MMCC8026

Data Journalism

Session 2, In person-scheduled-weekday, North Ryde 2023

Department of Media, Communications, Creative Arts, Language and Literature

Contents

Disclaimer

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General Information

Unit convenor and teaching staff
Convener & Lecturer (Casual Academic)
Uzma Aleem
uzma.aleem@mq.edu.au

Credit points
10

Prerequisites
Admission to MMediaComm or MCrInd

Corequisites

Co-badged status

Unit description
This unit focuses on innovative approaches to finding, reporting, producing and interacting with media stories through basic data analysis and data visualization. Students will critically analyse and gain practical experience in finding data-sets, using data-driven reporting techniques and producing effective and informative visualisations. The unit also covers user experience, interactivity and the rhetorical use of big and small data in media practice.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

ULO1: analyse the practice of data journalism, its products (including visualizations and interactive reporting) and its history.

ULO2: demonstrate an advanced knowledge of how to gather, analyse and interpret data as a journalist.

ULO3: apply advanced reporting and storytelling techniques to find and produce stories that inform, educate and entertain.

ULO4: evaluate and analyse new literacies in journalism.

ULO5: situate the focus on data and visualization within debates about journalism and its social function.

General Assessment Information

Important assessment Notice:

Unless a Special Consideration request has been submitted and approved, ***a 5% penalty (of the total possible mark) will be applied each day a written assessment is not submitted****, up until the 7th day (including weekends). After the 7th day, a mark of '0' (zero) will be awarded even if the assessment is submitted. Submission time for all written assessments is set at 11.55pm. A 1-hour grace period is provided to students who experience a technical issue. This late penalty will apply to written reports and recordings only.* ***Late submission of time sensitive tasks*** *(such as tests/exams, performance assessments/presentations, scheduled practical assessments/labs* ***will be addressed by the unit convenor in a Special consideration application****.*

Assessment I: Writing Project

Assessment Type: Project

Due Date : 8/09/2023 (11: 59 PM)

Weighting: 40%

Indicative Time on Task: 32 hours (Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation)

Expected Length: 2000-2500 words (see more detail below)PLUS images and figures (e.g. images, screen shots, lists of links etc.) and reference list.

Reference style: Your choice

You will identify a recent example of data journalism that interests you and provides an opportunity for you to critically analyse the example and use your analysis to investigate further journalistic questions and storytelling opportunities.

There are two parts to this project; the learning activities in weeks 2-5 scaffold the development of this project. You are encouraged to share your ideas along the way and are expected to reflect on the seminar discussions.

1. **Critically Analyze an example of Data Journalism (apx 1500-2000 words):**

Identify a recent* example of data journalism from a news source and critically analyze how and why it is effective journalistic practice and form of storytelling. Use selected readings and discussions on data, statistics, data journalism, data visualizations and visual communication to frame your discussion. See prompt questions in weeks 2-5 learning activities to help you produce your analysis. TIP: Use the questions resources and class discussions to help you generate your analysis

*recent=Within the past two years.

2. **Investigate the data and brainstorm other story ideas (500-750 words):**

Using the data story above, find and examine the original data set (or sets) that the journalist

used to develop the story you are analysing. Offer a linked list of the original sources and write a discussion and proposal to build on this story's success and/or shortcomings.

TIP: See prompt questions in weeks 2-5 learning activities to help you produce your analysis

SUBMISSION

Submit a single word document or PDF to the Turnitin Submission Box

ASSESSMENT CRITERIA

- **Analysis:** Demonstrate that you can identify and critically analyse a recent example of data journalism, situate new literacies and forms in data journalism within larger debates about journalism and its social function.

- **Comprehension:** Your analysis will demonstrate comprehension of the concepts and debates you use to analyse your example. Select these concepts from the recommended unit readings and discussions.

- **Research and Inquiry:** Show that you can identify the original data sets and develop alternate stories and/or approaches from the same data.

- **Presentation:** Clarity of expression and appropriate use of images, links and other media.

Assessment II: Portfolio-Data Visualization in Context

Assessment Type: Portfolio

Submit three original data visualisations* accompanied by a 1000 word reflective essay that uses the unit readings and resources to contextualise your visualisations and your practice:

*Your visualisations should include at least one map and one chart or series of charts.

Due Date : 03/11/2023 (11: 59 PM)

Indicative Time on Task: 48 hours (Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation)

Weighting: 60%

Submission:

Online submission via the Turnitin link.

Your portfolio should be submitted as a single word document that includes your essay followed by your three original visualisations and a reference list.

ASSESSMENT CRITERIA

- **Visualisations:** The success of each visualisation as a form of effective visual storytelling

- **Research:** The quality of the research and/or reporting you conducted to develop your visualisations; your ability to identify suitable datasets or combine and compile suitable data.
- **Practice:** Your essay shows that you are able to identify, explain and reflect upon good practice in the field and contextualise your work
- **Context:** Your essay demonstrates your understanding of key debates in the field of data journalism

If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

Assessment Tasks

Name	Weighting	Hurdle	Due
Writing Project	40%	No	08/09/2023
Data Visualization in Context	60%	No	03/11/2023

Writing Project

Assessment Type [1]: Project
Indicative Time on Task [2]: 32 hours
Due: **08/09/2023**
Weighting: **40%**

The writing project identifies and critically analyses a recent example of data journalism in the context of key discussions and debates. Refer to iLearn for further information.

On successful completion you will be able to:

- analyse the practice of data journalism, its products (including visualizations and interactive reporting) and its history.
- demonstrate an advanced knowledge of how to gather, analyse and interpret data as a journalist.
- apply advanced reporting and storytelling techniques to find and produce stories that inform, educate and entertain.

- evaluate and analyse new literacies in journalism.
- situate the focus on data and visualization within debates about journalism and its social function.

Data Visualization in Context

Assessment Type [1]: Portfolio
Indicative Time on Task [2]: 48 hours
Due: **03/11/2023**
Weighting: **60%**

This portfolio contains original data visualisations and written analysis. Refer to iLearn for further information.

On successful completion you will be able to:
- analyse the practice of data journalism, its products (including visualizations and interactive reporting) and its history.
- demonstrate an advanced knowledge of how to gather, analyse and interpret data as a journalist.
- apply advanced reporting and storytelling techniques to find and produce stories that inform, educate and entertain.
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- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

- This class is delivered as a 2-hour seminar. You may enroll in either a face to face seminar or an online seminar. The content is identical.

- Readings and resources are accessed via iLearn (Look for schedules in the weekly sections. A leganto link will be available for Library readings)

- Both the online and face to face seminar require you to bring your own device (laptop or tablet) that can acesss the internet. Be sure to install any necessary software or sign up for platform access before class. You can borrow laptops from the library https://www.mq.edu.au/about/facilities/library/facilities

- Paper, pencils and coloured pencils or markers will be needed in some classes. Be sure to check what you need before you attend class.

- A recording of the lecture-style portions of the online seminar will be recorded for review. In general, student activities will not be recorded.

- If you miss a seminar, catch up by watching the recording and attempting the exercises on your own.

- Attendence is expected and assumed and supports the development of you assessments. There is no need to inform your lecturer if you miss a class. Managing your attendence is your responsibility.

- There is no participation grade in this unit but the assessments are designed to assess your engagement, comprehension and application of all aspects of the class including content relayed in the seminars as well as in the readings and production tasks.

Unit Schedule

Week 2

Classes will commence in week 2.

- Part 1:
  - Discuss how we will work together as a community of inquiry in Data Journalism
  - Overview of class, resources and expectations
  - Overview of data journalism as a new practice and news genre. Contextualise the practice and product within the larger ecosystem of news media
- Part 2 (ACTIVE): Familiarise yourself with news organisations practicing Data Journalism
  - Identify a data visualization published in the last six months. Identify and find the source of the data. Identify (if possible) the tool used to generate the visualisation
  - Critically analyse data journalism as a practice and product
  - Develop your collaboration skills

Readings:

The Seeing Data Project developed this accessible module on developing your literacy as a

consumer or reader of data visualizations.

Kennedy, H., Kirk, A., Hill R.L., Allen, W. 2021, Developing Visualisation Literacy, University of Sheffield, viewed 18 July 2021, http://seeingdata.org/developing-visualisation-literacy/

Blog:

Please post your group's weekly activity links, notes etc to the class blog

WEEK 3

1. A few words on readings, resources and development of assessment 1

2. lecture:

- Relationship between journalism and data journalism,
- Assessing Sources and types of data, context
- Using the Australian Bureau of Statistics and other sources of data and data sets.

3. Seminar Exercise

Activity:

1. Generate story ideas

a) As a group select a media release from the Australian Bureau of Statistics. Discuss the release and generate questions that might produce a data driven story in the public interest.

b) Choose either the group blog story from last week or one members individual suggestion. Find the original data from the data source. Can you ask other questions of this same data? Using Paul Bradshaw's article on How Data Journalists Generate story ideas, see if you can brainstorm some new data story ideas based on the data set you've identified

Readings and Resources:

A module on Library Resources for finding information and generating story ideas by Alana Hadfield

Click https://ilearn.mq.edu.au/mod/book/view.php?id=5674690 link to open resource.

Paul Bradshaw(2013), How to be a data journalist, https://www.theguardian.com/news/datablog/2010/oct/01/data-journalism-how-to-guide

Bounegru, L., & Gray, J. (Eds.). (2021). *The Data Journalism Handbook: Towards A Critical Data Practice*. Amsterdam University Press. https://doi.org/10.2307/j.ctv1qr6smr

WEEK 4:

Data Biographies

What is a data biography and what can you learn from this method?

Are you your data?

What is tracking data? What are its limitations?

Inverted Pyramid of Data Journalism and Humanizing your Data.

Readings and Resources:

Catherine D'Ignazio (2020) "Putting Data Back Into Context" https://datajournalism.com/read/longreads/putting-data-back-into-context

Heather Krause, An Introduction to Data Biography, We All Count https://weallcount.com/2019/01/21/an-introduction-to-the-data-biography/

Video: Heather Krause, Understanding Data through Data Biographies

Krause has also written about this method and the example she discusses in the video for the Global Investigative Journalism Network here: https://gijn.org/2017/03/27/data-biographies-getting-to-know-your-data/

Resource: D'Ignazio C. & Klein LF*Data Feminism* . The MIT Press; 2020.

Curious? Want to go deeper: *(Thinking about how we read data collected about platform usage): Wu, Angela Xiao.(2020)* "How Not to Know Ourselves", *Points: Data Society*, https://points.datasociety.net/how-not-to-know-ourselves-5227c185569

(An analysis of Gender misrepresentation in the most recent Census collection--as discussed in week 3)

Navarro, Danielle. 2021, "Census Day" August 10, https://essays.djnavarro.net/post/census-day/?fbclid=IwAR27BI1XuY8Pekm8Sx-94k45dZKBAHE4uH5RGRWG5rUsHUzCAjA2dhggtZ0

Alison Killing talks on the crucial issue "How Data-Driven Journalism Illuminates Patterns of Injustice" - (Source: Ted Talk @ YouTube)

Click https://www.youtube.com/watch?v=EBQO5GegfPA link to open resource.

WEEK 5: Advanced Reporting & Storytelling Techniques

Learning goals:

Explore the dynamics of advanced reporting in relation of data journalism

Analyse the concept of Computer Assisted reporting: A way to data journalism

Identify the techniques of storytelling for data journalism

Rethink how to use narrative structures to communicate data insights

Experiment with the data journalism case studies through storyline development in collaborative group tasks

Consider some unique and good ideas of storytelling in data driven stories.

Readings & Resources:

Miller, C. H. (2008). Digital Storytelling: A Creator's Guide to Interactive Entertainment. Netherlands: Taylor & Francis. (Required reading : Chapter No. 5)

This YouTube video link provides interesting facts about data journalism and data story telling (You can compare it with traditional reporting)

Click https://www.youtube.com/watch?v=IIMHicxQ0LY&t=3s link to open resource.

Week 6 - Representation and Visual Communication

Learning Goals:

Consider visualisations and data as kinds of representations and forms of knowledge

Consider data visualisations as a mode of exploration and a mode of communication

Experiment with techniques for visual communication

Identify common types of data visualization

Consider why visualisation is an important tool in data analysis and for data storytelling

How do you make complex data understandable: simplification versus embracing complexity

Consider examples of data journalism as a visual argument.

Readings and resources:

Wilke, C. (2019). Fundamentals of Data Visualization: A Primer on Making Informative and Compelling Figures. Taiwan: O'Reilly Media.

Week 7 - Tools & Techniques I

(Assessment 1 Due)

Goals:

To generate and develop a data story through editorial meeting (as data journalist practice this while working in media organizations).

To have the hands on experience of using various tools used for data visualisation including spreadsheets (Excel, Google Sheets etc.) Flourish, Datawrapper, Google Public Data Explorer, Tableau etc.

Brief discussion on the issues related to Academic Integrity.

Practical workshops

1. Organize Editorial Meetings

Present your verbal and visual notes while following the Inverted Pyramid of Data--Compile, Clean, Context, Combine, Communicate-- develop and finalize the ideas for your data stories that are in the public interest.

2. Develop Dashboards and timelines while using common tools and techniques for visualisation including spreadsheets (Excel, Google Sheets etc.) Flourish, Datawrapper, Google Public Data Explorer, Tableau etc.

3. Now tell your story (the same story which you did with data in the previous drill) without data

Preparation:

- **i) Software:**
- Microsoft Excel (free download for mq students): https://students.mq.edu.au/support/technology/software/microsoft Google Sheets: https://docs.google.com/spreadsheets
- Flourish Data Visualization and Storytelling: https://app.flourish.studio Datawrapper: https://www.datawrapper.de Google Public Data Explorer: https://www.google.com/publicdata/directory Tableau: https://www.tableau.com/academic/students

ii) Datasets:

Important data sources

Australian Bureau of Statistics

https://www.abs.gov.au/

Euro Stats

https://ec.europa.eu/eurostat/data/database

Data & statistics about the USA

https://www.usa.gov/statistics

Office for National Statistics, UK.

https://www.ons.gov.uk/

Bureau of Crime Statistics https://www.bocsar.nsw.gov.au/Pages/bocsar_crime_stats/bocsar_crime_stats.aspx

Two weeks study break (11/9/2023 - 24/9/23)

Week 8 - Tools and Techniques 2

Practical workshops

Goals:

1. Generating discussion on various Premises

2. Compiling, combining and cleaning data in a spreadsheet (Excel, Google Sheets etc.)

3. Visualising data using online tools: Flourish & Datawrapper

Concepts: Use the Inverted Pyramid of Data--Compile, Clean, Context, Combine, Communicate--to find and tell the data stories that are in the public interest.

To Prepare: Download excel, sign up for free accounts in Flourish and Datawrapper (See list of tools in week 6 & 7)

Week 9 - Maps and data stories

How to tell your story with maps?

Seminar activities:

Exercise 1:

Creating your own map with Flourish

https://flourish.studio/blog/make-your-own-data-driven-maps/

Exercise 2:

Google News Initiative: Tell Your Story With A Map

Resources

Interactive Map Examples from Tableau https://www.tableau.com/learn/articles/interactive-map-and-data-visualization-examples

Mapping in Tableau https://help.tableau.com/current/pro/desktop/en-us/maps.htm

Maps in Flourish https://flourish.studio/visualisations/maps/

Maps in Datawrapper https://www.datawrapper.de/maps/

Map Charts in Excel https://support.microsoft.com/en-us/office/create-a-map-chart-in-excel-f2cfed55-d622-42cd-8ec9-ec8a358b593b

Leaflet https://leafletjs.com

Fires Near Me https://www.rfs.nsw.gov.au/fire-information/fires-near-me

A Better Visual Breakdown of the 2020 election results https://thespinoff.co.nz/politics/18-10-2020/a-better-visual-breakdown-of-the-2020-election-results/

Australian GeoJson files https://data.gov.au/data/dataset?q=geojson&tags=Boundary&sort=extras_harvest_portal+asc%2C+score+desc%2C+metadata_modified+desc

Week 10-Idea for Assessment II / Portfolio:

How do journalists find their stories' ideas?

Seminar: Students may work in any of the three groups.

1. Editorial Group 1: Can you brainstorm how you might adapt the question this story asks for a different audience or editorial mandate? Where will you find the data you need? Can you

download it, & clean it ?

2. Editorial Group 2: Work on Your Ideas; Identify & finalize the context of your story. Who are your story's stakeholders.

3. Editorial Group 3: Work on Setting, Character, Conflict & Resolution to identify the best way to present your data news story's storyline.

Readings and Resources:

How do journalists find their stories?

 https://ijnet.org/en/story/how-do-journalists-find-their-story-ideas

Providing Context for Journalistic Stories https://www.americanpressinstitute.org/journalism-essentials/makes-good-story/good-stories-provide-context/

20 Best DATA NEWS Stories https://www.juiceanalytics.com/writing/20-best-data-storytelling-examples

https://data.gov.au is the central source of Australian open government data.

Google News Initiative https://newsinitiative.withgoogle.com/training/

Google's Data Journalism lessons: https://newsinitiative.withgoogle.com/training/course/data-journalism

Cleaning Data in Google Sheets https://newsinitiative.withgoogle.com/training/lesson/5718199039426560?course=data-journalism

Week 11: Impact of the third wave of Artificial Intelligence (AI) on journalism

Goals:

The third wave of Artificial Intelligence on Journalism

AI may revolutionise Data Journalism

A manifesto for data humanism

Data and visuals

Building prototypes

Seminar activities' resources:

Data Visualisation (manually)

https://datajournalism.com/read/longreads/data-visualisation-by-hand

Inspiration:

Dear Data http://www.dear-data.com/theproject

Week 12 - Special Topics: Generating Original Data Visualizations

1. Come to class with an idea that you want to work on or a problem you are having with a data story (where's the data? How do I clean the data? Do I need big data or small? Do I need to do additional reporting to understand and assess a pattern in the data?   What's the story? Why is it newsworthy? How best to express the idea? Which tool should I use? How can I engage readers? Would my story benefit from personalisation or another mode of interactivity?)

2. Developing your essay including identifying texts to put your work in context of larger debates and discussions. How to use your feedback from assessment I to develop your essay in assessment II.

Week 13: Drop in Consultations; Assessment 2 Due

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students are advised to refer iLearn and Leganto for further details and links of readings and resources for this unit.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Assessment Procedure
- Complaints Resolution Procedure for Students and Members of the Public
- Special Consideration Policy

Students seeking more policy resources can visit Student Policies (https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops
- Chat with a WriteWISE peer writing leader
- Access StudyWISE
- Upload an assignment to Studiosity
- Complete the Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support

Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support
- Safety support to respond to bullying, harassment, sexual harassment and sexual assault

- Social support including information about finances, tenancy and legal issues
- Student Advocacy provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via AskMQ, or contact Service Connect.

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Changes from Previous Offering

New readings and journalistic resources have been added on a new topic, the third wave of Artificial Intelligence (AI), journalism and data Journalism.