo Nava	Organic Chemistry II	7	sc	СНМ	м	
					1			,

Figure 7: Secondary subject list

c. Select the desired organizational units to be viewed in the dashboard.

			Data Selection		
Course sections	Instructors	Organizational unit			
Select items that you	want to view on your	dashboard then click Apply to proceed	d.		
Organizational unit :	Course Based		~	Apply (0)	Cancel
V U1 Universit	ty - (3480 Course secti	ons / Instructors)			
School - Sc	tiences - (3480 Course :	sections / Instructors)			
Departr	nent - Mathematics and	d Statistics - (825 Course sections / Instruc	ctors)		
Departr	nent - Chemistry - (767	Course sections / Instructors)			
Departr	nent - Astrophysics and	l Planetary Sci - (245 Course sections / Inst	structors)		
Departr	nent - Biology - (539 Co	urse sections / Instructors)			
Departr	nent - Computing Scier	nces - (445 Course sections / Instructors)			
Departr	nent - Physics - (448 Co	urse sections / Instructors)			
Departr	nent - Geography and t	the Environment - (208 Course sections / I	Instructors)		
Departr	nent - SCI - (3 Course se	ections / Instructors)			

Figure 8: Organizational units

# **Dashboard controls**



Figure 9: Dashboard controls

- a. Switch between the available views.
- b. Anchor time period Use the left or right arrow buttons to move the selected time period (i.e. anchor time period that is highlighted on the chart) or jump to a specific time period by clicking the current time period and jump to the new time period.
- c. **Time range** (Trend analysis view only) Adjust the time periods being displayed. All data within this time range will be included in the trend charts. A maximum of nine time periods can be selected within a time range.
  - i. Time scale Multiple time scales can be utilized by the dashboard (i.e. year based time periods, or semester based time periods).
  - ii. Time range drop-down Time periods can be selected or excluded and then **Apply** must clicked to update the dashboard.
  - iii. Time range selection The user can move the time range forwards and backwards and the range will adjust when you click **Apply**. Use the mouse to select or deselect a time period. The dashboard is refreshed each time the range is updated.
- d. **Compare with** To further discover the hidden insights in the data, the compare feature allows a user to slice and dice the data based upon selected demographic criteria that they want to examine in more detail or measure against a larger entity (i.e. department).

Users can take advantage of the **Select all** option to choose all available items within a demographic field to include them in the comparison.

- i. My data:
  - I. Select demographic criteria to breakdown the data set, then click **Apply** to proceed.
  - II. Please note, the subject names are automatically listed and grouped alphabetically in the comparison criteria
- ii. Pre-calculated norms: Works just like my data but allows a user to measure their results with a larger entity like a school or department.

## NOTE

- To address data privilege concerns, the norm elements that are available are dynamically determined based on the loaded dataset. For instance, to view the department norm for biology, you must have at least one course that belongs to the biology department.
- Pre-calculated norms remain unchanged by filter criteria.

Pre-calculated percentiles: Allows users to benchmark themselves against specific percentiles of a school norm instead of just comparing with the school average.

For example, users can determine where they rank among other in the organization. For example, better than 75% of people in their school, even if their score is already above the school average. This addition adds a more nuanced understanding of performance within the context of the larger group.

Note: Pre-calculated percentile is calculated based on the concept of norm across subjects.

		Analysis			×	
valuat	tion Dashboard fo	Time range			•	
Data Selection	Instructors (257) Course sections (2	Compare wit	h My data Pre-calcula	Ited norm Pre-calculated percentile	×	Last updated : Oct 2, 2023
		Q Search		Include filtered out ite.	. 🔿 🗙	
		Pre-calculate	d kth percentile	80th Percentile	~ )	
← 🛱 2020	D Fall → Time range	Course section	Instructors			Save as preset
PPLIED ANALY	YSIS CRITERIA (4)	LEVEL_CO	DDE(1/3)			
Norm	Course sections: DEPT_DESC Physic	Select all UG				1
			SC(1/1)			
rercentile	Course sections: DEPT_DESC Physic	Sciences				
Compare	Course sections: Course names Elec 8	DEPT_DE	SC(1/8)		- 8	(đ
litered by	Course sections: DEPT_DESC Physic	Physics				1
		SURVEY_	CATEGORY(3/3)			
		Selected anal	(sis criteria (4)			S Reset all
rend ana	alvsis		(		^	
sers are able to	view a trend for all of the available quest	Norm	Course sections: DEPT_DESC	C Physics 🛞	point f	or further analysis.
		Compare	Course sections: Course nam	es Elec & Magnetism I 🛞 Elec & Magne	tism II 🛞	
1. Instructor	questions	Percentile	Course sections: DEPT_DESC	C Physics (90th) 🛞		(C) (
4!68	4 <u>27 4.27 4.90 4.7</u> 4 <u>1</u> 56 4.41	Filtered by	Course sections: DEPT_DESC	C Physics (s)	4.79-	431 435 450 435

Figure 10: Compare statistics for aggregate data

iv. Compare with my overall data - Allows users to view both the overall aggregated data and the breakdowns while comparing them with pre-calculated norms.

## NOTE

- The My Overall caption can be changed to suit your situation. For instance a department chair may rename 'My Overall' to the name of the department
- The calculated data in  $\ensuremath{\text{My Overall}}$  is affected by the selected filters.

Analysis		×
Time range		•
Compare with My data Pre-calculated no	orm Pre-calculated percentile	×
Q Search		
Compare with my overall data My overall		Ø
Course sections Instructors Respondents		
E COURSE NAMES (192)         Select all         Expand all		
Selected analysis criteria (1)		×
Compare with my overall data: My overall data:	verall 🛞	
Percentile		
S Reset all	Cancel	Apply

Figure 11: Compare with my overall data

e. Filter by - Select specific subject or respondent demographics to study a subset of the data.

- i. Select multiple filter criteria across the two dimensions of subject and respondent demographics, then apply them together at once.
- ii. The subject names are automatically listed and grouped alphabetically in the filter criteria

Analysis			×
Filter by			•
Q Search			
Course sections Respondents	5		
GENDER (2)	-		
□ F	M		
GPA GRADE (7)			
A	B+	C+	
A-	□ B-		
В	C		
GPA (150)			
2.191	2.509	2.64	
2.318	2.594	2.754	
2.416	2.606	2.756	
2.434	2.633	Show more	
STUDENT_COLL_CODE (1)			
AR			
STUDENT_COLL_DESC (1)			
			•
Selected analysis criteria (1) Implement multiple analysis criteria	a. When ready, select Apply t	o proceed.	ž
Filtered by • Students: GF	PA Grade 🗛 🛞 🕒 🗶		
S Reset all		Cancel	Apply

Figure 12: Apply multiple filters

iii. Streamline filters - Blue Dashboard users can now hide filtered out items on the analysis menu. This feature aims to reduce the burden caused by the extensive list of filter items, given the vast amount of available data. By hiding or disabling filtered out items, users can streamline their analysis criteria and focus on the relevant items.

Analysis				×
Time range				\$
Compare with				\$
Filter by				×
Q Search			Include filtered out i	te 🔿 🗙
			Include filtered out ite	ms
Course sections	s Instructors	Respondents		-
Excand all				
Selected analy	sis criteria (1)			ž
Filtered by	Course section	ns: TERM 202020 (8)		
S Reset all			Cancel	Apply

Figure 13: Streamlined filters (Include filtered out items)



#### f. Preset

- i. Save as preset Clicking the Save as preset will save the current analysis criteria as a preset view with a name you enter.
- ii. Show presets Select an existing preset view to load.



g. Preview the current page for printing

The print preview function is available on several sections of the dashboard including, the trend analysis view, the subject listing view, and the subject details view. If the view is not supported, the print preview icon will not be displayed.

The print preview function will create a print friendly version of the page, the user can then leverage the browser's built-in print function either to print or to generate PDF files. Both portrait and landscape orientations are supported. Legal, letter, and A4 size papers are supported for the best fit.

h. Pattern charts - enable or disable the pattern background in the bar charts. Due to compliance with accessibility standards (WCAG 2.1 AA), the pattern background is turned on by default.

## Summary view

The summary view in Blue Dashboard is an optional view that displays an executive summary, utilizing a list of widgets to highlight key information and provide a summary of events. The widgets on the summary view can be customized by administrators for each dynamic group, and the feature can be enabled or disabled per group to provide flexibility when rolling it out. The three widgets currently available in this release are the score widget, ranking widget (demographics), and score plus trend widget. Each widget can be viewed with different available statistics and some widgets may have different chart types available via the settings menu.

	Summary view	🚿 Trend analysis	⊞ Data analysis					l
🗂 2020 Fall $\rightarrow$ 🔻 Filter by	✿ Show presets ➤					Save as preset	@ (	Ċ
Jmmary view Esummary view provides an executive summary	y of available data which can be customized using	y widget settings to highlight kej	y information. Time perioc	ds and filters can be used	for further analys	iis.		
Verall Questions							ł	¢
86.03/100	75	*						
% Favorable	25							
Compare to -5.08 +0.13 Previous Engineering (Norm)	0 2019 Fall	2020 Winter → My c	overall 🔶 Engineering(N	2020 Summer		2020 Fall		
nstructor related questions	Instructor rank (based on instruc	tor related question rating:	3)				ł	C
	Instructors		Rank	Mean				
90.14	JK J Kan		1	4.82				
07.14	JK J Kelly		2	4.79				
% Favorable	JW J Warren		3 个	4.77 ↑				
	MV M Vaught		4	4.76				
Compare to -3.84 +1.64 Previous Engineering (Norm)	SM S Meloney		5↓	4.71 ↑				
					1 2	3 4	5	

Figure 14: Summary view

#### SCORE WIDGET

Displays a chart containing the score of a question or question group. This widget also includes the change from the previous score and the difference from the pre-calculated norm (optional). Users can change the displayed statistics by selecting different statistics within this widget.

### NOTE

The norm element that is available is dynamically determined based on the loaded dataset. For instance, to view the school norm for engineering, all your courses must belong to the school of engineering. In order to show the norm element you must either

load the data from one specific organizational unit or filters must be leveraged to narrow the data displayed to just one organizational unit.



Figure 15: Score widget

#### SCORE PLUS TREND WIDGET

Displays a score widget that also contains a trend chart covering up to the four latest time periods prior to and including the anchor period. A minimum of two periods are required to display the trend chart. The trend chart will contain two sets of data if the norm element is available.

Overall Questions				C
	100		Mean	
00.02	75	+	% Favorable 🔮	E Chart type Line chart
86.03/100	50			
	25			
% Favorable Compare to	0 2019 Fall	2020 Winter	2020 Summer	2020 Fall
-5.08 +0.13 Previous Engineering (Norm)		← My overall → I	Engineering(Norm)	

Figure 16: Score plus trend widget



Figure 17: Score plus trend widget vertical bar chart

### RANKING WIDGET (DEMOGRAPHICS)

Displays a list of ranked demographic items. These items will be ranked according to the score of a question or question group. Color coded arrows indicate the changes in rank or value from the previous time period. Users can hover over the value to see more details.

Items can be sorted from highest or lowest and a user is able to select the number of items in the widget by changing the options found on the widget. Users are also able to select the statistic they wish to display.

epartment rank based on overall questions					C
DEPT_DESC	Rank	Mean	=	Ranking	Top 10
Comprehensive Science	1	4.95	÷	Statistics type	Mean
Geography and the Environment	2↓	4.59 ↓	_		
Physics	3↓	4.44 ↓			
Biology	4 ↑	4.42 ↑			
Chemistry	5↓	4.39↓			
					-

Figure 18: Ranking widget (demographics)

## **Trend view**

Users are able to view a trend for all of the available Question groups. The score for each time period is plotted on a graph. Users can filter, compare, or drill deeper into a data point for further analysis.

	Save as preset
Trend analysis	
Users are able to view a trend for all of the available question groups. The score for each time period is plotted on a graph. Users can filter, compare, or drill deeper into a data point	for further analysis.
1. Instructor questions () 2. Course questions ()	3
5 4 4.61 4.58 4.85 4.82 4.73 4.67 4.80 4.70 4.86 4.85 4.87	4.74 4.68 4.80 4.68
3	
· trite parties and the partie	BASTON DED WARD TO STORE BOOT

Figure 19: Aggregate dashboard - Question group overview

- a. Time range Adjust the time periods being displayed. All data within this time range will be included in the trend charts. A maximum of nine time periods can be selected within a time range.
  - Time range selection The user can move the time range forwards and backwards and the range will adjust when you click Apply. Use the mouse to select or deselect a time period. The dashboard is refreshed each time the range

is updated.

2. **Time range drop-down** - Time periods can be selected or excluded and then **Apply** must be clicked to update the dashboard.

	Analysis	×	
Trend analysis			
←	Time range	X Save as preset	a (
APPLIED ANALYSIS CRITERIA (0)	Terms Year		
	2016 Winter 2016 Summer	2016 Fall	
1. Instructor questions	2017 Winter 2017 Summer	2017 Fall	
	2018 Winter 2018 Summer 2	2019 Winter	
2 W	2019 Summer 2019 Fall 2	2020 Winter	ew Deta
4.22 4.69 4.67 4	2020 Summer 2020 Fall	4.53 4.71	
3	Periods Maximum 9 periods allowed		
2	9 selected	• • • • • • • • • • • • • • • • • • •	
1	Compare with My data Pre-calculated norm	× -	
0 2017 Fall 2018 Winter 2018 2019 Winter 2019 Summer Summer		✓ ter 2019 2019 Fall 2020 Winter 2020 Summer Summ	er 2
	Selected analysis criteria (0)	•	
	S Reset all Cancel	Apply	

Figure 20: Time range and time periods

- b. Trend view of the different Question groups within the time range selected.
- c. Select a node on a Question group trend chart to drill down into a comparison with subjects of the Question group for that specific time period.
- d. Widget options menu Provides multiple ways to view the data:
  - 1. Select the minimize/maximize icon to display a full width view of the selected chart or to switch back to a half size chart. When the chart is maximized there is an option to zoom in for more details.

## NOTE

During comparisons on charts, data points often appear concentrated or very close to each other. Even with a maximized chart, it can be challenging to distinguish the differences. To address this, Blue Dashboard now offers a zoom in/out capability for charts. This feature enables users to easily adjust the zoom level and have a clearer view of the data. The zoom feature is available for trend analysis charts and scatter plot charts, enhancing readability and analysis.

2. View details - Consult a trend view of all the Dashboard Questions that make up the selected **Question group**.

- e. Widget settings menu Enable users to modify how the data is being displayed:
  - 1. Statistics type select the statistic that will be displayed on the trend chart.
  - 2. Chart type switch between the default line chart and a vertical bar chart.

Settings menu	Options menu
¢	(c)
- Statistics type Interpolated	[] Maximize
Chart type Line chart	5 4.5 Q View Details

Figure 21: Trend view - Settings menu and options menu

# Data analysis

The data analysis page displays data for all subjects at an anchor time period (use the calendar control to change the anchor period). Data can be viewed in a **list view** or **scatter plot view**. Both filters and comparisons are supported on this page.

## Data analysis - List view

The data analysis list view displays all the subjects for a particular time period (i.e. anchor period) and the default statistic for each question group along with the response rate information. Both filters and comparisons are supported on this page. You can drill down into a specific question group or subject.

Similar to the trend analysis page, the data analysis list view allows users to select a list of items for comparison. This enables users to aggregate their data at any level and compare it with the list of question groups or questions.

- 1. Drill down into a question group
- 2. Drill down into a subject
- 3. Toggle the heatmap on and off
- 4. Change the anchor period
- 5. Choose the statistic being used
- 6. Pin, unpin, and reorder items in the list
- 7. Download data in CSV format

Subjects can be sorted in either ascending or descending order based on the displayed statistic or subject name. Click on a specific subject to open the subject details for that subject. For enhanced convenience during list view comparisons, users now have the option to pin specific items to the top. While other items can be sorted in ascending or descending order, the pinned items will remain at the top of the list view. If multiple items are pinned, users can easily rearrange the order by manually dragging and dropping them.

### NOTE

- The drill-down capability for each subject is disabled when comparisons are being performed on the subject list.
- NPS is only available in the statistics selection list if there are NPS questions. When NPS is the selected statistic type, non-NPS questions will not be displayed.

				Summary view	🚿 Trend analysis	🗉 Data analysis			
÷	🛱 2020 Fall 🛛 🔿	A B Compare with	<b>Filter by</b>	☆ Show presets ∽				Save as preset	•
Dat he da on this	a analysis ata analysis page displays s page. ist view 🗈 Scatter plo	4) data for all subjects at an	anchor time perio	d (use the calendar control	to change the anchor period	d). Data can be viewed in a list vi	ew or scatter plot cha	rts. Both filters and comparisons are	e suppor
						4.46/5	4.46,	3 R Heatmap	¢
						1. Instructor questions	2. Cour	Colors Color series 1	1
ours	e sections (65) †					Mean 17	Mea 5		
1	Biomedical Instru           ID: 22783_202120_0           22 invitations         20 p	Imentation (S Sample-Lo 1893099 leople responded 90.91%	rd) response rate			4.77	4.76	4.48	
# <b>[</b>	Analog Electronic ID: 22764_202120_0 29 invitations 17 p	<b>II (S Ferruggia)</b> 0475630 eople responded 58.62%	response rate			4.15	4.23	4.06	
Ŧ	Adv. Digital Des. Using ID: 22797_202120_0004901 6 invitations 6 people res	FPGAs (N Zamani) 17 ponded 100.0% response	rate		(2)	4.53	4.71	4.33	
ዋ	Analog Electronics II La ID: 22765_202120_0047563 15 invitations 9 people re	<b>b</b> (S Ferruggia) 30 isponded 60.0% response	rate			4.2	4.27	4.06	
Ŧ	Analog Electronics II La ID: 22766_202120_004756 14 invitations 6 people re	<b>b</b> (S Ferruggia) 30 Isponded 42.86% respons	e rate			4.08	4.13	3.8	
Ŧ	Antenna Theory I (J Kan ID: 22810_202120_0062126	) 53 Isnanded 66.67% respons	e rate			4.83	4.63	4.5	

Figure 22: Aggregate dashboard - Data analysis - list view

## Data analysis list view - Heatmap

When confronted with a large number of scores on the data analysis page, it can be overwhelming for users to read and understand them. To help viewers quickly identify problematic areas and understand the relevance of a number in relationship to others, Blue Dashboard has implemented a heatmap function with eight available color sets, allowing most users to find an appropriate set to use.

With the available comparison of the pre-calculated norms, overall data, and subject selection, plus the capabilities of the heatmap, sorting, and drill down, a user can quickly identify patterns or correlations in large data sets.

Blue Dashboard offers the flexibility for end users to create their own custom color sets in addition to the built-in 8 color series of the heatmap. This customization enables the heatmap colors to adapt more effectively to specific business use cases that require specific colors for particular datasets.

Color sets can also be based on the ranges of pre-calculated percentiles. This feature enables users to highlight items that fall within a specific percentile range, such as highlighting items in the 80th percentile of the population within a specific business unit like a department or division.

Daʻ	Jata analysis										
The d	data analysis page displays data for all subjects at an anchor time period (use the calendar control to change the anchor period). Data can be viewed in a list view or scatter plot charts. Both filters and comparisons are supported on this page.										
	List view 💽 Scatter plot view										
								a			
		4.5/5	4.53/5	4.36/5	4.35/ 5	4.57/5	4.57/5	4.35/5			
		CATS-20-grades student work fairly.	CATS-21-employs tests and graded materials relevant to course content.	CATS-22-Hard work is required to get good grades in this course.	CATS-23-I found the course intellectually stimulating.	CATS-24-I attended most class sessions.	CATS-25-I kept up with the assigned work.	CATS-26-I learned a great deal in this course.			
Cour	se sections (65) †=	Mean <b>1</b> ₹	Mean I₹	Mean 17	Mean 17	Mean 17	Mean 17	Mean ‡₹			
Ŧ	Adv. Digital Des. Using FPGAs (N Zamani) ID: 22797_202120_00049017 6 invitations 6 people responded 100.0% response rate	5.0	4.83	4.83	4.5	4.83	4.5	4.5			
д	Analog Electronics II Lab (S Ferruggia)           ID: 22765_202120_00475630           15 invitations         9 people responded           60.0% response rate	4.11	4.44	4.44	4.11	4.44	4.22	4.11			
Ŧ	Analog Electronics II Lab (S Ferruggia) ID: 22766,202120,00475630 14 invitations 6 people responded 42.86% response rate	4.17	4.17	4.2	4.2	4.0	4.0	4.2			
Ŧ	Analog Electronics II (S Ferruggia) ID: 22764,202120,00475630 29 invitations 17 people responded 58.62% response rate	2.94	4.25	4.53	4.35	4.63	4.5	4.44			
Ŧ	Antenna Theory I (J Kan)           ID: 22810_202120_00621263           12 invitations         8 people responded         66.67% response rate	5.0	4.75	4.88	4.38	4.63	4.38	4.38			
Ŧ	Biomedical Instrumentation (5 Sample-Lord) ID: 22783_202120_01083099 22 invitations 20 people responded 90.91% response rate	4.85	5.0	4.45	4.6	4.9	4.95	4.6			
Ŧ	C++, Algorithms & Data Struct (K Schwartz) ID: 22753_202120_02305328 26 invitations 15 people responded 57.69% response rate	4.8	4.87	4.8	4.67	4.93	4.87	4.73			
Ŧ	C++, Algorithms & Data Struct (K Schwartz) ID: 22754_202120_02305328 20 invitations 12 people responded 60.0% response rate	4.67	4.64	4.58	4.5	4.67	4.67	4.67			
Ŧ	C++, Algorithms & Data Struct (P Drago) ID: 2273_202120_00642667 26 invitations: 17 people responded 65.38% response rate	4.47	4.41	4.82	4.59	4.88	4.65	4.47			

Figure 23: Aggregate dashboard - Heatmap

## NOTE

- The default color series for each column in the heatmap are calculated based on the values in that column, so the same number in a different column may not be assigned the same color on the heatmap.
- The heatmap is not available for print preview.

## Data analysis - Scatter plot view

The scatter plot view provide a unique capability for insight discovery, allowing users to utilize the scatter plot chart to identify potential trends, patterns, or correlations between two variables.

The scatter plot view supports up to two X-axis dividers and two Y-axis dividers, dividing the scatter data into specific areas and indicating the percentage of data allocated to each area.

- Hovering over each scatter dot on the chart displays corresponding statistics such as response count, mean, median, and more.
- Additionally, when the scatter plot displays a set of primary subjects, clicking on a dot representing a subject (course) allows users to drill into a detailed view for that subject.

#### SCATTER PLOT SETTINGS MENU



The settings menu provides the following options:

Figure 24: Scatter plot settings menu

- Linear regression add a best fit linear line between the two variables (x-axis and y-axis values).
- Maximize/Minimize toggles between a large display and a small display.
- Dividers enable any of the dividers you would like to use, set the corresponding value using the text box or the slider. The scatter plot view supports up to two X-axis dividers and two Y-axis dividers, dividing the scatter data into specific areas and indicating the percentage of data allocated to each area.



Figure 25: Scatter plot dividers

- Highlight areas when the end user enables this option they can add a background color and text to specific regions of the scatter chart. This allows the user to add special meaning to a areas of the chart (see scenario 1 and 2 below for practical examples). End users can create customized highlights according to their own needs.
  - Available on the scatter chart there are up to 2 X-axis dividers combined with 2 Yaxis dividers, meaning there can be anywhere between 2 divided areas and 9 divided areas depending on how the dividers are placed.
  - The labeling of these areas are numbered from left to right and bottom to top. For example, Area 1 is referring to the bottom left area, Area 2 is referring to the area just to the right of Area 1. If there is no area on the right side of Area 1, Area 2 will be the leftmost are above Area 1. See the diagrams below for more examples.



Figure 26: Scatter plot two areas horizontal and vertical



Figure 27: Scatter plot - four areas



Figure 28: Scatter plot - nine areas

 Content switch - change views between interpolated median vs % favorable and demographic vs demographic

Scatter plot conter	nt switch	>	<
View	<ul> <li>Interpolated</li> <li>Demographi</li> </ul>	median vs % Favorable c vs Demographic (respondents or	nly)
X-axis		Interpolated Median	
Y-axis		Percentage Favorable	
		Cancel Apply	

Figure 29: Scatter plot content switch

Scatter plot charts can be used to identify insights when measuring data from Likert scale questions:

#### SCENARIO 1 - INTERPOLATED MEDIAN VS % FAVORABLE

Blue Dashboard, designed for analyzing survey response data, presents the scatter plot chart with Interpolated median vs % Favorable as the default view. This unique approach measures the central tendency for balanced Likert scale questions, specifically those with balanced scales such as 5 or 7-point Likert type scales where the middle point is neutral. This methodology of reviewing feedback data was inspired by the research paper "Proposed metrics for summarizing student evaluation of teaching data from balanced Likert scale surveys".

For example, if we display a question with a 5-point Likert scale, the scatter plot chart can be divided into nine areas using dividers. Five of these areas hold significance, representing Subpar ratings, High potential, Outstanding, Polarizing, and Top ratings.

The characteristics of five of the nine areas defined by the default dividers are:

- Subpar ratings an area with interpolated median less that 3.5 and a percentage favorable less than 50%
- Top ratings an area with interpolated median larger than 4.5 and a percentage favorable better than 75%
- Outstanding an area with interpolated median between 3.5 and 4.5 with a percentage favorable better than 75% (the typical characteristics of the this area tend to be more 4s selected than 5s).
- Polarizing an area with interpolated median larger than 4.5 and a percentage favorable between 50% and 75%. (typical characteristics of this area tend to involve around 25% selecting 3 or lower and the rest selecting the highest option.)
- High potential an area with an interpolated median between 3.5 and 4.5 and a percentage favorable between 50% and 75%.



Figure 30: Scatter plot for balanced likert scale with nine areas

Abdel Azim Zumrawi & Leah P. Macfadyen (2023) Proposed metrics for summarizing student evaluation of teaching data from balanced Likert scale surveys, Cogent Education, 10:2, DOI: <u>10.1080/2331186X.2023.2254665</u>

#### SCENARIO 2 - DEMOGRAPHICS VS. DEMOGRAPHICS

If the dashboard includes respondent demographics, users can utilize an alternative view of the scatter plot chart to observe contrasting opinions between two groups of demographics. For instance, comparisons like Self vs Others, Males vs Females, or Freshmen vs Seniors. Dividers, combined with linear regression, can be employed to analyze the scatter plots and gain insights from the data.



Figure 31: Scatter plot chart - self versus others

# **Subject - Details**

When selecting a subject, a comparison of all question responses is presented allowing users to view detailed information about a subject. There are three tabs for each subject.

Course sections		
← ☐ 2020 Winte → ▼ Filter by ☆ Sho	w presets 🗸	Save as preset
APPLIED ANALYSIS CRITERIA (0)		
Immunology (W Morgan) ID: 32038_202030_00301560		14 invitations 13 people responded 92.86% response rate
Questions Comments Breakdown	by Students	
1. Instructor questions		
Mean 4.47/5		
CATS-10-makes the goals of the course clear.		
CATS-11-interacts effectively with the students.		
CATS-12-treats students in a respectful manner.		
CATS-13-is available for help outside of class.		

Figure 32: Aggregate dashboard - Course evaluation - Subject details

- a. **Question group** Shows a comparison of all the questions and their statistics to determine a rating value.
- b. **Comments** When there are open ended questions in a survey, the full comment is displayed in this section.
- c. **Breakdown by respondent demographics -** Shows the different respondent demographics made available by the administrator.

To see more information about a question, look at the subject detail view and find the question summary. Below the summary, you will find the question details. You can choose how to display the question details by using the toggle button. The toggle button lets you switch between a table view and a chart view.

ATS-10-makes	the goal	s of the co	urse cl	ear.						CATS-11-interacts effectively with the students.	78
esponse count:	: 10									Response count: 10	
										Statistics	Values
Strongly Agree								8 (80.00	%)	Mean	4.80
										Standard deviation	0.42
Agree		2 (20	.00%)							Median	5.00
Neutral	0 (0.00%)									Interpolated median	4.88
										% Favorable	100.00%
Disagree	0 (0.00%)									Min	4.00
										Max	5.00
Strongly Disagree	0 (0.00%)									Invitations	14
	0 1	2	3	4	5	6	7	8	9	Response rate	71.43%

Figure 33: Question statistics and frequency chart

## Response rate analysis dashboard view

When the response rate is chosen as the default statistic, the dashboard will change into the 'Response rate analysis dashboard' and no question level statistics and no drill down capability will be available while in this mode. Changing the default statistic will make the dashboard return to normal mode.

Filters and compare functions both work while in response rate analysis dashboard.

## NOTE

- Response rate is defined as response count divided by invitation count multiplied by 100.
- Filters/comparisons applied to the respondent demographics do not impact the invitation count
- Filters/comparisons applied to the subject or secondary subject demographics **do impact** the invitation count.
- Subjects that do not have any submitted responses are excluded from the invitation count on the response rate trend view chart.



Figure 34: Aggregate response rate trend view

## THINGS TO KNOW ABOUT THE AGGREGATE DASHBOARD

- The aggregate dashboard only contains data selected from the data selection page.
- The dashboard only contains data from submitted responses.
- You might see "*Threshold not met*" in place of the data. A minimum number of responses is configured by the administrator to protect the identity of the respondents.
- The latest versions of Google Chrome, Microsoft Edge, Firefox, and Safari are supported.
- The pages are optimized for a minimal screen resolution of 1024 x 768.