The death of data interpretation and throwing sheep in a postdigital age

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Abstract. This paper argues that in the postdigital age there is an increasing shift away from understanding or undertaking in-depth data interpretation in qualitative research. It begins by outlining what is meant by the postdigital and exploring the idea of throwing sheep. The postdigital is defined here as a stance towards the digital which seeks to challenge the impact of digital technology on humanity and the environment. The idea of 'throwing a sheep meme' originates from a Facebook application that used to allow people to 'throw a sheep' at friends to poke fun at them. It is used here as a metaphor to poke fun at the way in which qualitative data overmanaged in the digital age. The second section of the paper argues that the art of data interpretation is dead due to the use of short data, poor methodology, a lack of conceptual frameworks, discounted positionality and the overlooking of the importance of representation and portrayal. The final section of the paper delineates ways in which the death of data interpretation might be avoided.

Commentary. The original of this article stems from my own struggles to manage the interpretation of the data in my PhD many years ago, along with my current frustration with the ways in which data are managed and manipulated in over simplistic ways. As a researcher I work with PhD students and Master's students and over time I have come to realise that there is a real art to interpretation. The fast-paced media led postdigital world has rendered many students voiceless and stance-less in the face of so much other noise. To interpret is to look, to reflect, to read the subtext, to think-with-data; not to shove it through some quick fix computer programme that spits out chunks of 'stuff'. The title of this article is deliberately provocative to challenge the current practices about data management in qualitative research. The idea of 'throwing a sheep meme' originates from a Facebook application that used to allow people to 'throw a sheep' at friends to poke fun at them. It is used here as a metaphor to poke fun at the way in which qualitative data are overmanaged in the digital age. Although this metaphor is used to poke fun, in many ways the situation is more one of irony than fun. This is because of the current state of data interpretation, where usually any kind of in-depth interpretation is sadly lacking. This article begins by locating research in the context of the idea of the postdigital and then explores research issues in the context of the post digital age.

1   The Postdigital

Researching education in the digital age arguably has become both more complex and more exciting in terms of the issues that need to be considered and the range of possibilities available. Today young

people, small children and older adults are all using the internet and digital technologies in diverse ways and for different needs. In terms of research in education, the issues about what counts as learning, who decides this, and how it is changing and moving are also areas that bear consideration in the digital age. Whilst once upon a time, universities, schools, classrooms, further education colleges and nurseries were seen as research sites, in the twenty-first century it is more difficult to locate and define what a research site might be. Such complexity reflects the challenges of doing research in a postdigital age.

The postdigital is defined here as a stance towards the digital which seeks to challenge the educational, economic, and ethical impact of digital technology on humanity and the environment. For example, whilst learning at universities through digital technology in the past has been seen as largely supplemental, it now takes centre stage. The postdigital is neither temporal, nor 'after' digital; rather it is a critical inquiry into the state of the digital world. This it is not about positions or spaces inhabited just for a time; it is essentially ungraspable. This ungraspability relates to the way in which structures, political systems, cultures, languages, and technologies differ, and change each other and the state of the world. This critical perspective is a philosophy that can be summarized as a collection of stances, such as a disenchantment with current information systems, an exploration of digital cultures that is both still digital and beyond digital, and the state of the world after global networking and its development.

The original drive to position the postdigital was probably in the late 1990s. Such positioning stemmed from the necessity of considering the impact of the (new/er) technologies on existing conceptions of posthumanism, artificial intelligence and the digital. It could be suggested that the drive for the postdigital began following the argument by Negroponte (1998) that the digital revolution was over. However, as Taffel (2016) argues, after the period that was seen to be a digital revolution according to Negroponte, internet traffic increased as did global users, suggesting that any kind of global revolutions stopped after 2008 is unlikely. Early uses of the term postdigital were also used to stand against a binary stance towards the digital, suggesting instead it should be seen not as an either other but as a continuum.

The postdigital for some is seen as the relationship (or false relationship) between the digital and real with the underlying assumption that virtual means less real (Savin-Baden, 2022). For others the postdigital means the digital is intertwined with our lives and society. Feenburg (2019: 8) for example argues that the digital is integrated and imbricated with our everyday actions and interactions. Peters at al (2021) suggest that new knowledge ecologies exist where science, biology and information are necessarily deeply connected. Postdigital then as concept, context and practice is fluid, blending the person, the digital and machines with all interrupting all. In the 2020s, postdigital humans now refers more often to the ways in which humans and technologies are seen in relationship, mutually shaping one another, whilst recognising both what is new as well as what is already embedded in our cultures, institutions, political systems, and relationships. Cramer argues:

> *What I find questionable, however, in many posthumanist models is that they ascribe autonomy to machine processes often simply out of a lack of insight and understanding of the economic, political, engineering design, etc. powers and agendas that are shaping them. (Cramer and Jandric, 2021: 972)*

Research in these spaces becomes slippery as they morph, change, and evolve which in turn contributes to the perceived ungraspability of the postdigital, and suggests that postdigital research is marked by uncertainty, liminality and mystery that can feel threatening, at worst, and transformative, at best. Thus, postdigital research is deeply troublesome.

2   Research Issues in a Postdigital Age

Although the debate about digital natives and digital immigrants is now passé, there is no doubt that the internet and mobile technologies, of whatever sort, have ushered rapid change since the 1990s. The ability to be connected, to search with ease and to think differently about ways of doing research has brought us all wider views and greater possibilities. As a consequence, ways of collecting, managing and portraying data have shifted, resulting in new and power-hungry practices. Further the notion of

what counts as data and the power issues surrounding data collection is deeply problematic, especially in terms of the collection of big data, algorithms and fake news Ricaurte argues:

> *Datacentric epistemologies should be understood as an expression of the coloniality of power manifested as the violent imposition of ways of being, thinking, and feeling that leads to the expulsion of human beings from the social order, denies the existence of alternative worlds and epistemologies, and threatens life on Earth (Ricaurte, 2019: 350)*

Perhaps we are still using many of the same philosophical frameworks, although these too are on the move. Perhaps stances have changed, and we are becoming more individualistic, or perhaps we are too tethered. At the same time the postdigital does point to changes in our lives and across the globe, whether it is the development of artificial intelligence in unsettling ways or the ability to use solar energy to power mobile devices in sub–Saharan Africa. It might be that there are now too many choices about what to research, how to research and what to use. Yet such wide choices should help us to make better and more informed choices. Whilst we tend to carve up philosophy, methodology and methods into frameworks that help us to make sense of our worlds, we do not in fact use one medium, framework or technology at a time, but flow between them. Further, Furlong and Davies (2012) argued that young people's (and I would also add students to this) engagement with new technologies is fundamentally bound up in their own identity, for example how they choose to use technology to engage with others, represent themselves and manage their worlds. There is much to be learned about research by young people and the process of 'participatory pioneering' (Savin-Baden, 2015), which is the process by which people learn and teach each other collaboratively, through digital media, to invent, create and remix in ways that are both pioneering and disruptive in their use of media. Yet in the management of qualitative data there appears to be little if any sense of disruption. This can be seen in many of the current attempts at data interpretation, which invariably are overly simplistic trite and do not reach the level even of simplistic analysis.

3   Five Ways of Throwing Sheep

To reiterate the idea of throwing sheep is to poke fun at something, in this case to poke fun at forms of interpretation that are not actually interpretation. One of the difficulties with information being so accessible is that it is easy to take advantage of what is available and perceived to be ready for harvesting. However, despite the need to develop new ways of creating and accessing data, it is important to take responsibility for crafting research projects in ways that fit with the research questions. It could be argued that poor and unethical research has always been undertaken and that it has always been possible to collect easy data in bad ways. The internet does seem to offer a great range of possibilities to do things badly; therefore, it is important to ensure that researchers are reflexive, ethical and use critical friends to ensure that what is being undertaken is both honest and rigorous. However, because research in the digital age is constantly on the move, it is also important to take a responsive stance, so that methodologies and methods can deal with new circumstances that might arise as the research progresses.

Some of the practices the currently exist are:

1. Hollow analysis – this is where people cut up words, highlight words and phrases in different colours, using word searching packages that code words in strange ways. Such practices result in hollow and oversimplified construction of people and their contexts. For some researchers this kind of analysis is very much bound up with extracting a clear set of (sometimes quantifiable) themes, but in fact it does not do justice to the research participants and their stories.
2. Unsophisticated charts that look pretty but do not offer any in-depth explanations – Creating colourful pie charts in attempt to manage and portray data in an interesting way is something many of us have tried, often. Whatever view we take, analysis of data invariably involves some kind of structuring of data, but graphs and pie charts are unsatisfactory and implies people's stories can be reduced to lists, codes, facts and memos. This is a process of structuring the messiness of data so that data seem, at least for a while, manageable. The danger, however, with analysis is to oversimplify, and to develop bland categories that are a 'catchall'.

3. Cleaning data and hiding themes – this means that we are pretending because in the process of cutting and coding we try to round off the rough edges of data, resist material that will not fit into neat categories and ignore the issues that we do not understand. Instead, we should be creating innovative space or categories entitled 'unthemes' where we can locate the items that do not fit.

4. Using statistical software suites – these programmes chunk data and lose people's stories because they break things down into detailed short themes and words that result in deconstruction rather than reconstruction of the data.

5. Ignoring subtext – in the process of analysis it is easy to become stuck in long lists of categories, rather than really exploring the subtext. The result is that data seem disparate and unconnected and then there becomes a huge reluctance to let go of initial categories because somehow, they seem safe and logical.

Data analysis should be a time of sense-making where we begin to see how people's perspectives overlap, we begin to see issues and themes that are shared by participants. It often feels easier to establish clear patterns wanting everything to be tidy, when it is not. Interpretation is the process and position where the researcher begins to embrace the complexities in the data. However, this shift into interpretation is often lost.

4   The Death of Data Interpretation

The challenge of managing complex and often competing perspectives seem to be among the components that push researchers away from coded categories and encourage them to engage with the relationship between themselves and their stories, and those of the participants. Yet these demanding processes are often side stepped for some of the following reasons:

- *Long and short data*. In the postdigital world data have become increasingly diverse in terms of what they look like and how they are managed. Long data tend to be characterised by in-depth interviews with thick description, short data are those to be found in tweets and SMS messages. Yet there seems to be an assumption that examining subtext, valuing thick description and exploring opposition talk (for example) should and can be applied across all types of data in the same kinds of ways – but should this be the case? There are also questions to be asked about how what we term 'short data' are managed - such as tweets and SMS - and whether we need to be viewing and analysing these in new or particular ways? One of the issues that would seem to bear further investigation is how diverse digital data are analysed and interpreted, especially when using online interviews such as email and SMS. This is because using these methods of collecting data can become somewhat divorced from the participants and their context. This then raises issues about how to deal with different and diverse types of data in the same study. It also seems that little attention is paid to the ways in which different types of data are managed.
- *Poor methodology*. It often the case when you ask people what kind of research approach they are using, they just respond that they are doing qualitative research. The difficulty with this is that their research is not philosophically or theoretically located, resulting in a little or no conceptual framework. Undertaking sound qualitative research requires that researchers position themselves in terms of their personal and philosophical stance, since this informs the methodology they adopt. In some cases, a methodology is chosen from a purely pragmatic position because it fits the research question, although more often a methodology is chosen due to personal and philosophical stances.
- *No conceptual framework*. A conceptual framework is where the researcher situates the study in relation to other studies, defines a methodology, and then provides a rationale for sampling, data collection, data analysis and prestation of findings in relation to said methodology. To date there are a range of types, methodologies and methods of research being used, but there is often a tendency to ignore methodology and just focus on methods of data gathering, rather than locating the research in a methodological framework. Whilst this is understandable to some extent in a new (postdigital) fields of research, it does tend to mean that considerable amounts of research are being undertaken in ways that lack rigour and plausibility because of the lack of a conceptual framework. The result is that there is little relationship between the

methodology adopted and the way data are managed and interpreted. In this kind of research, it is vital to have a conceptual framework.

- *Discounting positionality*. Our stance as researchers and our view of the world affects how we make decisions about the use of methodology, the methods we adopt and the way data are interpreted. Positionality -where we stand as researchers, may be ignored, but in doing so it affects the validity of data collected and the quality of the ways they are interpreted. Positioning oneself in the research means researchers need to be reflexive, they need to interrogate their biases, beliefs, stances and perspectives continually. This not a formulaic process, or locating oneself in particular positioned identity, but rather a recognition of how the researcher influenced the research.

- *Overlooking representation and ignoring portrayal*. Two other areas where the death of data interpretation may be seen, is in the overlooking of representation and the ignoring of portrayal, and these issues are discussed in-depth later in this paper. Portrayal is defined here as the contextual painting of a person or data set in a particular way. Portrayal then needs to be seen as a process rather than an ending, as Butler-Kisber suggested: "A portrayal presents the essence of a phenomenon at a certain time while retaining the signature of the creator. Artful portrayals mediate understanding, our own and that of others" (Butler-Kisber, 2002: 238).

The complexity of portrayal in qualitative research is not only ignored but is also very much seen as 'unwork'; it is confused with representation and seen as something that is static rather than liquid. Engaging with fluid forms will also provide more candid forms of portrayal; forms in which researchers are unable to not hide behind the subtext of their own agendas, comfort zones and biases. Researchers should highlight the temporal, mutable and shifting nature of portrayed research findings, emphasising the need for continued and varied research to inform understanding. There is a significant need for greater insight into the influence of portrayal, as well as the difference between representation and portrayal. Future studies should prioritise this, and ensure that portrayal is considered and critiqued from the outset.

5   Moving from Analysis to Interpretation

This is one of the greatest challenges a qualitative researcher faces. Quantitative researchers tend to use statistics and interpret the graphs – think Covid briefings. However qualitative researchers need to manage multiple meanings and (sometimes) competing ideas and views that emerge in the interpretation of data. As Mazzei (2020: 199) argues:

> *If we are boun*d by method, then our practices of inquiry are similarly constrained, yielding a reproduction of that which we already know because it is that which is reinscribed within the major language of traditional qualitative practices. It is this that a thinking with postqualitative methodology affords.

Qualitative researchers, in the main, tend to believe and rely on 'thick description', which was developed by Geertz (1973) but there has been criticism of Geertz's notion, as Flewitt has noted:

> *Geertz' work has been strongly critiqued for defining 'text' intuitively and variously (e.g. Schneider, 1987), and the concept of thick description begs the question of what data has been selected for description, inviting criticisms that ethnography risks making rather than reflecting culture (e.g. Clifford and Marcus, 1986). (Flewitt, 2011: 294)*

There are many ways of cutting and coding data at the start of the analysis process, but good interpretation needs in-depth shifts that examine hidden meanings: the subtext, as well as metaphor, portrayal and representation.

Subtext is an underlying but distinct theme that may be found in an act of communication and which often signals its implicit meaning. Uncovering subtext requires understanding the language that participants are using, in order to understand what is being said. It also requires searching for thoughts not expressed directly in the words or statements; it rather may be found in elements such as emotion, enunciation, body language and tension. Uncovering subtext may emerge as with a consideration of the

following questions: 'What is this person really arguing for? What does the person actually believe about the issue under study?' It is easy for a researcher to misconstrue what a participant means if the researcher is not paying attention to subtext.

The use of figurative terms and imagery such as metonymy and metaphor are also something that is a useful means of interpreting data. Both metonymy and metaphor may be found in data and unpacking what is meant by their use is a way of exploring the subtext. Metonymy is where someone substitutes for the name of the thing the name of an attribute of it. An obvious example of metonymy would be that we refer to the American presidency as The White House, the stage for the theatre, or The City to refer to the British financial and banking industry. Individuals tend to be relatively unaware of the use of metonymy in speech and often adopt new forms introduced into the language through the power of media, such as the press and radio. Metaphor involves making a comparison between two things that seem unlike each other but actually have something in common. An example of a metaphor is as follows: 'He created a storm of controversy'. Thus, examining metonymy and metaphor can promote insight into researchers' and participants' tacit assumptions by exploring how such figurative terms are used.

Oppositional talk often occurs when people define something by saying what it is not. The aim of using this device is to "prevent the listener interpreting the talk in terms of this noxious identity by acknowledging the possible interpretation and then denying it" (Potter and Wetherell, 1987: 77). As Potter and Wetherell have argued, an example of such an explicit disclaimer would be "I'm no sexist but …". During data interpretation it is possible to identify oppositional talk more subtly in terms of participants defining themselves and their positions in opposition to others and their stances.

Portrayal of research findings has often been seen as unproblematic, yet authors such as St Pierre (2008, 2009) and Butler-Kisber (2002, 2008, 2010) indicate it is invariably much more troublesome than most researchers acknowledge. There is often friction at the interfaces or boundaries between interpretation, representation, and portrayal. Galloway (2012) argues that it is difficult to see friction at the interfaces – since for the most part they are designed to be invisible. Thus, work done at an interface renders the interface invisible, in order to make it work effectively. It then appears that no work has or is taking place, and thus the interfaces cast what he calls 'the glow of unwork' (Galloway, 2012: 25).

Perhaps when undertaking educational work in the digital age we need to give greater attention to what is occurring at the interfaces, particularly between representation and portrayal (see for example Butler Kisber et al, forthcoming and Savin-Baden, & Tombs, 2017). There is a need to recognise that students and young people centre their lives on networked publics – spaces that are created, structured and restructured around networked technologies and that these are further sets of fractures and swirling interfaces that affect representation and portrayal of findings. Thus, we need to explore what is privileged and what is missing, to examine what has been created and crafted, and to recognise how frictions and fractures at these interfaces can improve our understandings and make us better, braver researchers. Portrayal is defined here as the contextual painting of a person or data set in a particular way. However, many research studies use the terms of representation and portrayal interchangeably. For example:

- Representation tends to refer to the way in which a researcher provides warranted accounts of data collected. Thus, the main way the term representation is used is in the sense of a proxy, the researcher is (re) presenting the views of the participants. This is often seen or presented by the researcher as being unproblematic. Yet researchers need to acknowledge that the research account they are providing does in fact reflect their own stance and position. Often personal stances and accounts are missing from research data, and this is seen most often when undertaking qualitative research synthesis (Major & Savin-Baden, 2010)
- Portrayal invariably is seen as the means by which the researcher has chosen to position people and their perspectives. Portrayal tends to be imbued with a sense of not only positioning but also a contextual painting of a person in a particular way.

Those who do use 'portrayal' invariably are referring to media (mis) representation of particular groups: for example, women, Muslims, black youth.

6   Researcher Stance and Representation

Forms of representation do tend to relate to the specific research approach adopted since what is central to the issues of representation is the positioning of the researcher and research. Thus, another way of examining representation is to consider the way in which conceptual frameworks and researcher stances can be used to ensure rigour in the representation process, as presented in Table 1.

Researcher Stance	Methodology	Methods	Forms of Representation
Knowledge exists and is based upon natural phenomena, their properties and relationships and may be discovered through the scientific method	Quantitative research	Measurement: Questionnaires, surveys	Graphs, charts and statistics
Knowledge exists but is imperfectly understandable, and it may be uncovered through falsification	Mixed methods research	Surveys, Structured or Semi-structured interviews	Graphs charts and statistics Coded analysis and unmediated quotations
Knowledge may be discovered by examining the usefulness of theory in practice.	Pragmatic qualitative research	Structured or Semi-structured interviews Documents Observations	Coded analysis and unmediated quotations
Knowledge resides in the mind, as the individual perceives and experiences it, and may be discovered by exploring human experiences	Phenomenology	Structured or Semi-structured interviews Observations Documents	Coded analysis and unmediated quotations Themes
Knowledge is constructed by the researcher and not discovered in the world	Grounded theory	Structured or Semi-structured interviews Documents Observations	Coded analysis and unmediated quotations Themes
Knowledge is constructed through dialogue and negotiation	Narrative inquiry	Narrative interviews Story telling Personal artefacts	Narratives
Knowledge is constructed through dialogue and negotiation	Case study	Collection of cases (stories, interviews) Documents Observations	Narratives
Knowledge is constructed by the researcher but also constructed through dialogue and negotiation	Ethnography	Observation Documents Semi-structured interviews	Themes and Narratives
Knowledge is constructed through reflection, discussion and negotiation	Action research	Observation Unstructured interviews Focus groups	Themes and Narratives
Knowledge is constructed by discussion and sharing ideas	Collaborative research	Observation Unstructured interviews Focus groups	Narratives and Performance
Knowledge is constructed by the researcher but also through dialogue and debate	Evaluation	Structured or Semi-structured interviews Documents Observations Focus groups	Themes

Knowledge may be gained through the deconstruction of social products, including language, media, institutions	Arts-based research	Art Poetry Collage Ethnodrama Performance	Narratives, Performance and Visual

Table 1. Researcher Stance in Representation (Savin-Baden & Tombs, 2017)

7 Digital Métissage and Liquid Methodologies as Postdigital Possibilities

It is argued here that research portrayal, and particularly qualitative research portrayal, should centre not only on how something is restated but also how it is depicted by researchers. Thus, what is central to portrayal is in-depth interpretation which involves examining the subtext and exploring what is being argued for by those in the study through interpreting, for example, metaphors, metonymy and oppositional talk. There is no sense of quick coding and analysis in this process, but rather as St Pierre (2009, p. 221) has argued:

> *I believe we have burdened the voices of our participants with too much evidentiary weight. I suggest we put voice in its place as one data source among many from which we produce evidence to warrant our claims and focus for a time on other data we use to think about our projects that we've been ignoring for decades.*

Jackson and Mazzei (2011) suggest that in the analytical process, the researcher and the researched are both subject to change, as is the audience or viewer, so that as the research data are transformed and offer something else, something new is made available; a new portrayal of the phenomena. This stance places portrayal as somehow less static and acknowledges the importance of the interaction between researcher and participants. Portrayal then needs to be seen as a process rather than an ending, as Butler Kisber suggests:

> *A portray*al presents the essence of a phenomenon at a certain time while retaining the signature of the creator. A*rtful portrayals mediate understanding, our own and that of others. (Butler-Kisber, 2002)*

Yet the spaces in which research data are portrayed are also important. Lefebvre (1991) has suggested that social space might be seen as comprising a conceptual triad of spatial practice, representations of space and representational spaces. Spatial practice represents the way in which space is produced and reproduced in particular locations and social formations and has strong links with portrayal. The work of Harrison (2013) is a useful example of a moving portrayal of space. He created a circus tent as a means of representation, performance and portrayal. What is significant about Harrison's work is that the work is used to enhance understanding, and to reach multiple audiences. The interfaces of representation and portrayal interrupt ideas of data presentations as well as using media to make research findings accessible to a variety of people.

Perhaps we need to move away from frameworks to digital métissage. This captures the idea of blurring genres, texts, histories and stories in digital formats that recognise the value and spaces between and across cultures, generations and representational forms (Savin-Baden and Wimpenny, 2014). Research and meaning making in the digital age mean trajectories are not straightforward, and managing this digital métissage offers interesting, if challenging possibilities. Digital métissage is based on the idea of literary métissage as outlined by Hasebe-Ludt et al. (2009). Literary métissage is the process of creating stories that are braided together and rooted in history and memory, as well as being stories of be-coming. The principle of métissage in terms of methodological positioning is that although arts-based research is not easily located as one bounded methodology, (in ways that it is often possible to do with narrative inquiry and ethnography and so on), it is possible to locate it philosophically. Thus, using the concept of métissage enables researchers to use arts informed approaches in ways that are not isolated (or isolating) from mainstream research methods, but instead work across boundaries in fluid ways.

Thus, literary métissage provokes engagement with dominant discourse(s) in order to challenge and change them. Digital métissage captures the idea of blurring genres, texts, histories and stories in digital formats that recognise the value and spaces between and across cultures, generations and representational forms. The notion of métissage (French meaning hybridisation or fusion) brings with it the sense of braiding, so that the process of digital métissage requires co-production and co creation with participants in ways that braid data and stories. Co creation is defined here (following Saldaña, 2011; Boydell, 2011) as a collective activity between participants, artists and researchers that attends to the processual aspects of participants' experiences. Using these forms of co creation will enable the researcher team to study the process of the creation of the assets with artists and participants, thereby enabling the process and creation of assets to produce generalizable knowledge from the empirical research findings. Thus, through collection of stories it will be possible to co create and characterize experience in ways that are both individual and collective, whilst also creating and displaying visual and emotional aspects of the stories, assets and research. The focus on 'the digital;' also recognises the importance of connectivity as a complex and contested concept, in terms of both bonding and bridging (Putnam, 2000: 22-23). Unlike Putnam's arguments, the suggestion here is that by gathering and sharing art, artefacts and stories, digital media can be used to engage with digital métissage which facilitates both bridging social capital and bonding despite differences.

A further option to ensure in-depth data interpretation, representation and portrayal is to shift towards more liquid methodologies. The idea of liquid methodologies is based on the idea that while it is useful to have underpinning philosophies from which to draw, it is also vital when undertaking research in digital spaces to recognise the need for liquidity. The notion of liquid methodologies draws on Bauman's (2000) notion of 'the liquid', and suggest that engaging with a world of liquid uncertainties might bring to light new understandings in terms of new notions of methodology and methods, as well as different understandings of space and spatial practices, and a recognition that research spaces are increasingly hybridized, extended, and mixed. For example, the notion of viral methodologies is that instead of methodologies being strongly 'located' philosophically, there is a sense of looser coupling and a greater liquidity between methodologies, so that underlying theories are seen as mutable and liquid. Although such methodologies are emergent and there is currently little written about them, they are based in the idea of viral learning (for example, Downes, 2005). These methodologies are similar to emergent design, whereby the design emerges in response to the participants and contexts (Lincoln and Guba, 1985). However, I am not suggesting that methodological frameworks are ignored; rather that having a sense of the liquid and the viral can enable methodologies to be matched and drawn together, such as using narrative inquiry and deliberative inquiry together.

8   Conclusion: Research as a Political Stance

Doing research is often seen as something straight forward and having little to do with identity or political stance. The open education movement offers researchers access to data sets, research tools and literature. It is also a movement that helps researchers to take a stance towards the global neoliberal agenda. This neoliberal stance highlights the belief in competitive individualism and the maximisation of the market. Critics of neoliberalism (for example, Giroux, 2005) suggest the focus on economic outcomes results in unhelpful social, political, and cultural biases for educational activities. Open education can help to challenge this by enabling researchers to be part of a global community of scholars.

This article illustrates guidelines for future research in Open Education that stand against neoliberal values, helping new and future researchers to avoid past pitfalls, address the political, recognise the hidden, the silences and the unknowns as well as recognising too that there can be hidden agenda in the open education movement itself. Thus, it has been argued here that research should be grounded not in just philosophical or theoretical terms but also in political context.

Data interpretation is often undervalued and seen as 'unwork' (Galloway 2012); it is seen as a relatively straight forward process of putting the findings of the study together with excerpts from participants. Yet interpretation is political because it reflects the ways in which researchers have chosen to position people and their perspectives. The use of voice is invariably seen and used as a form of legitimacy though the use of participants' voices in the form of quotations. The quotations, the 'raw' data, are often

seen as the means of validation since it is the participant speaking, and there is a tendency to overlook that the quotation has already been mediated by the researcher. Yet this too is political in that the underlying implication is that quotational representation means that researchers are speaking for participants and instead examine what is going on in representation (and even whether portrayal might be seen as central to what is going on in representation). Most qualitative data are textually presented and, in most cases, words are seen as more important than images. Researching education in a postdigital age provides greater and different opportunities to represent and portray data differently. For example, there needs to be a much clearer honesty about the research problems posed taking place in a political context, and thus politics will always affect the nature of inquiry. Further questions need to be asked about how politics rupture data, stories, positioning and portrayal. For example, how often is silence considered data, what is done with this data and what are the challenges that shifts researchers' minds out of trenches, so that they rethink what it means to interpret data and tell stories?

9   References

Barnett, R. (2004). Learning for an unknown future, Higher Education Research and
Development, 23 (3): 247–260. https://doi.org/10.1080/07294360.2012.642841
Bauman,   Z.   (2000).   Liquid   Modernity,   Cambridge: Polity   Press.
https://giuseppecapograssi.files.wordpress.com/2014/01/bauman-liquid-modernity.pdf
Bauman, Z. 2004. Community. Cambridge: Polity
Boydell, K. M. (2011). Making Sense of Collective Events: The Co-creation of a Research-based Dance [43 paragraphs]. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 12(1), Art. 5, http://nbn-resolving.de/urn:nbn:de:0114-fqs110155 .
Butler-Kisber, L. (2002). Artful portrayals in qualitative inquiry: The road to found poetry and beyond. The   Alberta   Journal   of   Educational   Research,   48(3),   229-239. https://doi.org/10.11575/ajer.v48i3.54930
Butler-Kisber, L. (2008). Representational forms of dissemination. In L. Given (Ed.), The Sage Encyclopedia of Qualitative Research, 2, (pp. 756-760). Thousand Oaks, CA: Sage.
Butler-Kisber, L. (2010). Qualitative inquiry: Thematic, narrative and arts-informed perspectives. London: Sage. https://dx.doi.org/10.4135/9781526435408
Butler-Kisber, L, Keefe, K.C. & Savin-Baden, M. (2023). (Eds) Stories of Displacement.
London: Routledge (forthcoming). https://maggisavinbaden.wordpress.com/publications/books/
Clifford, J. & Marcus, G. (1986). (eds) Writing Culture: The Poetics and Politics of Ethnography. Berkeley,   CA: University   of   California   Press. https://www.ucpress.edu/book/9780520266025/writing-culture
Cramer, F., & Jandrić, P. (2021). Postdigital: A Term That Sucks but Is Useful. Postdigital Science and Education, 3, 966–989. https://doi.org/10.1007/s42438-021-00225-9
Downes,   S.   (2005),   'E-learning 2.0',   E-Learning   Magazine,   1   October.   Available   online: http://elearnmag.acm.org/featured.cfm?aid=1104968 (accessed 19 December 2021).
Feenberg, A. (2019). Postdigital or predigital?. Postdigital Science and Education, 1(1), 8-9. https://doi.org/10.1007/s42438-018-0027-2
Fraser, M., & Dutta, S. (2010). Throwing sheep in the boardroom: How online social networking will transform your life, work and world. John Wiley & Sons. ISBN: 978-0-470-74014-9
Flewitt, R. (2011). Bringing ethnography to a multimodal investigation of early literacy in a digital age. Qualitative Research, 11(3), 293-310. https://doi.org/10.1177/1468794111399838
Furlong, J. & C. Davies (2012), 'Young People, New Technologies and Learning at Home: Taking Context   Seriously',   Oxford   Review   of   Education,   38   (1):   45–62. https://doi.org/10.1080/03054985.2011.577944
Galloway, A. R. (2012). The interface effect. Cambridge: Polity Press. ISBN: 978-0-745-66252-7
Geertz C. (1973). The Interpretation of Cultures. New York: Basic Books. ISBN: 978-0-465-09719-7
Gibbons, M., Limoges, C., Nowotny, H., Schwarzman, S., Scott, P. and Trow, M. (1994). The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies, London: Sage. https://dx.doi.org/10.4135/9781446221853
Giroux, H. A. (2005). The terror of neoliberalism: Rethinking the significance of cultural politics. *College Literature*, 1–19. http://www.jstor.org/stable/25115243
Harrison, S. J. (2013). 'Not a Freak Show: Growing up Gay in Rural Ontario in the 1960s without Narratives, Images or Role Models Upon Which to Formulate an Identity', Paper presented at

AERA Annual Meeting and Exhibition, San Francisco, CA, 27th April to 1st May. https://hdl.handle.net/1807/68374

Hasebe-Ludt, E., C. Chambers and C. Leggo. (2009). Life Writing and Literary Métissage as an Ethos for Our Times, New York, NY: Peter Lang. ISBN: 978-1-433-10306-3

Jackson, A. Y. & Mazzei, L. A. (2011). Thinking with Theory in Qualitative Research: Viewing Data Across Multiple Perspectives, London: Routledge. ISBN: 978-0-415-78100-8

Lefebvre, H. (1991). The production of space, 15th ed. Oxford: Blackwell.

Lincoln, Y. S. and E. G. Guba. (1985). Naturalistic Inquiry, Newbury Park, CA: Sage. ISBN: 978-0-80392-431-4

Major, C. & Savin-Baden, M. (2010). An Introduction to Qualitative Research Synthesis Managing the information explosion in social science research. London: Routledge. ISBN: 978-0-41556-286-7

Mazzei, L. A. (2002). Postqualitative Inquiry: Or the Necessity of Theory. Qualitative Inquiry 27 (2) 198-200. https://doi.org/10.1177/1077800420932607

Negroponte, N. (1998). Beyond digital. Wired, January 12. http://www.wired.com/wired/archive/6.12/negroponte.html . Accessed 7 March 2022

Peters, M. A., Jandrić, P., & Hayes, S. (2021). Postdigital-biodigital: An emerging configuration. Educational Philosophy and Theory, https://doi.org/10.1080/00131857.2020.1867108

Potter, J., & Wetherell, M. (1987). Discourse and social psychology: Beyond attitudes and behaviour. Sage.

Putnam, R. D. (2000). Bowling Alone. The collapse and revival of American community, New York: Simon and Schuster. ISBN: 978-0-74321-903-7

Ricaurte, P. (2019). Data Epistemologies, The Coloniality of Power, and Resistance. Television & New Media, 20(4), 350–365. https://doi.org/10.1177/1527476419831640

St Pierre, E.A. (2008). Decentering voice in qualitative inquiry. International Review of Qualitative Research, 1(3), 319-336. https://doi.org/10.1525/irqr.2008.1.3.319

St Pierre, E. A. (2009). Afterword: Decentering voice in qualitative inquiry. In A. Y. Jackson & L. A. Mazzei (Eds.) Voice in Qualitative Inquiry. (pp. 221-236). London: Routledge.

Saldaña, J. (2011). 'Writing Ethnodrama: A Sampler from Educational Research', in M. Savin-Baden and C. Major (eds), New Approaches to Qualitative Research: Wisdom and Uncertainty, 61-79, London: Routledge. ISBN: 978-0-20384-987-3

Savin-Baden, M. & Tombs. G. (2017). Research Methods for Education in the Digital Age. London: Bloomsbury. ISBN: 978-1-47424-564-7

Savin-Baden, M. and K. Wimpenny. (2014). A Practical Guide to Arts-related Research, Rotterdam: Sense.

Savin-Baden, M. (2015). Rethinking Learning in an Age of Digital Fluency: Is being Digitally Tethered a New Learning Nexus?, London: Routledge. ISBN: 978-0-41573-818-7

Savin-Baden, M. (2022). The Landscape of Postdigital Theolgies in J. Reader & M. Savin-Baden (2022) Postdigital Theologies Technology, Belief, and Practice. London: Springer. https://doi.org/10.1007/s42438-020-00212-6

Schneider MA. (1987). Culture-as-text in the work of Clifford Geertz. Theory and Society 16(6):809–839. https://doi.org/10.1007/BF00138070

Taffel, S. (2016). Perspectives on the postdigital: Beyond rhetorics of progress and novelty. Convergence, 22(3), 324-338. https://doi.org/10.1177/1354856514567827