ADVANCE THE POTENTIAL OF DIGITAL HUMANITIES
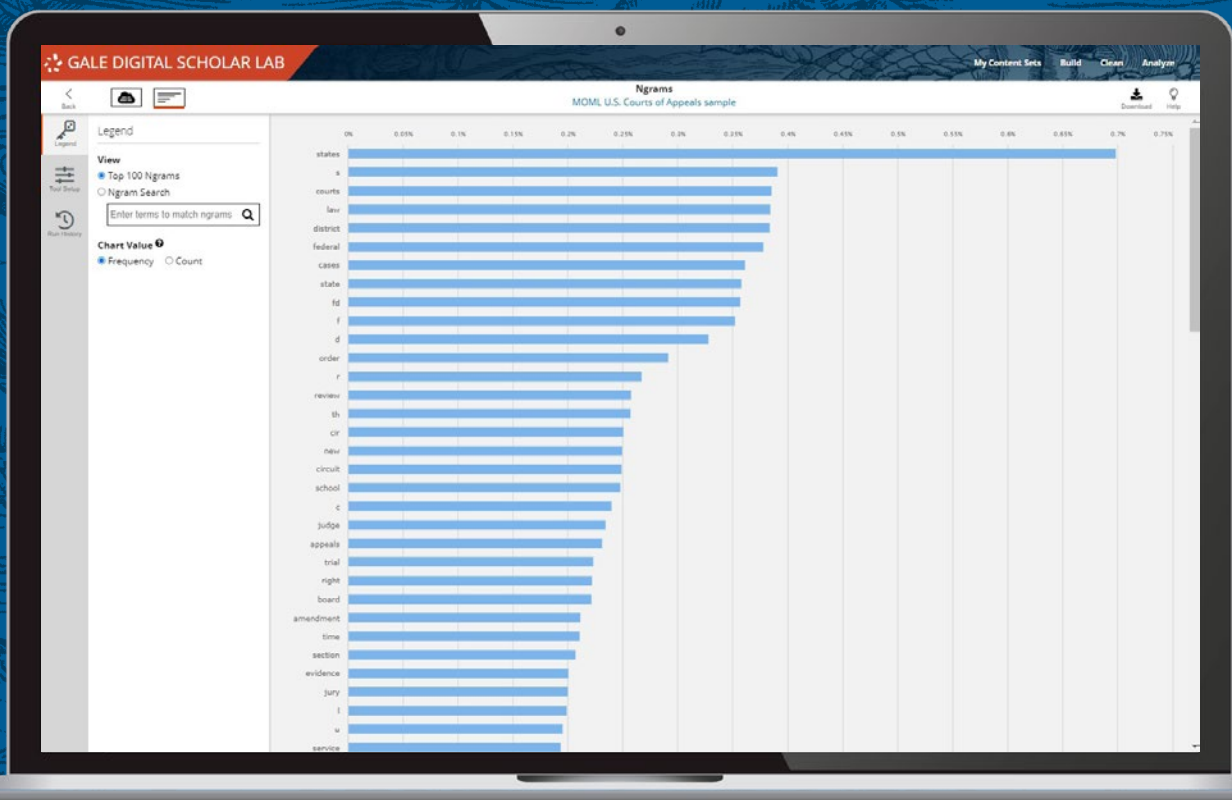
GALE DIGITAL SCHOLAR LAB

Equipped with an updated interface, optimized workflows, group workspaces, and an expanded Learning Center, new and experienced users alike can open innovative research pathways with *Gale Digital Scholar Lab*—the intuitive, cloud-based analysis tool that helps tell impactful, visual stories with data.

HARNESS THE POWER OF DIGITAL SCHOLARSHIP

"*Gale Digital Scholar Lab* provides our community with the unique opportunity to engage with primary sources in ways they may never have considered before, without needing prior knowledge in coding or having to clean data beforehand. While the *Lab* has great potential for research, we also see it as a great investment for education, as the *Lab* enables us to provide hands-on experience with text-mining models that students can use for their studies and in their life after university."

—Katrina McAlpine, Associate Director,
Publishing and Data Services,
University of Sydney, Australia

With the help of feedback from librarians, researchers, and students, Gale has enhanced the efficiency and experience of *Gale Digital Scholar Lab*, allowing users to gain valuable insights from historical research. Discover how the *Lab* positions the library as the hub of digital humanities (DH) research on your campus and equips learners preparing to enter the workforce with twenty-first-century skills, regardless of their level of expertise.

USE GALE DIGITAL SCHOLAR LAB TO HELP YOU:

- **Promote digital scholarship for all.** Remove barriers to DH for students and seasoned researchers alike. Assemble, clean, and analyze custom datasets with minimal training. Plus, maximize results for newer users with a regularly updated and fully integrated Learning Center.

- **Expand skill development in humanities for workforce readiness.** Student proficiency in *Gale Digital Scholar Lab* develops critical-thinking and analytical skills, which are essential to the workforce across a broad range of industries.

- **Increase the value of your library's investment.** In a telling demonstration of sound financial stewardship, libraries that effectively use the *Lab* with their *Gale Primary Sources* archives consistently show increases in usage of and familiarity with these materials.

- **Be the future of DH.** With *Gale Digital Scholar Lab* driving usage of your *Gale Primary Sources* archives, your institution can harness the expanding capabilities of text analysis. Generating meaningful results from tens of millions of pages of Gale's unique primary source content helps forge unprecedented storytelling possibilities from research conducted with your library's digital holdings.

VISUALIZE DATA IN 3 INTUITIVE STEPS

Gale Digital Scholar Lab simplifies complex search, cleaning, and visualization processes into three guided workflows, harnessing six text analysis tools, to save time and improve research outcomes.

STEP 1: BUILD

- Assemble a corpus of documents that will provide the raw text data used to generate visualizations.
- Search across the library's *Gale Primary Sources* archives—within *Gale Digital Scholar Lab*—or upload any locally held plain-text files.
- Quickly determine data accuracy with a side-by-side view of optical character recognition (OCR) text (raw text data) and the original scanned document image from *Gale Primary Sources*.
- Select documents to add to custom sets for cleaning and analysis—up to 10,000 per set.
- Novice researchers also have the option to import prebuilt datasets from the Learning Center.

STEP 2: CLEAN

- Tailor the content set's cleaning configuration to the desired analysis tool.
- Test a starter group of documents in a content set to confirm that the chosen cleaning configuration is right for analysis.
- Select the successful configuration in Tool Setup.

STEP 3: ANALYZE

- After building and cleaning a custom content set, analyze the data with the text-mining and visualization tools.
- Six commonly used text-mining tools are included: ngrams, named entity recognition, topic modeling, parts of speech, sentiment analysis, and document clustering.
- Each tool has been developed in consultation with librarians and faculty in service to the DH community's core values of transparency.

NEW TO DIGITAL HUMANITIES?

Gale Digital Scholar Lab is committed to supporting digital humanities for all. Clear descriptions across the platform and continuously updated Learning Center documentation—with out-of-the-box content sets—provide accessibility for novice users.

CUSTOMIZATION FOR ADVANCED USERS

Users who have experience with text and data mining (TDM) can optimize their research in *Gale Digital Scholar Lab*.

- Use expanded search and seamless refinement workflows to quickly build and clean content sets—accomplishing content preparation in minutes instead of days.
- Customize tool configurations to explore and refine datasets.
- Download cleaned datasets and metadata for local analysis with their own programs (such as those coded in Python or R) or other statistical tools in the DH ecosystem.

6 POWERFUL TOOLS FOR DATA ANALYSIS

As easy to use as they are powerful, the *Lab*'s six analysis tools serve countless ways to tell visual stories with research data.
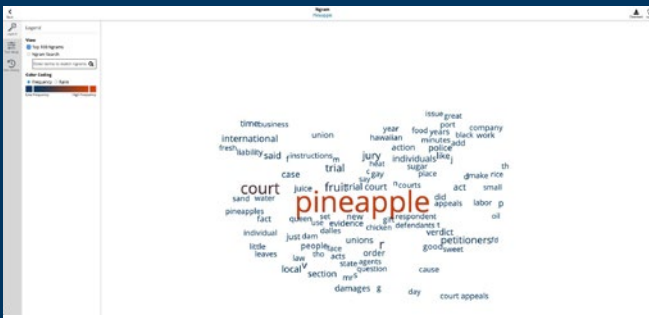

DOCUMENT CLUSTERING

Analyzes documents using statistical measures and groups them to determine similarity between each document in your content set.
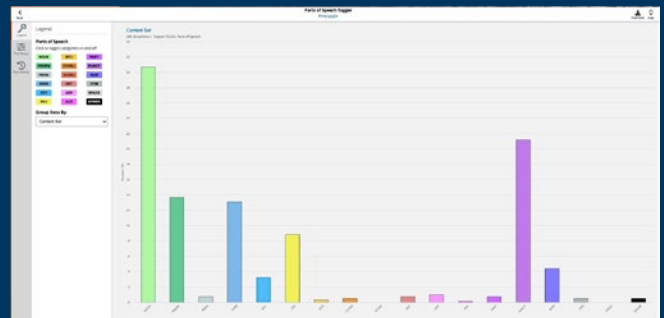

NAMED ENTITY RECOGNITION

Recognizes and extracts proper and common nouns from documents and outputs them as lists grouped by entity types, such as people, organizations, companies, locations, and more.

NGRAMS

Counts and displays the frequency of terms within content sets as a "word cloud," based on the number of terms ("N") the user wishes to consider.

PARTS OF SPEECH

Uses natural language processing of syntax to recognize and tag various parts of speech, providing users with the building blocks for viewing how phrases are constructed.

SENTIMENT ANALYSIS

Assigns an overall sentiment to each document in a content set by assigning positive and negative values to each term and then averaging those scores.

TOPIC MODELING

Allows users to analyze a large collection of unstructured text and groups terms into "topics" that co-occur frequently.

FOLLOW THE STUDENT RESEARCH JOURNEY
From Project Ideation to Outcomes

Learn how an English literature undergraduate module at Newcastle University in the UK explored DH methods, distant reading versus close reading, and the relationship between quantitative and qualitative results using *Gale Primary Sources* and powered by *Gale Digital Scholar Lab*.*

IDEATION

In their module, students were asked to explore the narratives of marginalized voices in 18th-century English literature—specifically, the writings of freed African slaves.

DISCOVERY

Students were given the option to use two monographs hosted in *Eighteenth Century Collections Online* from *Gale Primary Sources* or other relevant texts of their choosing.

BUILDING

Students uploaded their selections into custom content sets in *Gale Digital Scholar Lab*.

CLEANING

With the help of instructional videos in the Learning Center, students applied "stop words" and other limiting criteria to their content sets, prepping them for analysis.

THE BENEFITS OF USING GALE DIGITAL SCHOLAR LAB

Time Saved: Without *Gale Digital Scholar Lab*, the texts would have required page-by-page interpretation. The analysis tools compressed a process that traditionally would take days to minutes.

Valuable Skills Developed: Metrics revealed that the students began using *Gale Digital Scholar Lab* on their own for coursework outside the module.

> "Of course, it's great studying literature, but we're preparing them for the world beyond academia."
>
> —Dr. Leanne Stokoe, Lecturer in Eighteenth-Century Literature, School of English Literature, Language and Linguistics, Newcastle University

ANALYSIS

Students used the topic modeling and ngrams tools to output a list of keywords to inform their module's formative assessments.

OUTCOMES

Students learned to spot not just recurring keywords but also associated terms, which prompted discussion of patterns in innate versus learned behaviors in the texts' subjects, such as how the freed slaves were influenced by religion.

Platform Usage Increased: This project spurred a 14% increase in *Gale Primary Sources* sessions at the university, with 8% more searches compared to the previous academic year—and in the research period, 78% more content sets were created than in the previous month. The university plans to use the platform assessments in this module and has expanded the use of the platform to other teaching modules.

MEET THE DH TEAM

These are the Gale researchers and developers who have built and continue to iterate *Gale Digital Scholar Lab* from the ground up.
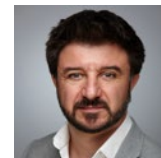
Jess Ludwig is the director of product management, digital humanities. She leads the global digital platform strategy for *Gale Primary Sources* and *Gale Digital Scholar Lab*, with an emphasis on innovation; sustainability; and, above all, user needs.

Rebecca Bowden is the product manager for *Gale Digital Scholar Lab*. She loves exploring the world of DH and is excited to continue working with our users to develop and grow the platform.

Chris Houghton is head of academic partnerships at Gale. He works closely with the global DH community, teaching and supporting research through collaboration and consultation with scholars. You can follow Chris on Twitter at @DHandDSatGale.

Dr. Sarah Ketchley is the senior digital humanities specialist at Gale. She has a Ph.D. in Egyptology and is an affiliate faculty member in the Department of Near Eastern Languages and Civilization at the University of Washington, where she teaches introductory and graduate-level classes in digital humanities.

ENABLE DIGITAL SCHOLARSHIP FOR ALL

The Learning Center is built directly into the platform, making *Gale Digital Scholar Lab* the ideal environment for developing a deeper understanding of digital humanities methods and placing research within reach that's both meaningful and replicable.

With the Learning Center, librarians and instructors can guide novice researchers through the tools and exhaustive possibilities of DH data and help them develop critical-thinking skills for their research journeys.

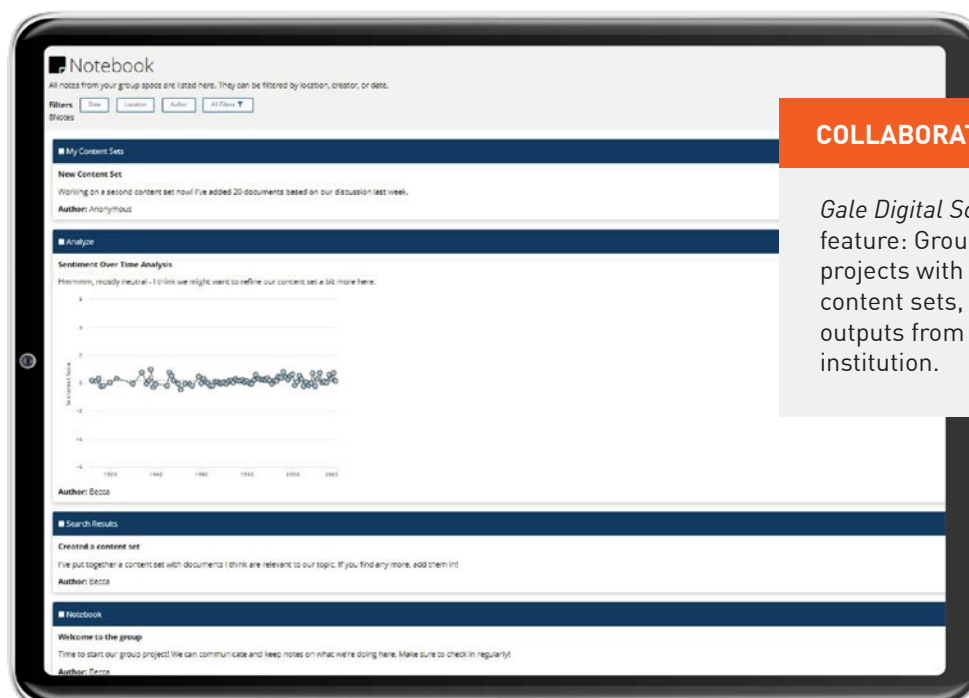## TEACH DIGITAL HUMANITIES METHODS WITH THE LEARNING CENTER

- **Fully Integrated:** The Learning Center is deeply embedded into each step of *Gale Digital Scholar Lab*'s Build, Clean, and Analyze workflows, creating an environment specifically developed for users new to DH, while still providing an intuitive user experience for more advanced users.

- **One-Stop Learning:** Discover carefully curated instructional videos with live walkthroughs, glossaries, FAQs, a guide to project ideation, as well as a definitive list of your library's digital archive holdings, and much more. The Learning Center also features a growing assortment of completed sample projects and starter content sets designed to remove barriers to platform usage and accelerate the research experience.

- **Researchers of All Kinds:** Not just a vital tool for learners, the Learning Center also amplifies the instructional capabilities of librarians and faculty, providing an all-in-one resource for increasing DH skills and data literacy across the institution and tying *Gale Digital Scholar Lab* to classroom instruction.

- **Student Success in DH:** With the instructional support provided in the Learning Center, student researchers can take crucial steps toward mastering transferrable skills in data literacy and statistical analysis. When workforce readiness is the goal, research in *Gale Digital Scholar Lab*'s Learning Center is the path.

INNOVATION IN GALE DIGITAL SCHOLAR LAB

Group Projects, Faster Outcomes, Richer Insights

Gale continuously refreshes the *Gale Digital Scholar Lab* experience. This allows users to ask more questions, find more relevant results within *Gale Primary Sources* content—and collaborate on group projects.

- **Expand the Search:** Search options align with your library's *Gale Primary Sources* holdings, including an OCR confidence filter, which helps create highly refined content sets for analysis, and convenient links for moving seamlessly from archive to analysis.

- **Differentiate Workflows:** Optimized layouts for the Build, Clean, Analyze framework provide more interactivity with visualizations, enabling enhanced exploration of topics.

- **Assess at a Glance:** The new Analysis dashboard provides researchers with an at-a-glance view of their work.

- **Focus:** Each analysis tool allows users to move seamlessly from distant reading to close reading—from visualization of a content set to inspection at the individual document level—thereby encouraging deeper interaction with texts.

- **Access Prebuilt Content:** New datasets containing small document collections on specific themes have been loaded into the Learning Center, allowing for quicker familiarity with DH methods within introductory settings.

- **Start Work Quickly:** With Shibboleth authentication, users can log in using their university credentials for a simplified experience.

COLLABORATION IN CONTEXT

Gale Digital Scholar Lab has a new feature: Groups. Enable collaborative projects with dedicated workspaces for content sets, annotations, and analytical outputs from multiple users within your institution.

CASE STUDY

Gale Digital Scholar Lab for Undergraduate Instruction: How Digital Humanities Can Advance Data Literacy and Unearth Vital Histories

REMOVING BARRIERS TO DIGITAL HUMANITIES

Dr. Catherine A. Nichols is a senior lecturer in cultural anthropology and museum studies and director of the May Weber Ethnographic Study Collection at Loyola University Chicago. As a social scientist, she was motivated by the prospect of enabling her students to work with data using computational methods. While she felt it was possible to teach coding skills to accomplish this with one student, she knew it would be difficult to do at scale in a large humanities class of undergraduates.

The discovery of *Gale Digital Scholar Lab* helped Dr. Nichols remove this barrier to classroom instruction, bringing all her students the power of text and data mining, without requiring coding knowledge.

Partnering with Gale's digital humanities specialist Dr. Sarah Ketchley, Dr. Nichols integrated *Gale Digital Scholar Lab* into her teaching. She first introduced the *Lab* and *Gale Primary Sources* to her advanced anthropology class, instructing students to create content sets to analyze topics such as museum collecting by Christian missionaries and the production of knowledge in the digital age.

SUPPORTING STUDENT SUCCESS IN GALE DIGITAL SCHOLAR LAB

The power of *Gale Digital Scholar Lab* became even more evident during the 2021-2022 school year, when Dr. Nichols introduced the platform to her undergraduate Anthropology 100 students. Objectives for this project-based class included developing an understanding of the impacts of global forces on cultures over time.

To fulfill course objectives, Dr. Nichols asked her students to create content sets in *Gale Digital Scholar Lab* and run three analyses against them—ngrams, sentiment analysis, and topic modeling. She developed an orientation document to introduce students to the *Lab* and its quantitative and qualitative methods. The class then followed a template work document with instructions and questions. Using these resources, students developed, downloaded, and included visualization outputs in their assignments, providing evaluations as to why, for example, results might be positive or negative.

> "The availability of digital humanities data and the tools to analyze it has allowed me to truly engage all my students in research."
>
> —Dr. Catherine Nichols,
> Senior Lecturer in Cultural Anthropology and Museum Studies, Loyola University Chicago
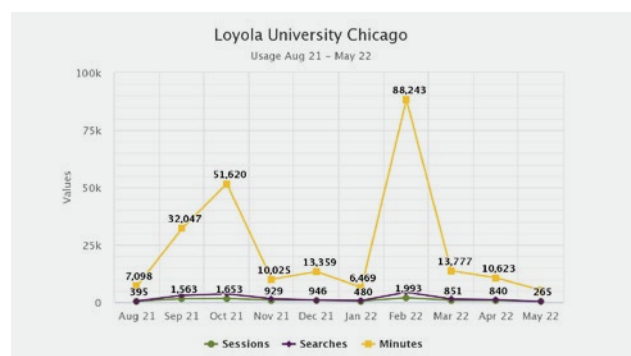
VISUALIZING THE IMPACT

Platform usage skyrocketed on campus during the undergraduate course. Student engagement across library holdings was clear from the time spent working in *Gale Digital Scholar Lab*, hitting a high of more than 88,000 minutes in February 2022. Retrievals in *Gale Primary Sources* for the same month were more than 30 times higher than the previous February, and minutes in the platform more than doubled. In one month alone, students added more than 222,000 documents across their *Gale Primary Sources* archives to content sets.

During the course, Dr. Nichols and her students created approximately 1,225 content sets of varying sizes and with content from across their *Gale Primary Sources* archives, averaging 17 sets per student. Topics ranged from collections related to immigration, globalization of healthcare, and climate change to Bronze Age civilizations and the impact of the Crusades on the Eastern and Western worlds.

Loyola users also ran hundreds of analyses for the ngrams, sentiment analysis, and topic modeling tools. These numbers demonstrated their engagement with the iterative research processes taught in *Gale Digital Scholar Lab*.

The number of sessions, searches, and (in yellow) minutes spent on *Gale Digital Scholar Lab* at Loyola University between August 2021 and May 2022.

GALE

HOW TO ORDER

YOUR GALE REPRESENTATIVES

Consult with a knowledgeable team of product experts who are prepared to partner closely with you to determine the right mix of resources to meet the needs of your library and budget.

➡ Visit **gale.com/contact-your-rep** to find your contacts.

GET SUPPORT

Integrate resources into your institution with strategies to engage users.

➡ Check **support.gale.com** to gain insight into system status and access tools for success.

➡ Schedule **customer training** for your team so that you can be sure to get the most out of *Gale Digital Scholar Lab*.

gale.com/digital-scholar-lab