Selected Papers of #AoIR2020:
The 22nd Annual Conference of the
Association of Internet Researchers
Virtual Event / 13-16 Oct 2021

DATA CITIZENSHIP: DATA LITERACIES TO CHALLENGE POWER IMBALANCE

Dr. Elinor Carmi
Communication and Media Department, University of Liverpool, UK.

Professor Simeon Yates
Communication and Media Department, University of Liverpool, UK.

Introduction

As the Covid-19 pandemic took over the world, people's reliance on digital technologies and services became even more critical than ever. In this context, it is paramount to understand the way people understand and engage with digital systems and data-driven technologies. This understanding will provide a foundation to develop education programmes that will provide citizens with data literacies to make the best use for their lives and wellbeing.

In this paper we present the findings from the third phase of our "Me and My Big Data: Developing Citizens Data Literacies" project on citizens data literacies. The data literacies framework we developed stemmed from an analysis of recent literature on data and digital literacy combined with ideas from democratic education (Dewey, 1930; Freire, 1970). In particular, we focus on the power imbalance between citizens and 'big-tech' and government entities who access, process and use data about citizens and their networks. We argue that due to its collective, socially contextualised, and people-centred qualities, democratic education provides a useful foundation for future data literacy education and research interventions. Following an extensive literature review (first phase), and then a UK nationally representative survey (phase 2), we have conducted focus groups during Autumn 2020 and Winter 2021 with citizens.

Academic debates around digital literacy

Digital literacy has gone through three main waves when it comes to academic research. The first wave, from the end of the 1990s until the beginning of 2000s, which was concerned with digital divide in terms of access to devices and broadband (DiMaggio and Hargittai, 2001). The second wave which was, from around the beginning of the 2000s and middle of 2010s, and was concerned with different skills

Suggested Citation (APA): Carmi, E.and Yates, S. (2021, October). Data Citizenship: Data Literacies to Challenge Power Imbalance. Paper presented at AoIR 2021: The 22nd Annual Conference of the Association of Internet Researchers. Virtual Event: AoIR. Retrieved from http://spir.aoir.org.

necessary to operate efficiently and productively by using digital systems and services (Van Deursen and Van Dijk, 2011). And the third wave, from around the mid 2010s until present, which mainly focuses on data divides that require literacies around algorithmic bias (Cotter and Reisdorf, 2020; Gran et al., 2020) and advocating for data justice (Dencik et al., 2019). The literature changed along with further developments and deeper embeddedness of data driven systems in every aspect of people's lives, from work, to family, romantic partners and civic engagements.

The power that the big technology companies such as Facebook and Google hold have developed and increased through dark patterns, opaque terms of use and lack of appropriate regulation and enforcement. Citizen's ability to make rights claims to change regulations and affect what is seen as the new "normal" is key. Providing citizens with the necessary digital literacies to engage in this ecosystem also depends on understanding and challenging the stark power imbalance between corporations and citizens in the context of digital media. Our approach promotes the capacity for citizens to understand and think critically about what is done with their data, data about them and their community and also to use data as active citizens.

Method

Throughout October until March our team conducted 15 focus groups with UK citizens via digital literacies centres across the UK, who were divided according to their literacy levels (indicated by the centres) as well as age. Low digital access and skills closely correspond and correlate with other key demographics such as age, income, poverty, being in social housing, low educational attainment, long term ill-health and ethnicity (Yates et al., 2020). Often in complex and intersectional ways.

Preliminary results

After transcribing, coding and analysing the focus groups we have reached preliminary insights which we divide into the three dimensions of our Data Citizenship framework:

1. Data thinking (people's critical thinking of their data): Many of our participants do not know basic definitions of the digital ecosystem, even what counts as shared data. They also do not know which companies track their behaviour and what they do with their data. Most people in our focus groups mentioned they care about online privacy but say they do not know what to do about it. The majority of people expressed deep concerns about the way big tech companies use and misuse their data but said that they feel that there is nothing they can do about it.

2. Data Doing (people's everyday practices with their data): Many participants are not confident they can change their privacy settings. In addition, and what appears to be one of the most important insights is that most people do not post on social media for various reasons including: privacy concerns, thinking they have nothing important to say and worrying about social media conduct with their data. When we probed deeper our participants revealed that the majority of discussions are conducted in private messaging apps like WhatsApp and Facebook Messenger.

3. Data participating (people's networked engagement with their data and their networks of literacy): Many people ask their close friends or family when they are unsure about the quality of information (for example if it is misinformation) or want to learn new skills. The majority of participants mentioned they look for information on either Google search or Youtube. Importantly, most people do not know how to use data for civic action, organising protest or benefitting their communities.

An insight that binds these three dimensions together is that people's thinking, doing and participating relate to their identity and communities of reference. For example, participants associated their practices and understandings to being "in IT", "geek", "teacher", etc. As we mentioned elsewhere (Carmi et al., 2020), people rely on their *networks of literacy*, which is the ways people engage with others, where and with which media to gain the understanding, skills and competencies in a way that fits them. What our focus groups indicate is that people's networks of literacy can be a key point of intervention when designing education programmes.

Conclusion

The main insights from the third phase of our research indicates that people remain unaware of key aspects of the digital economy, they feel concerned about the way it is operating but do not feel confident enough to be able to change that. A crucial insight, that also came in our previous survey research phases, is the importance of networks of literacies among friends, colleagues and trusted organisations. This provides a significant avenue for democratic education intervention. People operate within networks to verify information, ask for help and collaborate on things. These networks are different for different groups of people, communities, location, ages etc. With these insights we intend to develop modular education programmes that will have the three dimensions of our Data Citizenship.

References

Carmi, E., Yates, S. J., Lockley, E., & Pawluczuk, A. (2020). Data citizenship: Rethinking data literacy in the age of disinformation, misinformation, and malinformation. *Internet Policy Review*, *9*(2), 1-22.

Cotter, K., & Reisdorf, B. C. (2020). Algorithmic Knowledge Gaps: A New Dimension of (Digital) Inequality. *International Journal of Communication*, *14*, 745-765.

Dencik, L., Hintz, A., Redden, J., & Treré, E. (2019). Exploring data justice: Conceptions, applications and directions.

DiMaggio, P., & Hargittai, E. (2001). From the 'digital divide' to 'digital inequality': Studying Internet use as penetration increases. *Princeton: Center for Arts and Cultural Policy Studies, Woodrow Wilson School, Princeton University*, *4*(1), 4-2.

Gran, A. B., Booth, P., & Bucher, T. (2020). To be or not to be algorithm aware: a question of a new digital divide?. *Information, Communication & Society*, 1-18.

Van Deursen, A., & Van Dijk, J. (2011). Internet skills and the digital divide. *New media & society*, *13*(6), 893-911.

Yates, S., Carmi, E., Lockley, E., Pawluczuk, A., French, T., & Vincent, S. (2020). Who are the limited users of digital systems and media? An examination of UK evidence. *First Monday*, *25*(7).