FUDAN CASE STUDY

# EMBRACING THE SPIRIT OF DISCOVERY AT FUDAN UNIVERSITY WITH GALE SCHOLAR AND GALE DIGITAL SCHOLAR LAB

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## INTRODUCTION TO FUDAN UNIVERSITY

Fudan University, in Shanghai, China, is a major public research institution, and in 1905 was the first University established independently by the Chinese people. According to the Times Higher Education World University Rankings 2020, Fudan University is the 5th highest ranked university in China, and 109th in the world.

The university takes a liberal arts approach to education, and has an outward-looking focus, with international students comprising 15% of undergraduates.

**DR. SHEN YIFEI**
Associate Professor of Sociology and Anthropology

**DR. XU MINGJIE**
Lecturer of British History,
Department of History

**XU XUAN**
Subject Librarian, School of International Relations
and Public Affairs & School of Journalism

**WANG WEI**
Subject Librarian, School of Social Development
and Public Policy

## AMBITIONS FOR THE UNIVERSITY AND THE GALE SCHOLAR PROGRAMME

In January 2019, Fudan University was one of the first ten institutions to become members of the Gale Scholar programme, a solution designed for universities to quickly increase their Gale archive holdings. As part of Gale Scholar, Fudan University received access to *Gale Digital Scholar Lab*, Gale's text and data mining platform. For the first time, researchers had access to hundreds of millions of pages of primary source content, combined with powerful text mining tools to enable analysing them at scale. The Lab is a platform as much for beginners to big data analysis as it is for scholars experienced in text mining and software development.

Since January 2019 when Fudan acquired the Gale Scholar archives, the University has gone from negligible archive use to the second highest user of Gale archives in China. Usage is spread across a wide range of archives, with the heaviest retrievals of documents coming from Chinese-focussed archives; collections of historical fiction; archives dedicated to crime and punishment; British newspapers from the 18th-20th centuries; and early modern British state papers.

The administration and faculty at Fudan University see becoming part of the Gale Scholar programme as key to providing them access to a digital research library on a par with the very best institutions. Primarily, this strategic acquisition gives the university a pathway to improving research scores and teaching outcomes. As Dr Xu Mingjie, lecturer in British History at the university explains, Fudan "aims to be one of the world's top universities. There is still a long way to go, but the university still aims very high. That is the reason we bought these [Gale Scholar] databases".

## USE OF ARCHIVES IN A WIDE RANGE OF SUBJECTS

Dr Xu Mingjie specialises in the medieval history of England, and teaches a postgraduate course called 'Intensive Reading of English Historical Documents', in which he uses Gale's *State Papers Online* extensively. He is a member of a research group of British history led by his colleague Professor Xiang Rong. Members of this group frequently use these archives, on studies including how the government of early modern England dealt with famine and food shortages, and how Charles I endeavoured to construct a naval army.

He encourages his students to use this collection throughout the course and sets assignments to download a document from the collection, read it, and give a brief introduction to it in the next class. Dr Xu Mingjie emphasises the fact that being able to access *State Papers Online* is not only beneficial to his students' education, but to the reputation of the department. As he says, "the university has specialisms in arts, humanities, and social sciences - in particular, the history department is very strong. As one of the top universities in this field, I think we need these resources. I'm also teaching my students how good these databases are, because when you have them, you are pretty much at the same level, equipped with the same primary sources, as counterparts or colleagues in other institutions".

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This view is echoed by Dr Shen Yifei, Associate Professor of Sociology and Anthropology. Dr Shen's research focus is on gender studies and the family in the twentieth century, and she also uses Gale archives in her teaching and research. Dr Shen explains: "we use the archives to not only offer information, but also to debate each other". Occasionally the class also uses *Gale in Context: Opposing Viewpoints* to support these primary source-focused debates. Students in Dr Shen's class are enthusiastic about the potential of these archives and will often use the *"Women's Studies Archive* – at the beginning of a module, this helps create comparative research". Dr Shen emphasises, "students ask to do this. It gives the western view that they can compare with the Chinese view".

The spread of users across Fudan is extremely wide, and the library have a huge part to play in promoting and teaching Gale archives. Dr Shen works closely with the library to support classes in the Department of Sociology, specifically Xu Xuan, the subject librarian for the School of International Relations and Public Affairs and the School of Journalism. As Xu Xuan says, "We send students to Gale Scholar because it has huge resources. Researchers in the School of Journalism and the School of International Relations are finding many materials that they can't find anywhere else". This focus on international relations and western attitudes to China prompts Dr Shen to agree, as they use the *U.S. Declassified Documents Online* archive in the classroom to "understand historical American policy towards China".

## USING THE ARCHIVES FOR EXPLORATION AND DISCOVERY

Dr Shen Yifei sees the mission of the University as preparing students to, "face the 'knowledge society', or 'information society', where everyone has access to vast information resources. Traditionally, how to find the resource is very important, but now it is also very important that they know how to select the right resources". Both Dr Shen and Xu Xuan agree that having access to the Gale archives through the Gale Scholar programme has helped the university in fulfilling this mission.

Specially, Xu Xuan highlights some of the analysis tools available in the *Gale Primary Sources* platform, Gale's cross-search for archives, as being crucial for helping students to navigate vast collections of material, make connections and discover new avenues for research. She encourages students to "use the Topic Finder and Term Frequency to find more difficult to find material and new material for their studies". Dr Shen agrees on the necessity of combining analytical tools with primary source data; "without these tools, using these resources would be very difficult".

The archives that Dr Xu Mingjie uses also include tools for contextualising older primary sources that can sometimes be difficult to decipher. As he says, "I also provide palaeography training and it's good because *State Papers Online* also provides many of those kind of research tools to support that and help students understand the documents".

## TEXT AND DATA MINING AND GALE DIGITAL SCHOLAR LAB

Contributing to this varied and heavy use of archives was Fudan's immediate adoption of the *Gale Digital Scholar Lab* for text mining their Gale archives alongside the traditional methods of search and retrieve. Fudan University ended 2019 as the third highest user of the Lab globally, despite not having an established centre for digital humanities (DH). Fudan has ambitions for further work in digital humanities, and in the past few years, academic connections have been established with institutions committed to the study of DH, including University College London, King's College London and the University of Exeter in the UK.

Xu Xuan sees benefits in the *Gale Digital Scholar Lab* in the teaching of information literacy, which is a central function of the library. "For the past few months, we have done many lectures on the Lab with many students throughout the University". Wang Wei is Xu Xuan's colleague and is subject librarian for the School of Social Development and Public Policy. He contends that Fudan's high usage of the Gale archives can be traced back to the enthusiastic take up of the *Gale Digital Scholar Lab*, and the fact that they have run "many promotion activities" in the past year, to the extent that they "expect even more of an increase in usage in the future".

Fudan sees the Lab as being an engine to drive discoveries within their library holdings. As Wang Wei says, "what the tools from the Lab provide is a picture of the key words in the archives that you search. This will give the readers some surprising findings, which are related to the subject. This may provide the opportunity for them to explore new areas". Dr Shen agrees. "[The Lab] offers insight to students that they wouldn't get elsewhere".

One of the positives for the library has been the simplicity of the *Gale Digital Scholar Lab* interface that has prompted so many students across the Humanities Schools to start attempting text mining projects in the Lab without any background in programming or computer science. "Graduate students really want to do this kind of analysis, and the Lab makes it possible", says Dr Shen, and Wang Wei recounts the feedback from a student in American Studies who was extremely enthusiastic about the Lab, telling him, "I can't do research without it".

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Use of the *Gale Digital Scholar Lab* in Fudan has, to this point, taken this route – educating students to its possibilities in information literacy lectures and encouraging them to independently start using data analysis alongside more traditional academic techniques in their research projects. As such, use of the Lab is driven from the ground up, exemplified by the extent to which increased Lab usage has driven archive usage, which has risen dramatically during their period of using the Lab. The next phase will see a programme of educating faculty to its possibilities, and Dr Xu Mingjie and Dr Shen both plan to use the Lab to incorporate digital humanities concepts in their teaching in order to provide different perspectives on their subjects. Dr Shen is already using the Lab to explore her current research into intimacy and the ego.

China is embracing the concepts and techniques of digital humanities alongside the widespread adoption of large historical datasets, such as the one provided by the Gale Scholar programme. "In China, digital humanities is a very promising field" says Dr Xu Mingjie, explaining that his peer group of relatively recently matriculated PhD scholars are often involved in DH, conducting research, working with international project teams and establishing research centres throughout institutions in China.

All the faculty and library staff identified the major challenges to digital humanities research and text and data mining (TDM) in their courses in Fudan; challenges of bringing data together; cleaning OCR data; storing and sharing data and technical proficiency, especially in learning coding skills. Essentially, the time taken to fulfil these functions had often proved problematic in completing these kinds of projects. However, as Xu Xuan says, "TDM is very important to the students, especially for social sciences and humanities".

There is agreement that the *Gale Digital Scholar Lab* helps them overcome these challenges, and they all see it already serving to bring digital scholarship concepts into traditional teaching and research. As Xu Xuan says, *"Gale Digital Scholar Lab* is a very good beginning for the students for content mining. It is good for some basic users, and also for advanced users". Dr Xu Mingjie highlights the time saving aspects of the Lab for his students, *"Gale Digital Scholar Lab* saves a lot of time as well. If you do it in a traditional way it's time consuming, but if you use the Lab's tools, it can be much more convenient".

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## GALE DIGITAL SCHOLAR LAB ADDRESSING UNIVERSITY OBJECTIVES

Studying the vast range of archives provided in the Gale Scholar programme, and easily mining them at scale with *Gale Digital Scholar Lab* has had real benefits for the students and researchers at Fudan University, and the staff are confident these benefits will increase in the coming years.

For Xu Xuan and the library, the benefits of using the Lab to analyse data is that "analysis helps students to choose material from amongst the vast sea of data". For her students and the Lab, Dr Shen says that "analysis helps them to understand topics in better ways". The library has adopted the Lab in their research skills training for students in the humanities schools – "part of Information Literacy is using the Lab to help them find the correct information", explains Wang Wei.

These scholars and librarians at Fudan are excited about the possibilities for Gale Scholar, *Gale Digital Scholar Lab* and digital humanities more broadly. Wang Wei sees applications in other departments: "from an anthropological perspective, students should have a larger understanding of other cultures, including those in past societies. DH should enable them to do that. Students should have the spirit of curiosity and broaden their view - Gale Scholar and the Lab facilitates this". He continues, "[Fudan students] need to give a new look to things that may have previously been considered obsolete – the Lab enables them to explore topics that may have fallen away".

For Xu Xuan, *Gale Digital Scholar Lab* builds crucial skills that the library is looking to develop in their students. For her, students "will have more creative thinking about primary sources, news, history and the nature of facts. How to think critically – the Lab will help develop that".

The possibilities offered to Fudan by mining and analysing their Gale Scholar archive collections are exciting, and immediate. From utilising *Gale Digital Scholar Lab* in library-taught information literacy courses, to implementing it in courses ranging from Early Modern History to American Studies, to 20th century Anthropology, Sociology and Gender Studies, Fudan students are being encouraged to learn essential skills for the 21st century, telling stories through data mining, analysis and visualisation.

As Wang Wei says, with *Gale Digital Scholar Lab*, "Gale are making the impossible, possible".

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