Canvas New Analytics

A guide for academics

Contents

1. Introduction

Canvas New Analytics allows us to collect, analyse and reflect on our student usage patterns. We can then use the data to examine relationships between student engagement with our materials, assessments, and student outcomes.

Using information about student login frequency, resource access, assessment grades and participation in activities, we can view visualisations and run reports summarising the performance of either an entire cohort or individual learners.

The most common uses of analytics are to identify students who are not succeeding academically and to trigger targeted interventions. Learning analytics can also be used to identify assignments that cause students difficulty. Instructors can use these data to adapt and modify curriculum or assignments. With analytics, students and academics can better understand the learning process and take action to improve learning outcomes.

You can use Canvas New Analytics to:

- View average course grade analytics as an interactive chart graph or a data table
- Compare the course average with an individual assignment, course section, or student filter using the chart graph comparison or data table comparison
- View average weekly online participation analytics as an interactive chart graph or a data table
- Compare the course average weekly online participation analytics with an individual student or section using the chart graph comparison or data table comparison
- Send a message to all students based on specific course grade or participation criteria
- Send a message to an individual student based on specific course grade or participation criteria
- View course grade and participation analytics for an individual student
- View and download reports on missing, late, or excused assignments, class roster, and course activity.

A Possible Scenario

A student is performing poorly on your module. You view the student's interactions with Canvas across the semester to try to understand how they have been interacting with the site and your learning materials.

It may be that they only log into Canvas when they must submit an assessment but are not interacting with their classmates or accessing all the material you have made available. What you discover from New Analytics, will allow you to frame the conversation you have with your student to discuss their performance.

Preparing your Canvas Courses for Analytics Use

Canvas analytics can only make use of data from tools built into Canvas, **not** from 3rd party tools so be mindful of this when designing activities.

For example, any quiz activities you design should be created using the **Canvas quizzing tools** and not embedded into your course using, for example, external services such as **Microsoft Forms** or **Kahoot!** The same would apply for discussion activities, if you use a platform such as **Slack** or another external tool or website to host discussions, Canvas will **not** be able to record student participation. **The discussion tool** in Canvas, however, will not only allow you to design engaging discussion activities but student participation will be recorded by analytics.

Tools that are **external** to Canvas are absolutely fine for formative or non-grade bearing activities and these can happily be dropped into your Canvas pages so long as we understand that the results of these activities are **not likely** to be picked up by Canvas analytics.

So, to ensure that participation in activities such as quizzes are collected by Canvas analytics, you are well advised to design and build the activity **inside** of your Canvas environment.

To find out more about building activities in Canvas, please read these quick guides.

Creating quizzes and assessment activities in Canvas

https://community.canvaslms.com/t5/Video-Guide/New-Quizzes-Overview-Instructors/ta-p/384197

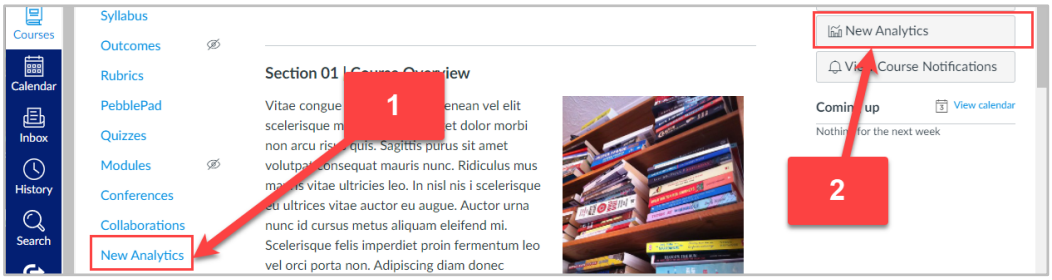
Creating discussion activities in Canvas

https://community.canvaslms.com/t5/Video-Guide/Discussions-Overview-Instructors/ta-p/383769

The Centre for Innovation in Education runs Canvas workshops throughout the year but if you require more immediate guidance relating to designing activities in Canvas, please get in touch with us: cie@liverpool.ac.uk.

Accessing New Analytics

To access New Analytics, you need to open your course and either click the New Analytics



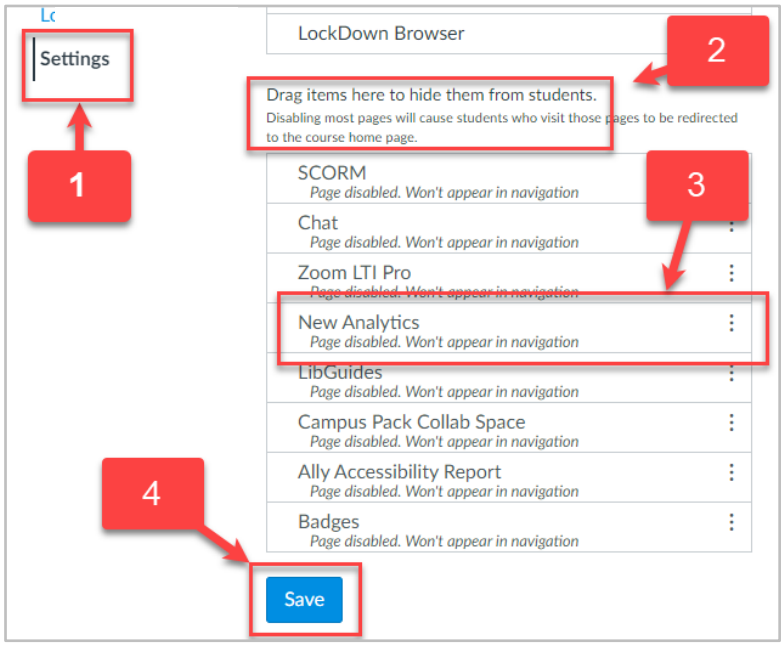
option on your **course menu** (1) or click the New Analytics (2) on the **right sidebar**.

If you cannot see New Analytics in either of these locations, then you must enable it.

With reference to the image on the following page: Click on **Course Settings** (1) and view the **Navigation Tab**. Next, scroll down until you can see the section titled **Drag items to hide them from students** (2). Locate the **New Analytics** item (3) and then click, hold, and drag it to the area above. Finally, click the save button (4).

You will now be able to see the New Analytics option in your course menu.

Note: This link will be invisible to your students!



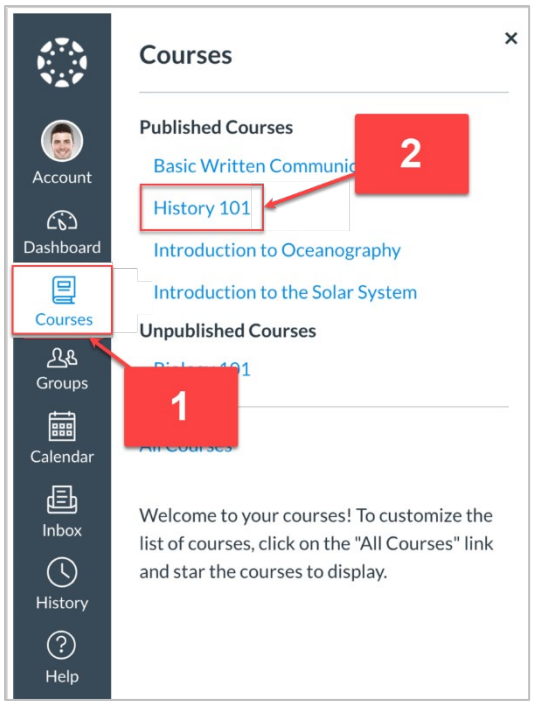
2. Viewing Analytics for an Individual Student

Let us begin our New Analytics journey by viewing analytics for individual students.

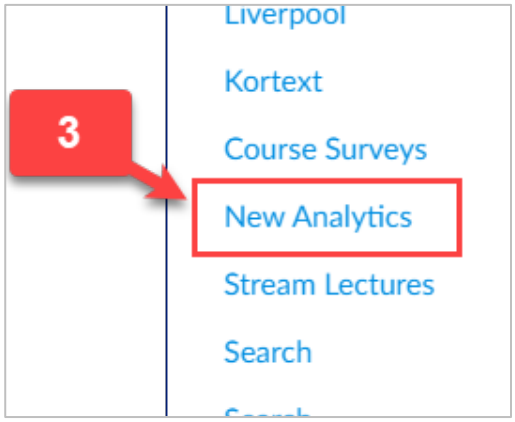
As we have already touched upon, student analytics allow us to see how a particular student is doing in our course. Students from active and closed courses can be included but deleted or inactive students will not be.

Available data includes **course grade**, **weekly online activity**, **participation,** and **communication**.

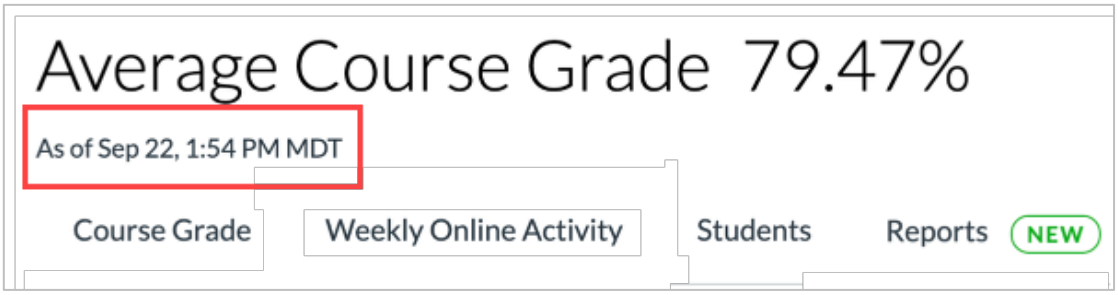
The first thing we need to go is navigate to the course we wish to view analytics for.



Make your way to Canvas (1), select Courses, followed by the course you wish to view (2). Once inside your course start New Analytics by either clicking the option on the course menu (3) or the right-side menu.



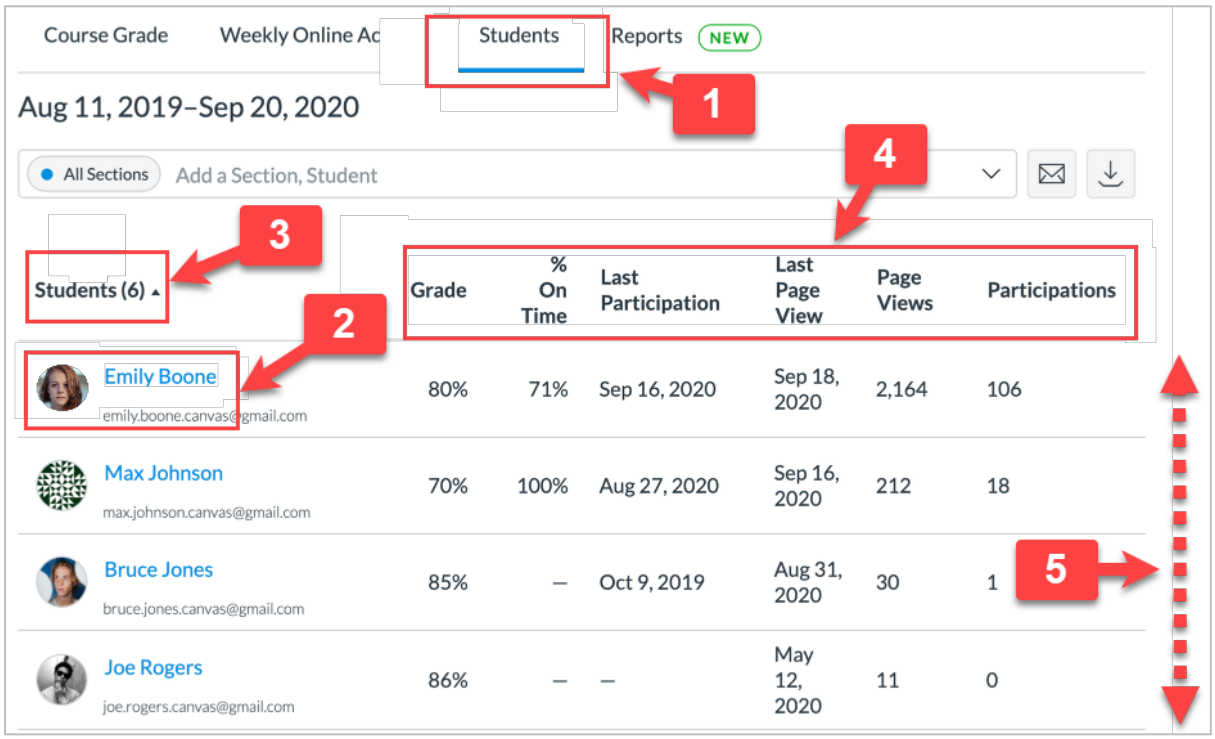
On arriving on the New Analytics page, focus your attention briefly on the information below the **Average Course Grade** title. The line – '**As of Sep 22, 1:54 PM**' in the below example, tells us the last time the Canvas analytics data for our course was **refreshed**. New Analytics data is refreshed **every 24 hours**. Use this to guide the accuracy of your reports.



To begin looking at student analytics, we click on the **Students** tab (1).

If you would like to view the analytics for a **single student**, you can click on their name (2). To locate a student, you can sort the table by **student name** (3) or any of the other **column headers** (4).

The analytics table is **paginated** so we can view more students by simply scrolling down the screen (5).



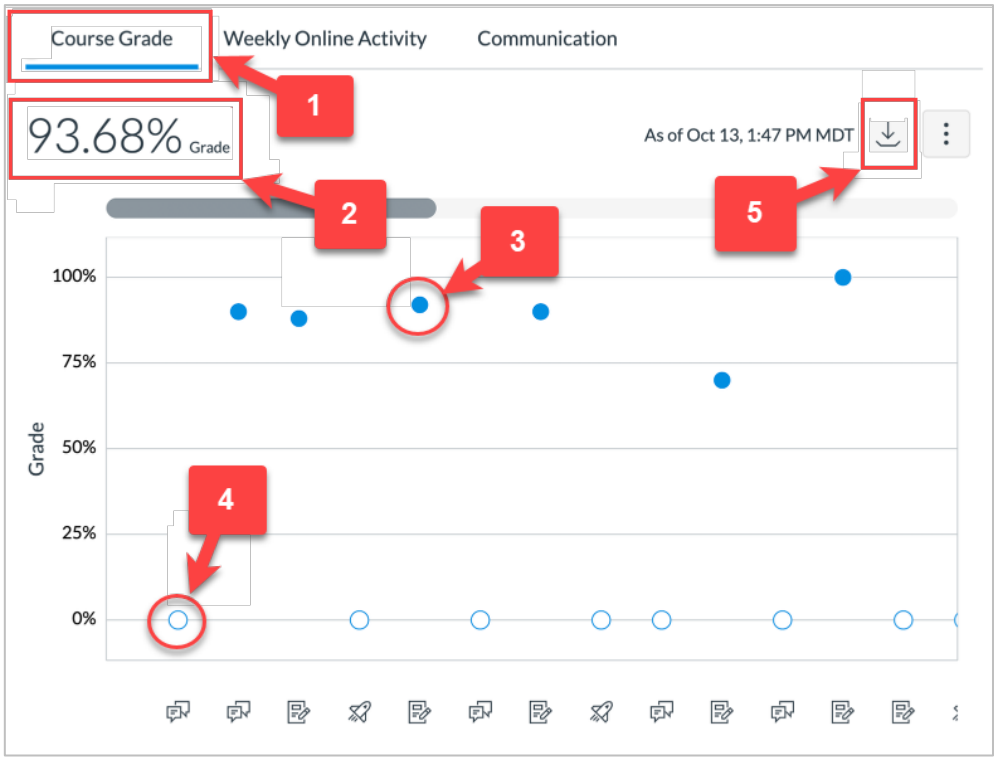
View Course Grade Chart Graph

When we click on a student, the student analytics screen opens with the Course Grade Tab open (1). The Course Grade chart graph shows the submission status and grade for all the assignments in the course. The student's current course grade is shown above the chart graph (2).

The x-axis displays an icon to indicate if the activity is an **assignment**, **quiz**, or **discussion**. The **y-axis** indicates the **grade percentage**.

A solid dot (3) in the chart represents a **graded assignment** and an empty dot (4) represents an ungraded assignment. We can click any dot to view more details about the assignment.

We can download a CSV of the course grade data, click the **Download** button (5).

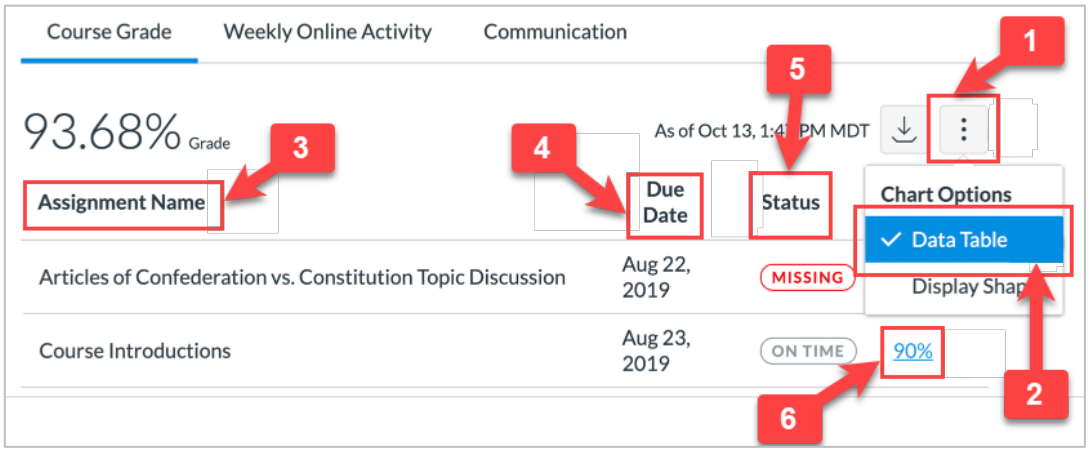


Thought Activity

Before Canvas New Analytics, which processes did you go through to view an analytics or information equivalent to the above graph? Is the way you have recalled simpler or more difficult?

Viewing the Course Grade Data Table

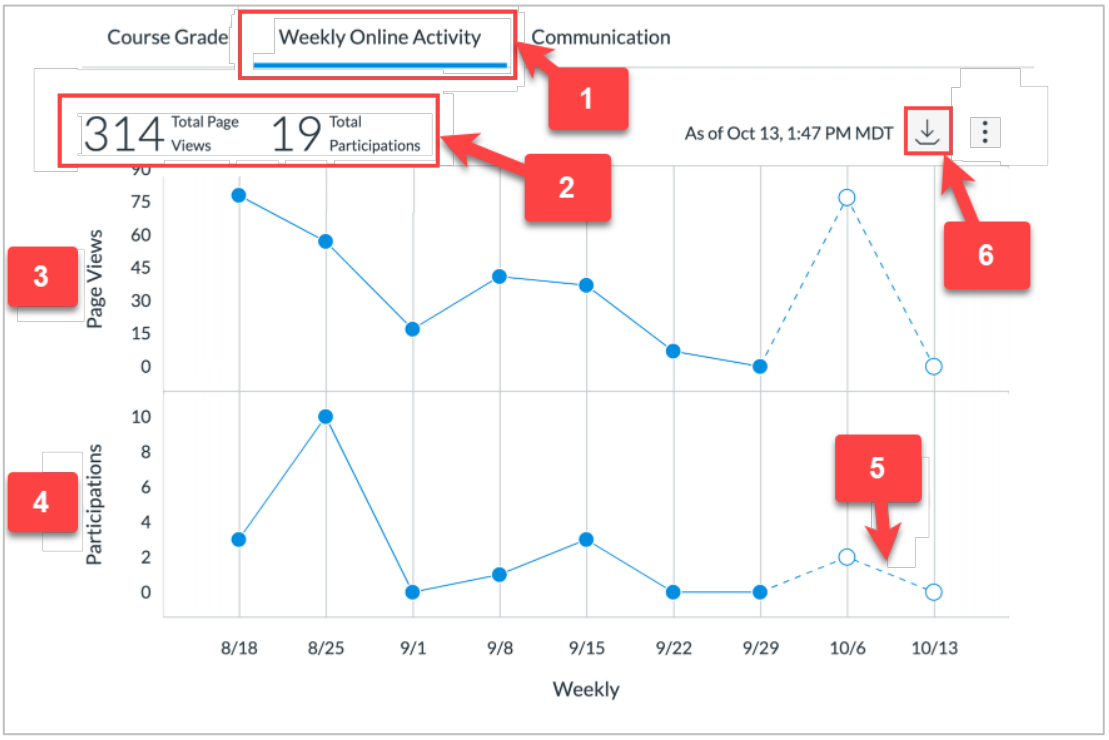
To view our student course grade data in a table, click the **Options** button (1) and select the **Data Table** option (2). The data table shows the **Assignment Name** (3), **Due Date (4)**, **Status** (5) and **Grade** (6).



Viewing a Student's Weekly Online Activity

To view our student's weekly online activity, click the **Weekly Online Activity** tab (1). The student's **total page views** and **total participations** are displayed above the chart (2).

Data is displayed as a chart with two rows: **average page views** (3) and **average participations** (4).



The following actions will generate participations:

- Announcements: posts a new comment to an announcement
- Assignments: submits an assignment
- Collaborations: loads a collaboration to view/edit a document
- Conferences: joins a web conference
- Discussions: posts a new comment to a discussion
- Pages: creates a page
- Quizzes: submits a quiz
- Quizzes: starts taking a quiz

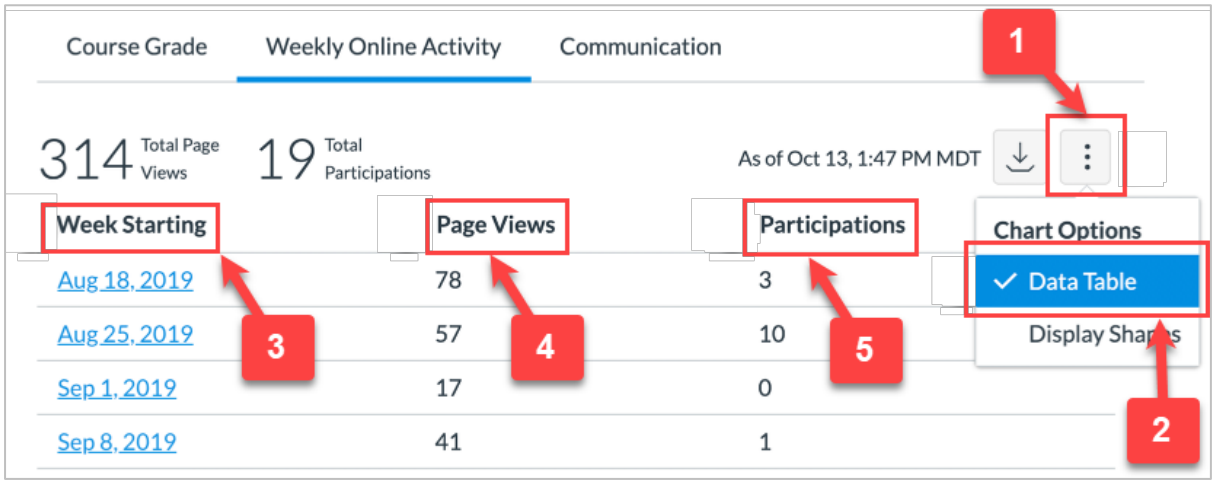
Data for the week that is currently in progress is indicated by a dotted line (5).

We can also download a **CSV file** of the weekly online activity data by clicking the **Download** button (6).

View Weekly Online Activity Data Table

To view weekly online activity in a table for our individual student, click the **Options** icon (1) and select the **Data Table** option (2). The data table shows the week start date (3), number

of page views (4), and number of participations (5). The table can be sorted by clicking any column heading.



Viewing the Communication Graph

The third tab on the individual student analytics page is **Communication**.

Here we can view and analyse the number of conversations that have taken place between academics and the student we are reviewing.

To view an overview of messages, we click the **Communication** tab (1).

The Communication graph shows the number of conversations that have taken place between the **student** and **instructor(s)** in the **Canvas Inbox**.

The total number of messages sent by students and instructors is displayed above the graph (2). The **x-axis** shows the date range, and the **y-axis** shows the **number of messages sent**.

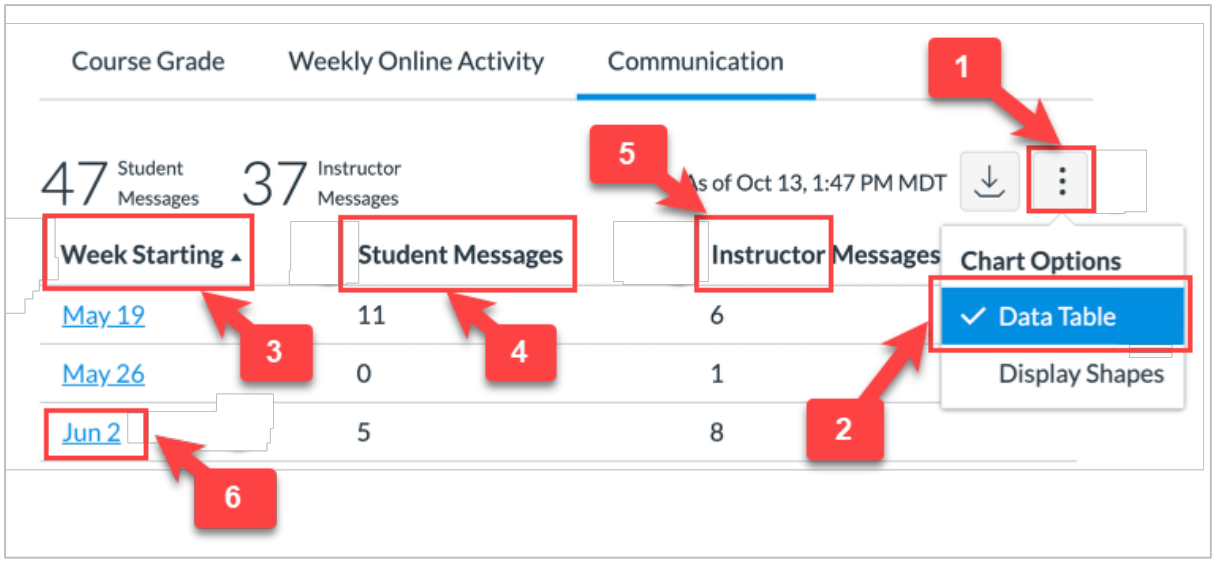
Student and instructor messages are **differentiated by different colours**. To improve contrast in the chart, click the **Chart Options** button (3) and select the **Display Shapes** option (4).

To view the details of the bar graph, hover over the **specific bar you want to view**. You can view the total number of messages sent for the date range. Click the bar to view the **specific days** and **number of messages** that were sent in the range.

To download a CSV of the communication data, click the **Download** button (5).

Viewing the Communication Data Table

To view Communication activity in a table, click the **Options** button (1) and select the **Data Table** option (2). The data table shows the week start date (3), number of student messages (4), and number of instructor messages (5). The table can be sorted by clicking any column heading. To view details of a specific date range, click the date (6).

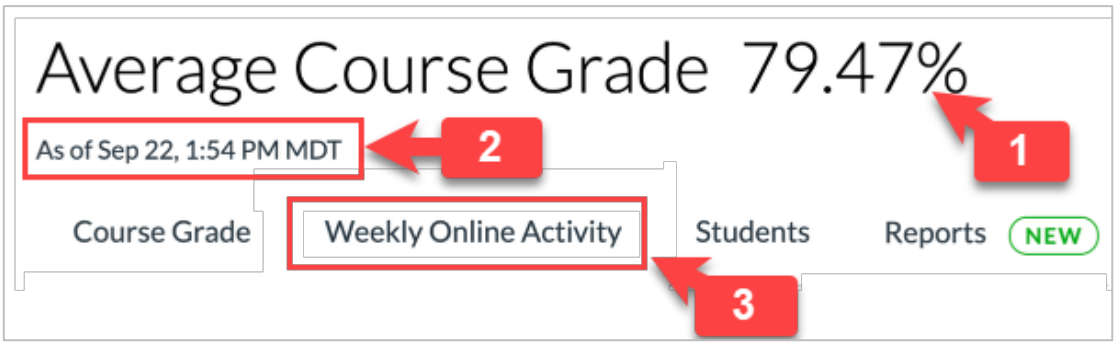


3. Viewing Weekly Online Activity for a Cohort

New Analytics allows us to track activity and participation averages for entire cohorts of students using an **interactive** chart graph. Data is for **viewing only** and cannot be **directly changed**. You can view analytics in both active and concluded courses.

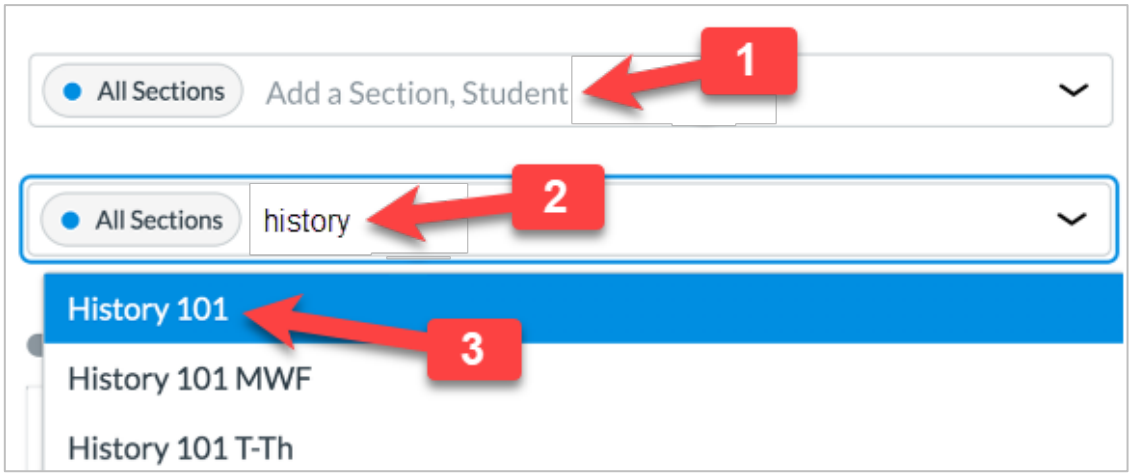
When you arrive on the New Analytics screen, you will see a large line of text reporting the **Average Course Grade** (1). Underneath this, you will see a date (2). This is **very important**; New Analytics refreshes every **24 hours** so be mindful of this before you view any information.

Next, click the **Weekly Online Activity** option (3).

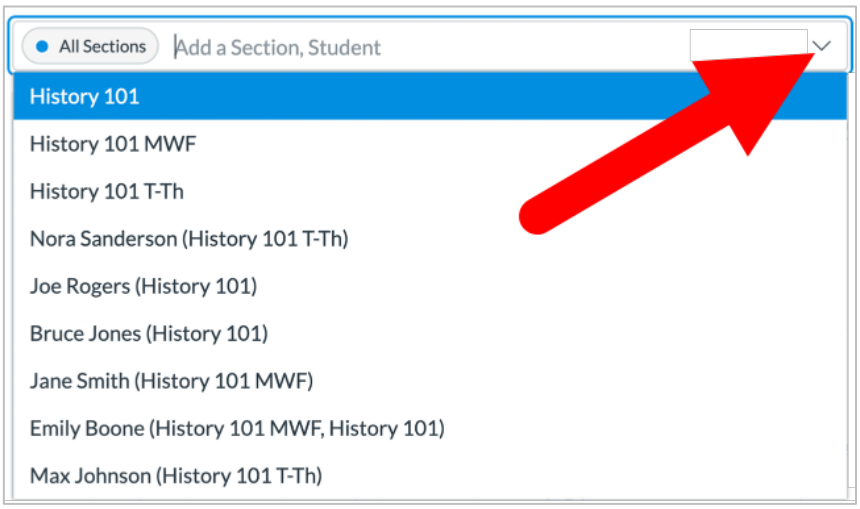


From here we can begin filtering the data to reflect the analytics we are looking for. Click in the **filter** field (1). Type the name of a section or student (2). Canvas will populate your list all matching results.

When the item displays in the menu, click the item name (3).



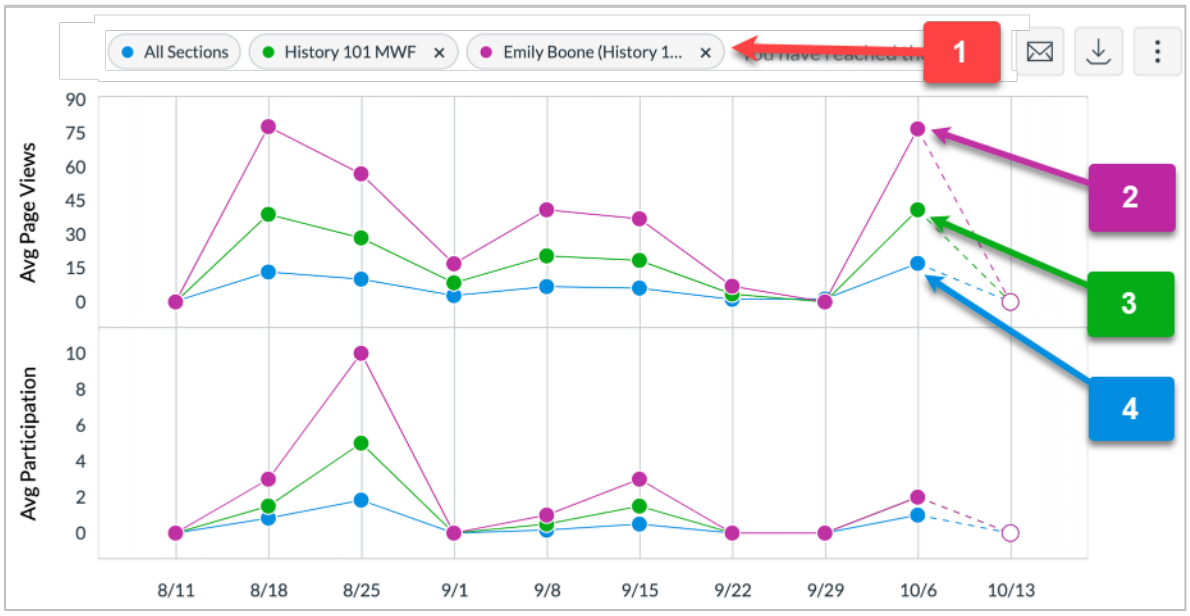
As well as enter sections or students to display, we can click on the arrow to view all students and sections. We can then scroll manually scroll through the list and select as required.



Adding Additional Filters

We can add up to **3 filters** to display at once (although the **All-Sections** filter **must** be included). In the below image, you can see how we have added the History 101 MWF section, a single student (**Emily Boone**); the **All Sections** is also included (1).

The **All-Sections** line on the graph (4), tells us about average engagement across the entire course. The **History 101 MWF** (3) filter tells us about average engagement for that section whilst the filter for Emily Boone (2) shows us her engagement, as a student, shown against overall averages. Note that each filter is represented by a different colour.

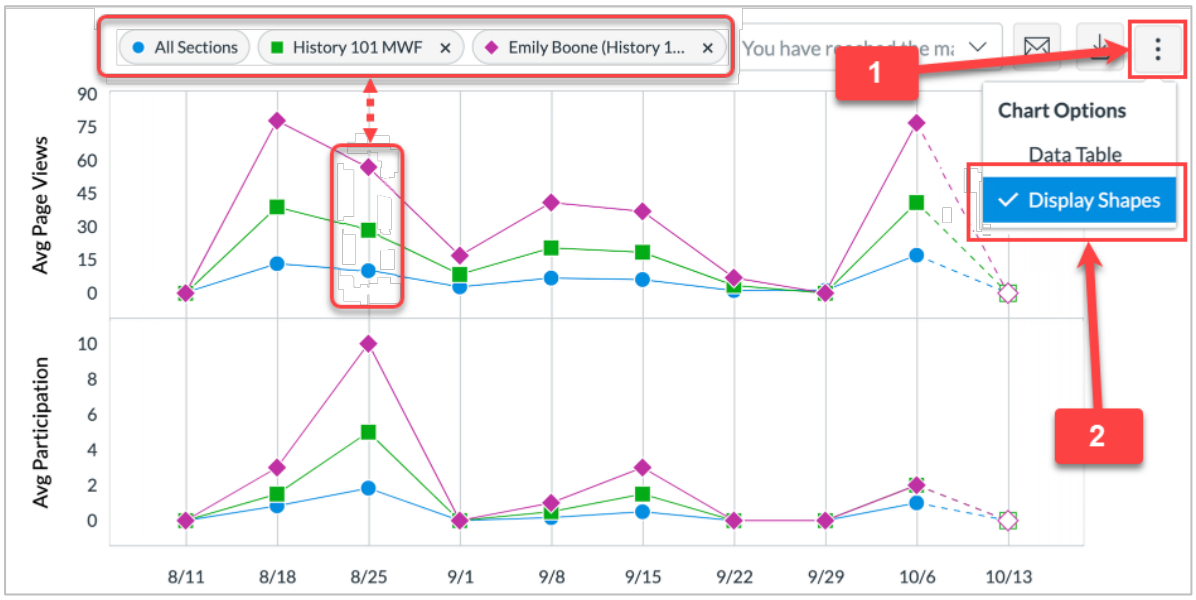


Thought Activity

If you had to make a snap judgement, simply based on the above graph, would you conclude that **Emily Boone** is doing well in terms of course engagement and participation?

A Closer Look at Filters

When we view filters, we can change the default data point shape for each filter (the default is a circle). You may choose to enable shapes for improved contrast by clicking the **Chart Options** button (1) and selecting the **Display Shapes** (2) option and changing as required.



Viewing Data Comparison

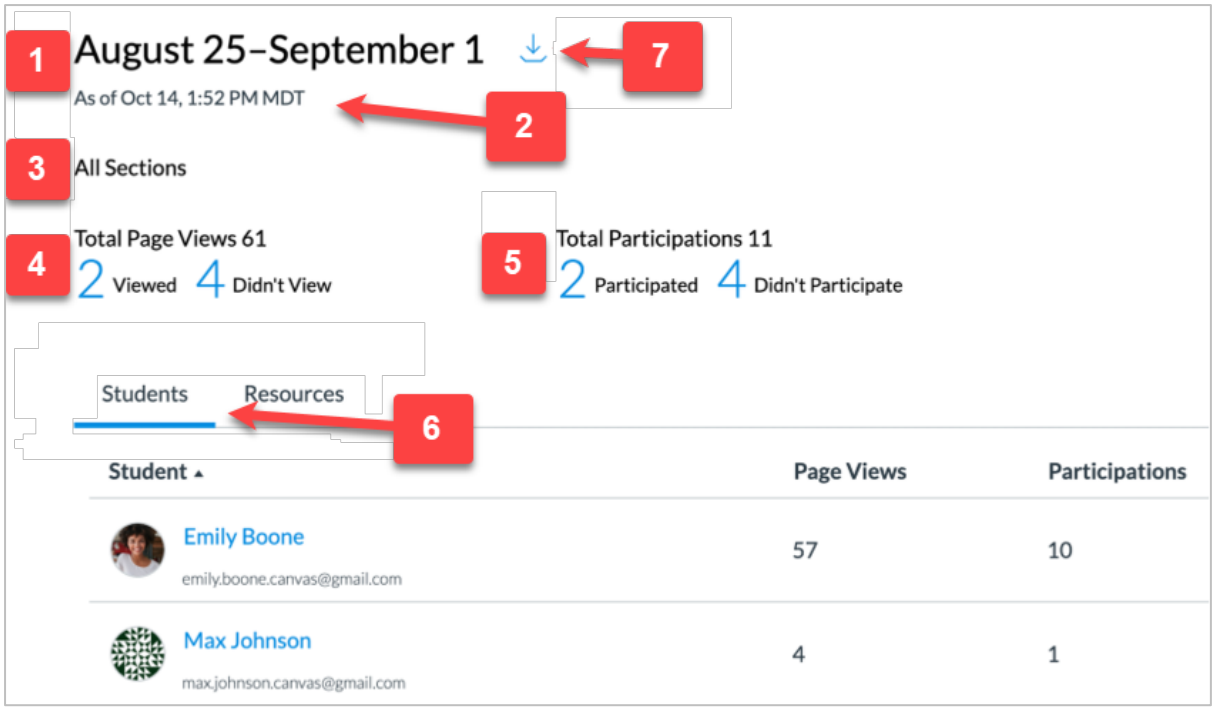
To view a summary for a specific result, we can hover our cursor over a data point in the graph. Doing this displays a summary, as in the below image. To view data for a specific result, **click on the data point** in the graph.

Viewing the Data Tray

In the **Data Tray**, you can view **expanded details** for any **data point** on the graph.

This includes the date range (1), the last time analytics was updated (2), the current filter view – in this example it is **All Sections** (3), total page views (4), total participations (5) and the student and resources tabs (6).

From here, we can also download a copy of this data in CSV format (7). The downloaded zip file includes CSV files for chart data, student table data, and resources table data.



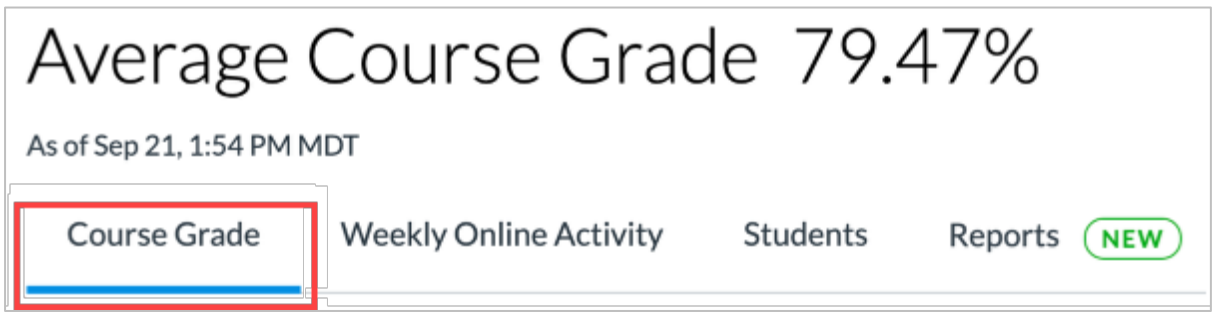
4. Viewing Average Course Grade Analytics in an Interactive Chart

There may be times when you wish to view grade analytics for your entire cohort and, depending on what you discover, contact one or more students. New Analytics allows you to track average course grades for student submissions using an interactive chart graph.

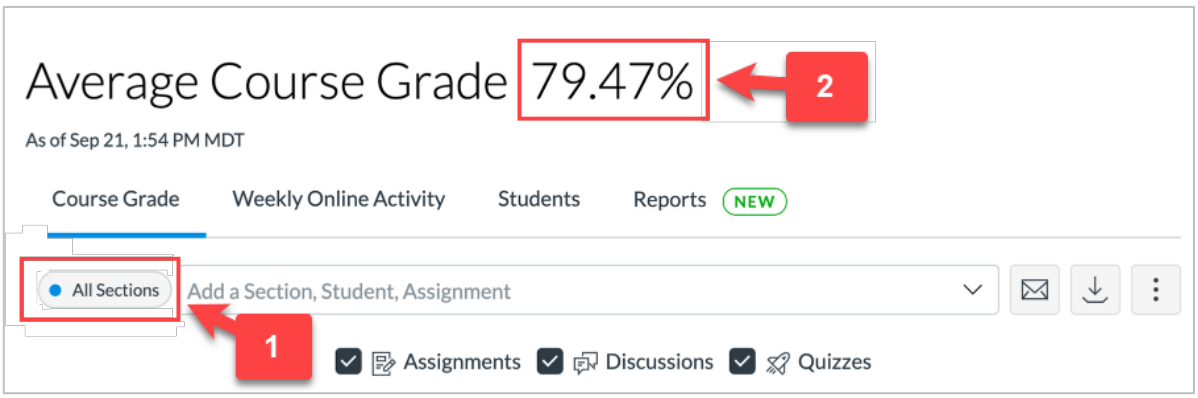
The average course grade is the average of all student totals from the Gradebook. Course analytics will show you **student activity**, **assignment submissions**, **grades**, and **student names**.

Page views and **participation metrics** include an aggregate across **all devices**, including **Canvas mobile apps**.

On opening New Analytics for your course, select **Course Grade**

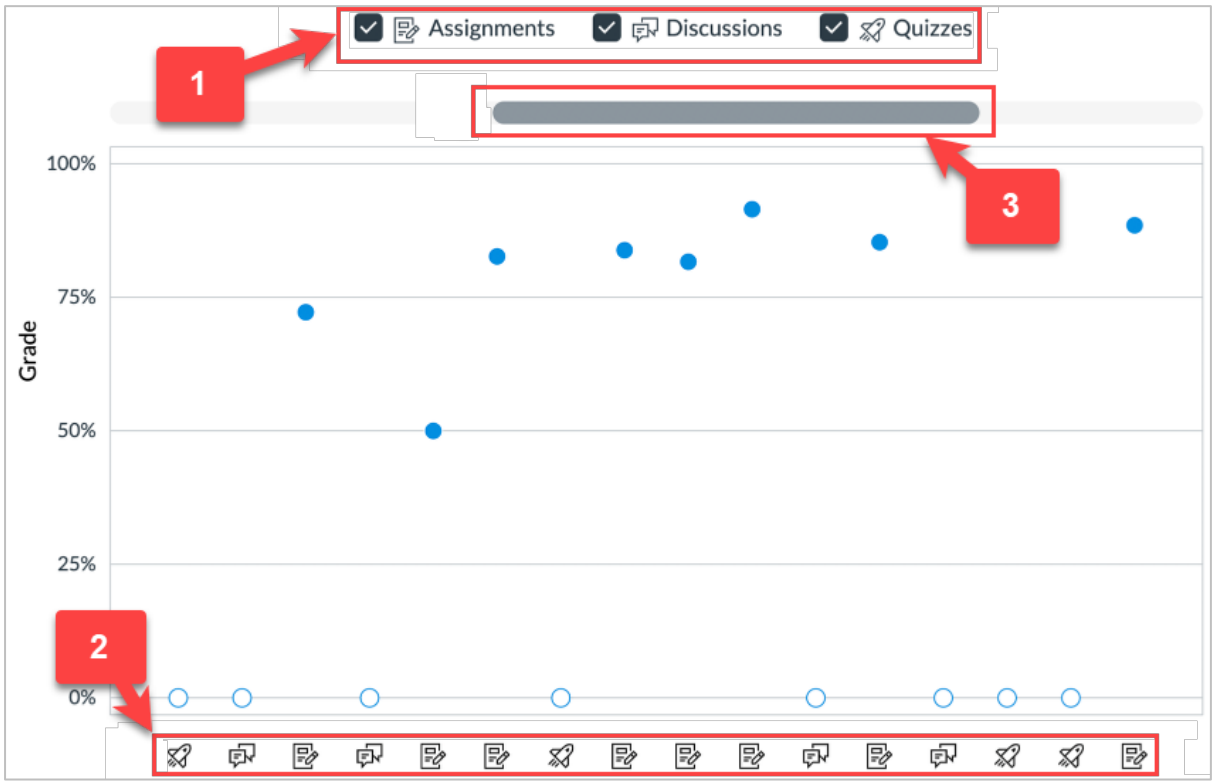


The analytics page is dynamic and is based on filtered content that we can specify. However, by default, **All Sections** (1) displays the course average, and this filter cannot be removed – simply added to. We can also see the **average grade percentage** (2).



Filtering by Assignment

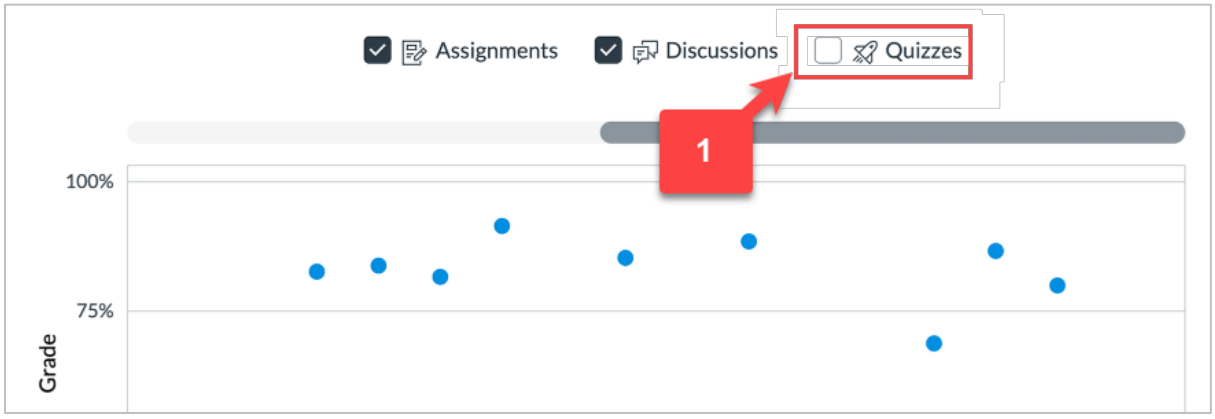
By default, analytics selects all **assignment types** to display (1). Each assignment in the graph displays the appropriate icon for **each visible assignment type** (2). To view additional assignments, **click and drag** the scrollbar (3).



Note: The Quiz icon represents both classic quizzes and New Quizzes question types.

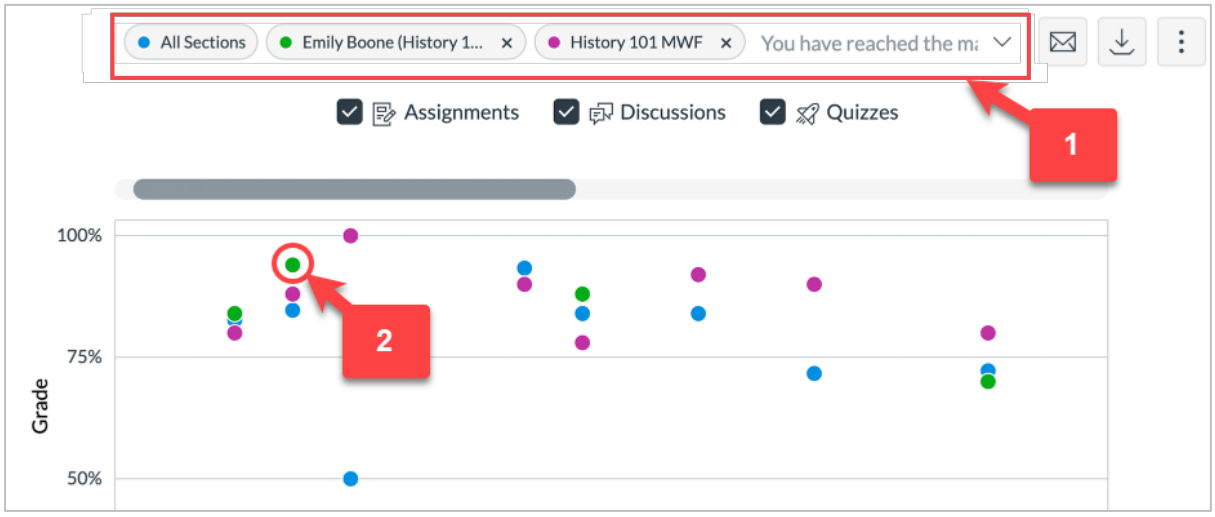
To filter by assignment type, remove the checkbox next to the assignment type. The chart dynamically updates the results based on the assignment type selected or removed in the filter.

Note: At least one assignment type is always required (1).



Comparing Course Data

By adding new sections, even individual students, we can view comparisons in assignment performance (1). In the below example, Emily Boone and the History 101 MWF section can be compared against **All Sections** (ie the entire course).



Remember

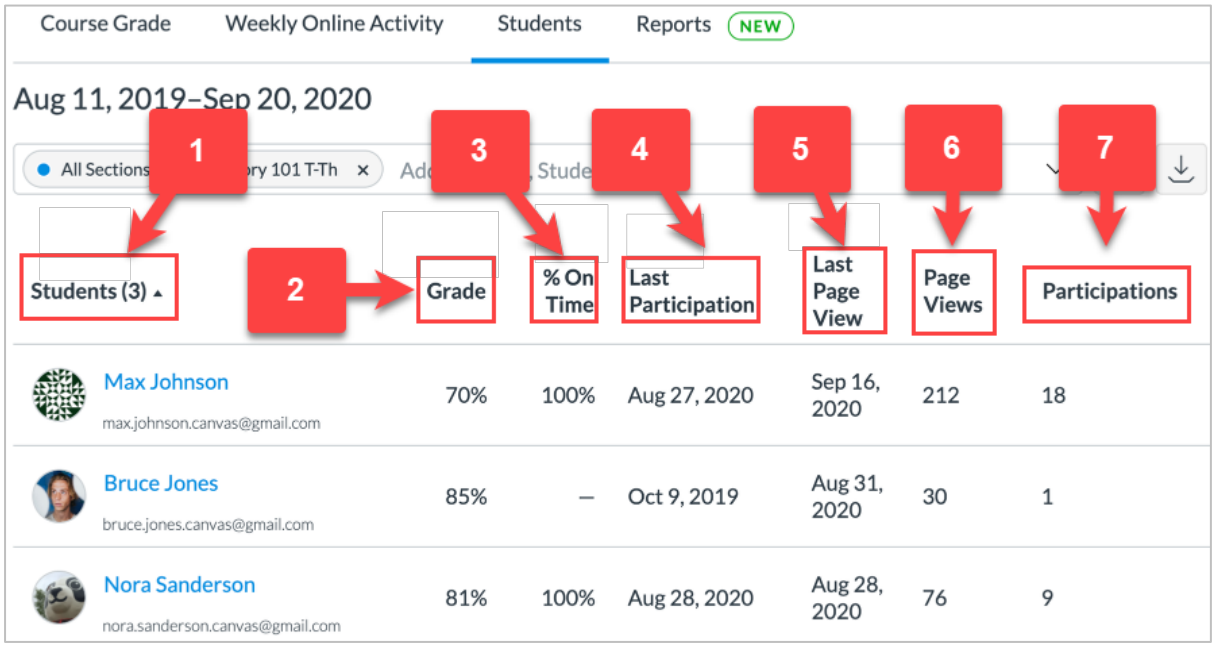
Almost all graphs in New Analytics are interactive which means that we can click on any data point on the graph to view information about it. Clicking on one of the **green** data points (2) for example, will give us more information about one of **Emma Boone's** assignments since the green points represent the **Emma Boone** filter.

The Student Table

On the Students tab, we can also view the specific students that are part of each filter.

For each student, the table displays the following data:

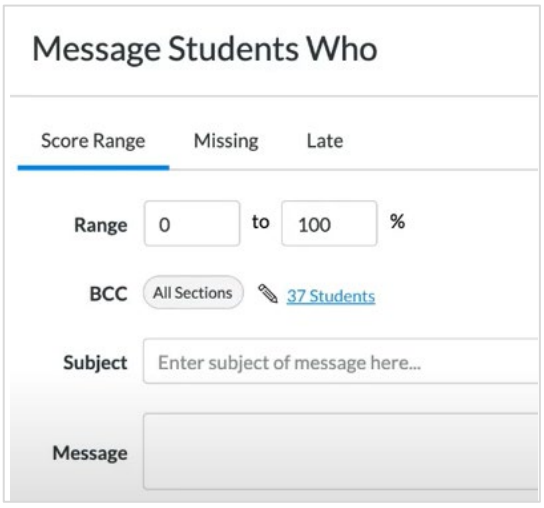
- **Students** (1): the list of students in the course sorted by last name
- **Grade** (2): current course grade
- **On Time** (3): the percent of assignments submitted on or before a due date
- **Last Participation** (4): the date the student last interacted with the course
- **Last Page View** (5): the date the student last accessed the course
- **Page Views** (6): the total page views for the student
- Participations (7): the total participations for the student



Message Students Who…

After we have viewed various grade analytics we can, if required, message students according to a particular criterion.

For example – if we have any students who have less than a 40% success rate on quizzes, we could message them as a group and signpost them to extra resources or simply ask them if they would like to meet for a chat.



5. Video Analytics

Since the pandemic has pushed a good deal of our learning onto online platforms and environments, the use of video has become an important to support our teaching delivery.

“Think of the viewer analytics of your Studio videos as kind of a heatmap showing where you garnered the most engagement and where students switched off more or skimmed through,” **Will Moindrot**, Educational Developer in CIE explains. “This can help point you in the direction of what is working best for a particular group or what could do with a tweak.”

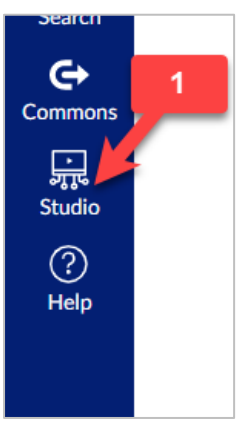
Canvas allows us to add video content to our courses and Analytics lets us monitor student engagement with our video content. A case study with **Dr Andrew Roe-Crines** from the Department of Politics, which you can read here, explores how viewing video analytics.

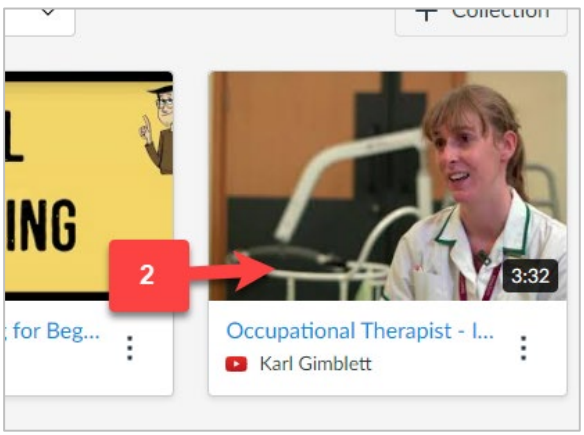
“You can delve to not only the level of how much a video is being watched and for how long, but also where it’s being skipped over,” Andrew explains. “This informed how I went on to deliver my content. Via analytics, I found out a lot of students were skipping some of the YouTube videos I had put in and so now I’ve taken them out and replaced them.”

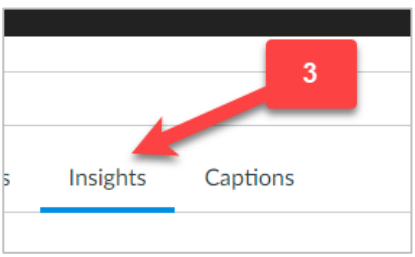
Will explains that you can get to know how the data works and is collected by trying it yourself. “I really like the fact you can test how accurate the analytics are," he says. "Just go onto the **‘Student View’** and work through your video content there – then come back and look. For me, there was not even any lag in the data being presented.”

How to Access Video Analytics

To access course-level video analytics click on the **Studio** option on your Canvas **navigation bar** (1), select the video you’d like to view analytics on (2) and, finally, click on the **Insights tab** (3).







The Insights tab displays a graph and a list of users who have accessed studio within the course; one user viewing the media multiple times does not affect the graph.

The vertical axis shows the **total number of student viewers** (1). The horizontal axis shows the **duration of the media** (2), and includes vertical bars showing how much time users spent **watching the media** (3).

To view analytics for a specific user, click the name or **profile picture** of the user (4).

Individual Student Analytics

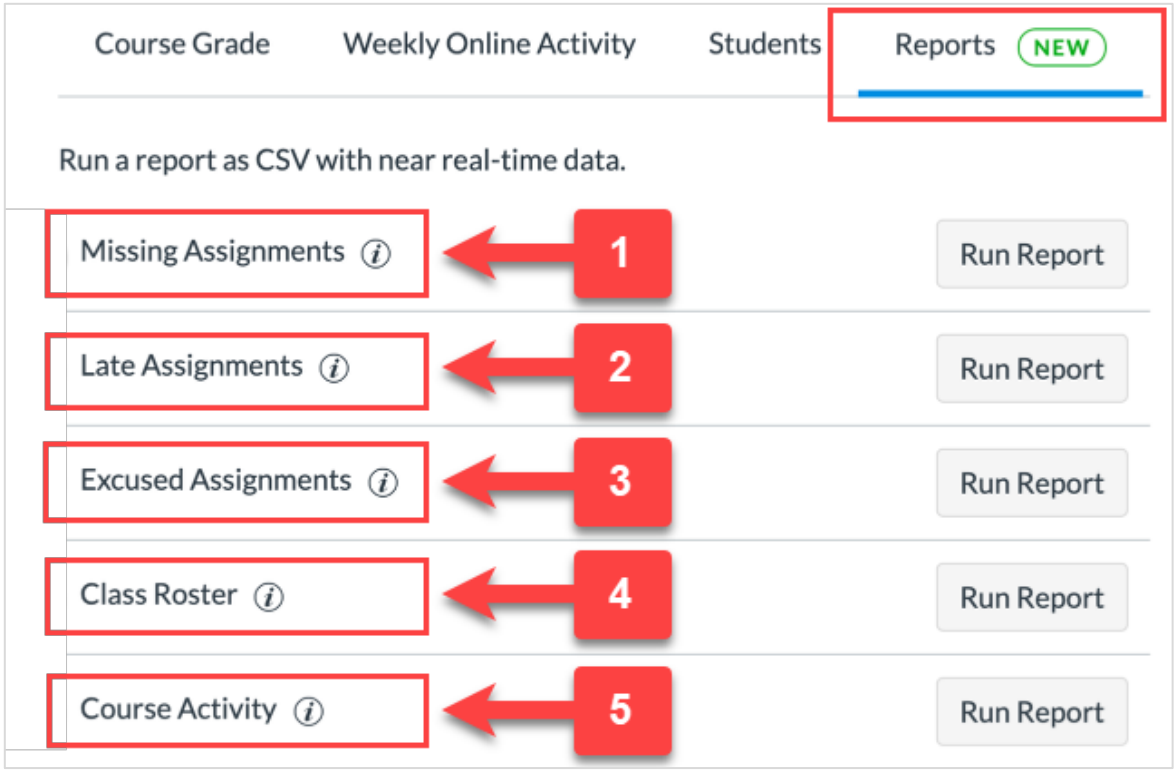
The vertical bar shows the exact amount of time the user spent viewing the media (1). A break in the graph means the media was skipped (2). To switch back to analytics for all students, click the student's name or profile picture again.

6. Viewing and Downloading Reports

To access the Reports tool, we open New Analytics and click on the **Reports** tab.

The reports we have available are:

- **Missing Assignments** (1): a list of assignments that have not been submitted yet
- **Late Assignments** (2): a list of assignments that have been submitted late
- **Excused Assignments** (3): a list of assignments that are excused
- **Class Roster** (4): a list of students enrolled in the course or section with student contact information such as email and SIS ID
- **Course Activity** (5): a list of daily user views and participations

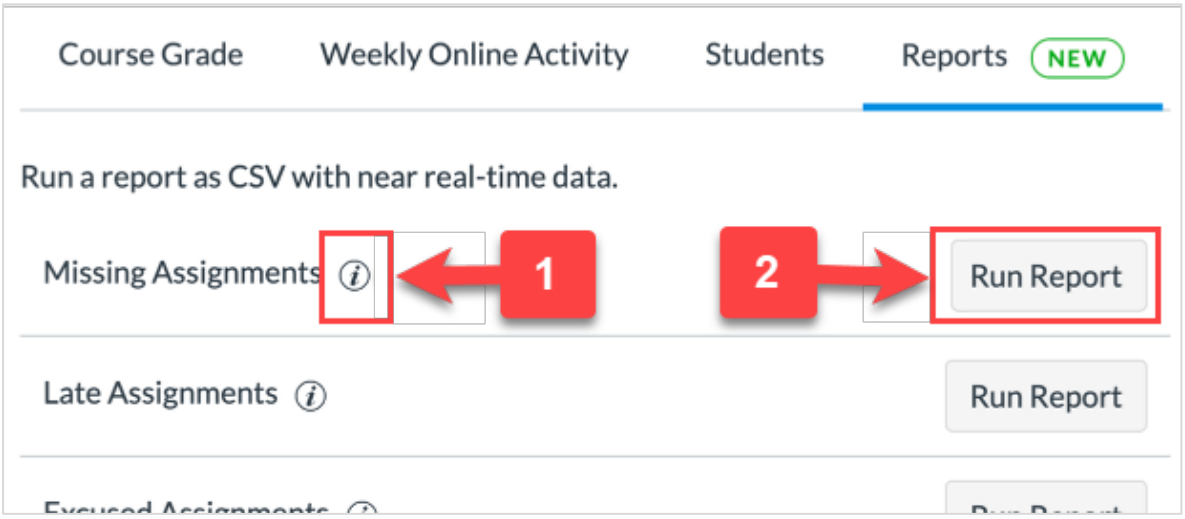


Important

The Course Activity Report only includes course activity data for the **past 14 days**.

To view more information about the report, click the **Information** icon (1).

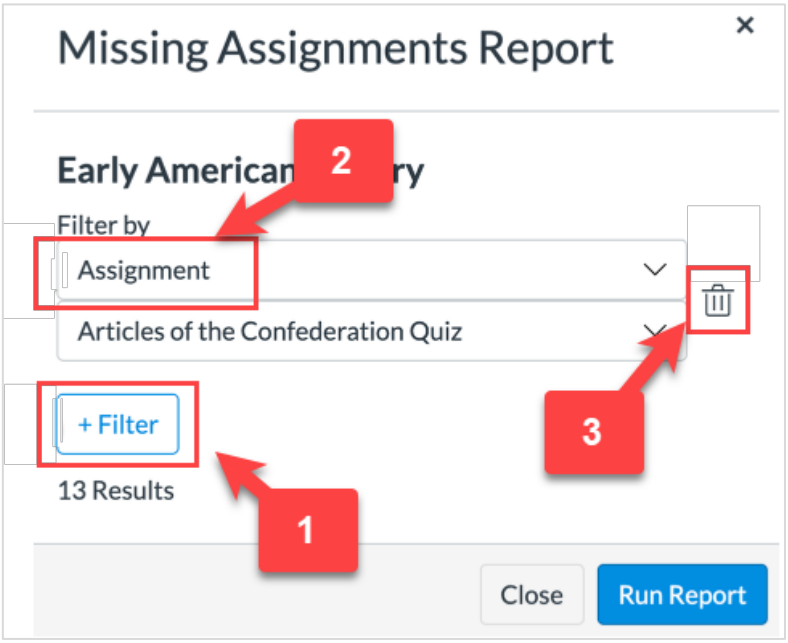
To open and configure a report, click the **Run Report** button for the report (2).



Adding Filters to the Report

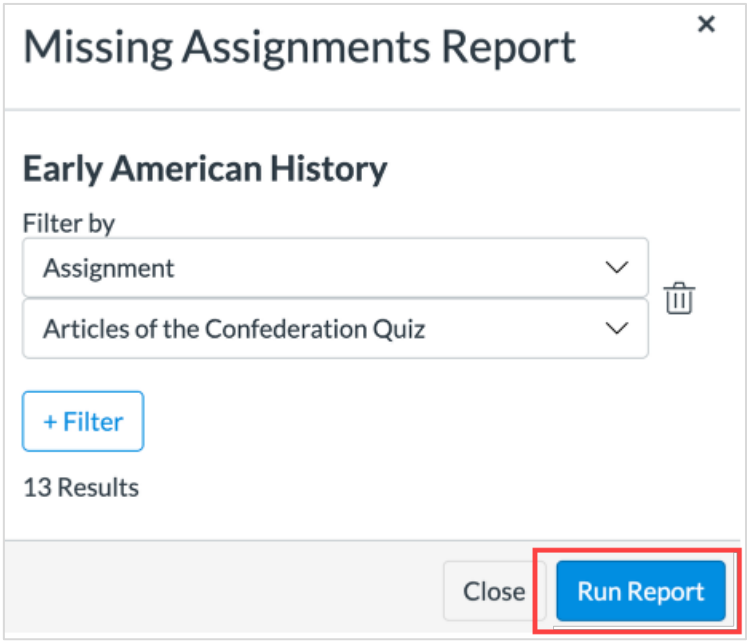
New Analytics allows us to further refine a report by adding **filters**.

To add a filter for the report, click the Add Filter button (1). Next, click the Filter by drop-down menu and select filters for the report (2). To remove a filter, simply click the Delete button (3).



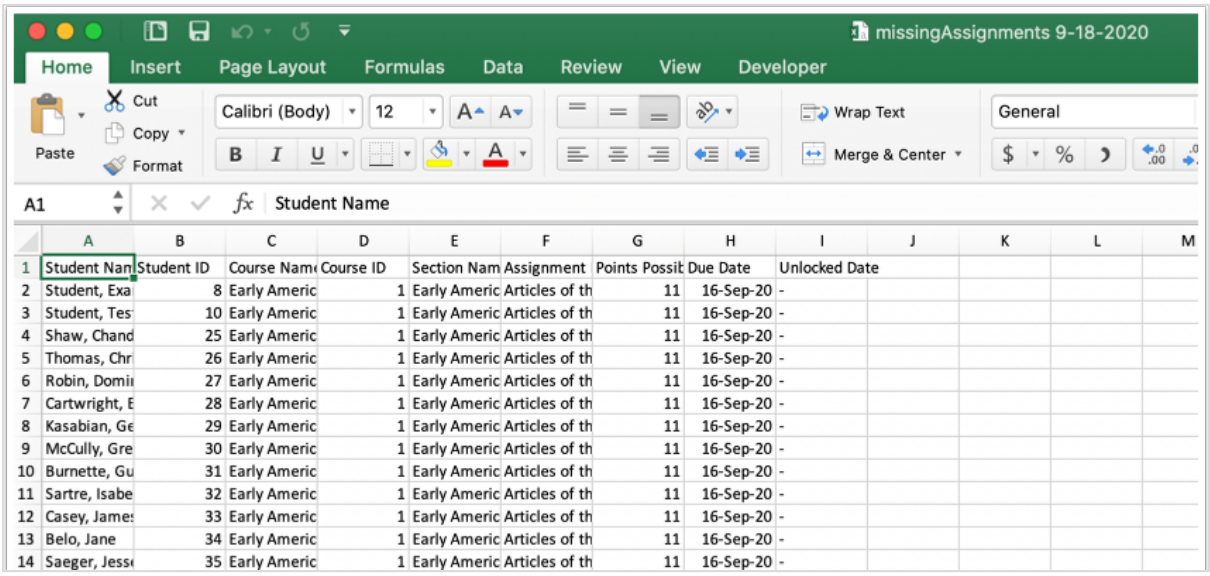
Running a Report

To run the report and download the CSV file, click the **Run Report** button.



Opening and Viewing Your Report

With the report downloaded to your device, simply open it in Microsoft Excel (Mac, Mobile or PC). The report will resemble the image below.



	A	B	C	D	E	F	G	H	I
1	Student Nan	Student ID	Course Nam	Course ID	Section Nam	Assignment	Points Possit	Due Date	Unlocked Date
2	Student, Exa	8	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-
3	Student, Tes	10	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-
4	Shaw, Chand	25	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-
5	Thomas, Chr	26	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-
6	Robin, Domi	27	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-
7	Cartwright, E	28	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-
8	Kasabian, Ge	29	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-
9	McCully, Gre	30	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-
10	Burnette, Gu	31	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-
11	Sartre, Isabe	32	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-
12	Casey, James	33	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-
13	Belo, Jane	34	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-
14	Saeger, Jess	35	Early Americ	1	Early Americ	Articles of th	11	16-Sep-20	-

Reporting good news

There will, of course, be times when we wish to use New Analytics to **positively feedback** to our students. Using the above techniques, we could, for example, send a congratulatory message to students who achieved above a certain grade. Perhaps students who completed all pieces of work could be similarly congratulated by receiving a message withing Canvas.

If you are interested in investigating student feedback further, the Centre for Innovation in Education has several guides exploring the area, just head to the resources section and search for **Feedback**.

https://www.liverpool.ac.uk/centre-for-innovation-in-education/resources/all-resources/

7. Reflecting on the use of New Analytics

As is so often the case, it is easy for us to get a bit carried away with the application of new technology in education and, like the rest of the systems we use, it is important that we are mindful of how we use Canvas Analytics.

Remember, you may only be delivering part of your assessment through Canvas therefore, any analytics you generate are **not likely to be representative** of overall module score.

As mentioned earlier in this guide, New Analytics will only gather data on activity that is built **inside of Canvas**. If you have learning activities and/or assessments that sit outside of Canvas, it is important that you are aware of these interactions, scores etc. and how they must be included alongside New Analytics information for a holistic view of student performance.

Finally, remember that we are using Canvas Analytics to help our students succeed, it is important that students know this and that we are using New Analytics to help them become more effective learners and not just as a tool to monitor and react whey they haven't done something.

8. Analytics and Pedagogy

Hopefully by this point, you will understand how powerful Canvas New Analytics is and how simple it is to begin engaging with. But, of course, our technological endeavours must be tempered and informed by pedagogical considerations.

Scenario 1 – Low Student Engagement.

Two weeks into semester 1, you look at the engagement levels of your entire cohort. You notice that there is one student who has not participated in any discussions or activities, nor have they attempted to contact you. Because you can see this lack of participation early on, you will have an opportunity to message the student to find out if there are any problems. The student may have a problem with accessibility for example or with a stable home broadband connection. Whatever the issue, New Analytics allows you to identity and intervene quickly.

Scenario 2 – Trying a New Quiz or Assessment.

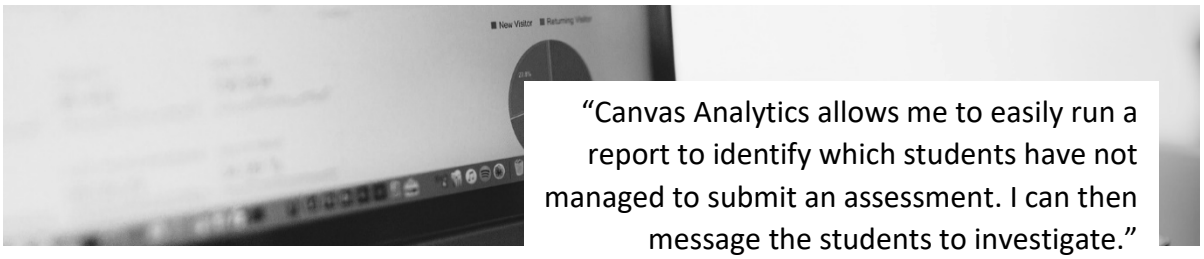
You have developed a new activity to replace an old one and have launched it in your course on Canvas. After the quiz deadline passes, you use New Analytics to gain a quick insight into grades. On average, your cohort has scored unexpectedly low. Much lower than your cohort last year who took the old activity. This could be an opportunity to compare the approach you have used for the activities – why do you think the one from the previous year was more successful than the present one? Using Course Grade Analytics, you could even reach out to your students to further investigate the design of your new activity.

These are just two possible scenarios, perhaps you can recall previous occasions when New Analytics would have come in very useful. New Analytics now gives us the power to identify what we are doing well and duplicate, develop and share this great practice, as well as identify when things are not going as well as we had predicted, allowing us to quickly intervene and address.

9. Canvas Analytics in Action

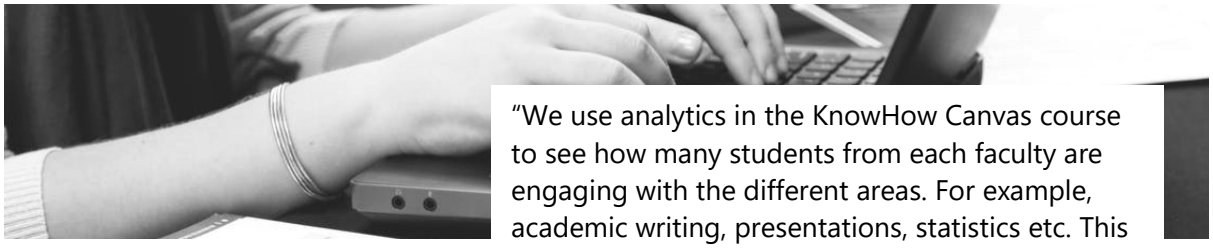
Below are a few quotes submitted by University colleagues. Doubtless you will soon have examples of your own practice; please consider sharing your own use of Canvas Analytics with the team at the CIE.

"We use analytics to extract the details of which students submitted late on Speedgrader assignments, in order to calculate the late penalties."



"Canvas Analytics allows me to easily run a report to identify which students have not managed to submit an assessment. I can then message the students to investigate."

"I use Analytics to identify if any of my students have even yet to look at an assessment in Canvas, especially as the deadline is approaching."



"We use analytics in the KnowHow Canvas course to see how many students from each faculty are engaging with the different areas. For example, academic writing, presentations, statistics etc. This helps us identify where the demand is, or where we need to try and engage more."