

NCRM Bitesize Lessons for Teaching Social Science Research Methods



4: Teaching Digital Methods to Students without Technology Backgrounds

What are digital methods?

While there is no consensus on a single definition, the term 'digital methods' is frequently attributed to Richard Rogers¹ at the University of Amsterdam. He advocates for the use of digitally native data, such as social media posts, geolocation data, and web search results, to explore broader social and cultural issues.

Those who subscribe to this definition usually differentiate between digital methods and virtual methods. The latter refers to digitised extensions of traditional methods, such as online surveys and interviews. Consequently, digital methods are often associated with large datasets and computational techniques. However, this guide adopts a more inclusive perspective, encompassing digital ethnography and other qualitative approaches.

Challenges for social researchers in a tech-driven world

According to Kilburn et al. (2014),² teaching research methods poses a unique challenge due to the delicate balance required between theoretical knowledge, procedural understanding, and the mastery of practical skills. In the context of digital methods classes, Meeks (2011)³ observes that students tend to become overly fixated on software programmes and their wondrous capabilities, at the expense of the theoretical and methodological underpinnings crucial for their effective use. This observation resonates with Boyd and Crawford's (2011)⁴ note of a 'computational turn' in contemporary research culture, suggesting a growing belief that machines produce more objective and accurate results.

Recent advancements in artificial intelligence have spurred the development of numerous new research instruments. Each of these promises to streamline various stages of the research process, from conducting literature reviews to writing and editing papers. However, tools come and go. With new tools cropping up constantly, staying updated and making informed choices can become overwhelming. The accountability of these software tools is also a significant concern. Often likened to a 'black box', they cast doubts on research integrity as we increasingly delegate tasks to them without fully understanding their opaque inner workings.⁵

Furthermore, despite the abundance of tools and techniques designed for gathering and scraping online data, ownership and control of those data are complex matters. Proprietary entities, such as social media platform operators, can change their data access policies overnight. A case in point is the company Twitter (now branded as X). Once known for its relatively open data access for academic research, it abruptly removed its academic API (application programming interface) in 2023 under new management.

Insights from the pedagogical literature

Against this backdrop, among various pedagogical models, problem-based learning (PBL) might be better suited to the objectives of digital methods teaching than traditional, instructivist approaches.

While not specific to digital methods, there is a solid body of literature that explores the effectiveness of PBL in teaching research methods and technical skills across all levels of higher education. By presenting students with real-world problems and prompting them to navigate these scenarios, PBL encourages active learning and collaboration among the cohort. This

characteristic is particularly useful in addressing the challenges of digital methods teaching, helping students shift their focus from a specific tool or technique to the broader context in which they aim to apply digital methods.⁶

Several strategies exist for implementing PBL in digital methods classes. For taught students, instructors often present carefully designed hypothetical scenarios. For research students already engaged in their own projects, instructors might allow them to choose a problem either derived from their work or based on the literature that they have reviewed. This approach enables students to reflect on their ultimate objectives, the type of data they need, the ethical considerations of accessing such data for research, available tools for data collection and analysis, and any potential trade-offs associated with using these tools.

Empowering students to assemble their digital toolkits

When incorporating PBL, in order to scaffold sessions and guide students in their selection of digital methods tools, it may be helpful to share the following checklist:

- Is the tool free or paid? If paid, is it affordable?
- Is it proprietary or open source?
- Does it necessitate extensive training? Is a long-term training commitment justified in my situation? (This question is particularly pertinent when guiding students in deciding whether to learn a programming language. Research suggests that short, 'bootcamp-style' training sessions are not as effective as continuous commitments in technical skill development.)⁷
- What tools are commonly used in my discipline?
- Are there recommendations from my institution, funder, or collaborators?
- Are there alternative tools?⁸

Useful links

- [The Ecosystem of Technologies for Social Science Research](#): This GitHub page corresponds to the white paper by Duca and Metzler with the same title, published by SAGE in 2019. The paper reviews over 400 research software packages and discusses the tools social researchers employ, the features of these tools, and their popularity over

time. The original report, along with its underlying and updated data, can be found at the provided link.

- [Social Media Research Toolkit](#): This page contains a compilation of over 50 social media research tools, curated by the Social Media Lab at Toronto Metropolitan University.
- [Teaching DH on a Shoestring: Minimalist Digital Humanities Pedagogy](#): While this article is set within the humanities disciplines, it offers invaluable tips and inspiration for educators in various fields, especially those at institutions with limited resources.
- [How to Cite and Describe Software](#): Presented by the Software Sustainability Institute at the University of Edinburgh, this article serves as a comprehensive guide on the proper citation and description of research software.

References

1. Richard Rogers' publications include *Digital Methods* (2013, MIT Press) and *Doing Digital Methods* (2019, SAGE). See also NCRM resources such as '[Social Media Research with Digital Methods](#)' and '[Repurposing Social Media for Social Research? Five Critiques](#)', both of which were contributed by him.
2. Kilburn, D., Nind, M. & Wiles, R. (2014). Learning as researchers and teachers: The development of a pedagogical culture for social science research methods? *British Journal of Educational Studies* 62(2), 191–207.
3. Meeks, E. (2011). [Digital Humanities as Thunderdome](#). *Journal of Digital Humanities* 1(1).
4. Boyd, D. & Crawford, K. (2011). [Six provocations for Big Data](#). Presented at *A Decade in Internet Time: Symposium on the Dynamics of the Internet and Society*, 21 September.
5. Ananny, M. & Crawford, K. Seeing without knowing. Limitations of the transparency ideal and its application to algorithmic accountability. *New Media & Society* 20(3), 973–989.
6. See, for example: Beringer, J. (2007). Application of problem-based learning through research investigation. *Journal of Geography in Higher Education* 31(3), 445–457; Dyrhaug, H. (2014). Teaching qualitative methods in social science: A problem-based learning approach. *Journal of Contemporary European Research* 10(4), 442–455; Elder, A. D. (2019). Using a brief form of problem-based learning in a research methods class: Perspectives of instructor and students. *Journal of University Teaching & Learning Practice* 12(1).

7. Feldon, D. F., Jeong, S., Peugh, J., Roksa, J., Maahs-Fladung, C., Shenoy, A. & Oliva, M. (2017). Null effects of boot camps and short-format training for PhD students in life sciences. *PNAS* 114(37), 9852–9858.
8. Besides seeking recommendations from teachers and peers, students can also consult crowdsourced software recommendation platforms like [AlternativeTo](#).

This resource was produced in 2023 by Yenn Lee for NCRM and is based on the postgraduate module '[Technology-Enhanced Research](#)' that she convenes at SOAS University of London.

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