

Decolonising the Quantitative Research Methods Curriculum

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Abstract:

The status of quantitative research methods in the UK social science curriculum has long been under scrutiny, prompting initiatives to increase engagement with quantitative methods learning. This paper argues that decolonising the quantitative methods curriculum can enhance its accessibility, relevance, and interest to students. Decolonising involves challenging colonial legacies and biases embedded in educational structures. The quantitative research methods curriculum serves as a crucial space for these efforts, offering an avenue to confront underlying assumptions and biases in research practices. In this paper we share practical strategies for decolonising the quantitative research methods curriculum, including tracing the historical origins of statistical techniques, questioning classification systems, promoting data literacy, and encouraging reflexivity among students. However, decolonising presents challenges, necessitating humility and allyship. We aim to demonstrate that the quantitative research methods curriculum can become more inclusive, equitable, and empowering for all students.

Key words: Decolonise, Quantitative, Curriculum, Research Methods, Sociology, Social Science

1. Introduction:

The status of quantitative research methods in the social sciences and specifically, sociology in the UK has long been a topic of longstanding scrutiny (Bechhofer, 1981; 1996; Bulmer, 1989, Payne

et al., 2004). Various initiatives have been launched with the intent of integrating more quantitative research methods learning into the curriculum, yielding mixed results (MacInnes, 2009; Bullock et al., 2014). Notably, the Q-Step programme, initiated in 2012, stands as one of the largest and most recent endeavours of this kind (Grundy, 2020). Supported by the Nuffield Foundation, British Academy, and Economic Social Research Council, this programme engaged a network of higher education institutions across the UK. The funding provided enabled the universities to develop new modules and degree programmes focused on enhancing statistical literacy, data management, and analysis skills. The overarching ambition was to catalyse a significant shift in attitudes toward quantitative research methods in UK social sciences and to equip more students with the expertise to address job market demands.

In our paper, we posit that while strides have been made in advancing the teaching of quantitative research methods in UK social sciences, efforts to decolonise the quantitative research methods curriculum could further enhance its accessibility, relevance and interest for social science students. We begin this paper by outlining what we mean by decolonising the curriculum, we then discuss why we believe that the quantitative research methods classroom is a good place for educators to begin to decolonise the curriculum for social science students. We share examples of changes we have incorporated in our own teaching as well as a cautionary note on the challenges of implementing these changes.

2. Decolonising the Curriculum:

Broadly speaking, decolonising the curriculum involves challenging and dismantling colonial legacies, biases, and structures in the educational framework (Begum and Saini, 2019). Student activism has played a central role in fuelling calls for decolonising the curriculum. This activism has manifested through movements such as "Rhodes Must Fall" and campaigns like "Why is My Curriculum White?" which have highlighted the need to confront and address the

lasting impact of colonialism on education. Consequently, there have been calls for the removal of colonial symbols and figures from academic spaces and a commitment to challenge the Eurocentric bias and lack of diversity in academic curricula (Peters, 2015; Meda, 2020).

For Kimunguyi (2020), a colonial curriculum is one which is biased, exclusive, and privileged in nature. It is biased because it selectively presents teachings that often omit viewpoints and narratives of the colonised. It is exclusive because it alienates many recipients who cannot relate to the narratives presented, while catering to a historically favoured demographic. It is privileged because it maintains the participation, comfort, and success of this select group. The profound influence wielded by the curriculum and pedagogic practices in perpetuating specific historical narratives whilst marginalising certain groups cannot be overstated. Hence, a decolonised approach to the curriculum becomes imperative to create space for marginalised voices and to rectify historical inaccuracies and injustices.

However, decolonising the curriculum is a “thorny issue....[which] does not have a single approach or single answer” (Meda, 2020; p. 89). As such, decolonisation of the curriculum should not be seen as merely a checkbox activity or a superficial diversification of reading lists. It is not something that can be haphazardly implemented without careful consideration or ongoing reflection and importantly, it is not solely the responsibility of colleagues from minority backgrounds. Instead, it is a collective challenge that demands the participation of everyone. Decolonising the curriculum requires sustained dialogue—sometimes uncomfortable dialogue—and a critical examination of existing structures. It necessitates a commitment to fostering an environment where discomfort is acknowledged as part of the process of growth and transformation.

Overall, the aim of decolonising the curriculum is to create an educational environment that is more inclusive, equitable, and empowering for all students, while also challenging the dominance of

Western perspectives in academia as part of the ongoing influence of colonialism, and contributing to broader social transformation.

3. Why Decolonise the Quantitative Research Methods Curriculum:

Quantitative research methods are a compulsory part of most social science undergraduate degree programmes in the UK and should not be exempt from the decolonisation initiatives (QAA, 2019). We contend that the social science research methods classroom represents a crucial starting point for such efforts. This is because research methods, particularly quantitative ones, often establish an artificial distance and implicit hierarchy between the researcher and the researched 'subject' often imposing predetermined values (Smith, 2012). Furthermore, some may perceive quantitative approaches as possessing greater authority (Castillo and Gillborn, 2023). Decolonising methodologies, provides students with a more critical and nuanced understanding of the philosophical assumptions, motivations and values underpinning the various different approaches to research (Smith, 2012).

Students are often unclear about the pertinence of their research methods training for their substantive area of study (Acton and McCreight, 2014). However, by introducing opportunities to consider critically the traditions, values and assumptions of different approaches to studying the social world, quantitative research methods learning can become more relevant and engaging. In the subsequent discussion, we describe how we have endeavoured to cultivate this critical perspective among our students within the quantitative research methods classrooms. Drawing from our experiences teaching undergraduate and postgraduate students across various academic disciplines, including sociology, education, criminology, and politics, we aim to illuminate some approaches for decolonising the quantitative research methods curriculum.

4. Ideas and Practices for Decolonising the Quantitative Research Methods Curriculum:

4.1 Tracing the History of Quantitative Research Methods

A starting point for decolonising the quantitative research methods curriculum involves explicitly examining the historical origins of various statistical techniques commonly used in the social sciences, which are often taught in our classrooms. For example, consider Francis Galton, a pivotal figure in the development of sociology as an academic discipline in the UK and the cousin of Charles Darwin (Renwick, 2011). Galton sought to advance his eugenics project through sociology. Specifically, in relation to quantitative research methods, Galton utilised the bell curve as a tool for highlighting social heterogeneity and identifying what he deemed 'abnormal' traits, aligning with his eugenics objectives (Doebler, 2024; Eknoyan, 2007). Unfortunately, the “historical provenance, staying power and flexibility” (Stern, 2016; pp.17) of Galton’s work has meant that narrow definitions of ability have lived on. Stern (2016) and Kunkel (2021) highlight the ubiquitous nature of Galton’s ideas in recent thinking, including Richard Herrnstein and Charles Murray’s (1994) *The Bell Curve*.

Similar critiques extend to figures like Pearson and Spearman, who popularised statistical approaches to delineate racial hierarchies in human intelligence (Doebler, 2024; Williams, 2016; Zuberi, 2001; Zwiener-Collins et al., 2023). However, these stories of the founders of statistical techniques frequently employed in the quantitative research methods classroom are seldom shared and such “content is virtually non-existent in methodological textbooks” (Arellano, 2022; pp.2).

Tom Fearn (2020) provides an accessible overview which can be signposted to students of Galton and Pearson’s work and the negative impacts that their use of statistical concepts had on society. By unravelling the origins of these statistical tests, we expose to our students, how these tests were conceived within distinct cultural,

social, and political milieus, reflecting the biases and power dynamics inherent at the time. Although, it is essential here to recognise that while statistical techniques are products of their social and historical contexts, they are fundamentally based on mathematical principles. As Williams (2016, p.214) cautions when describing the work of Pearson, statistical tests "are not tainted by the context of their invention." The key issue, then, is not the methods themselves but how they have been historically applied to provide racist, ableist justifications for colonialism (Doebler, 2024).

These historical accounts shine a light on the dubious ways statistical approaches were historically used. In turn, fostering a culture of critical inquiry and reflection, empowering students to scrutinise the potential biases in existing research, as well as those biases which they may inadvertently bring into their own research — thus destabilising entrenched modes of thinking.

4.2 Questioning Classifications

Another way to promote a decolonised approach to teaching quantitative research methods is by drawing on the work of critical realists and creating spaces for free thinking and critical discussion. While critical realists have historically shown an “indifference towards probability and quantitative methods” (Williams, 2021, p. 8), we argue that their emphasis on subjective experiences aligns with decolonising efforts in the quantitative curriculum. Specifically, encouraging discussions about how surveys and quantitative data classify or categorise individuals can help illuminate the ways in which students’ personal contexts influence their learning and methodological choices.

It is crucial to acknowledge that the datasets commonly utilised in teaching quantitative research methods are predominantly developed and collected by researchers from the Global North (Zweiner-Collins et al., 2023). Focussing specifically on crime related data, Buil-Gill et al. (2024) provide a comprehensive list of data recorded in the Global South that can be incorporated into quantitative research methods teaching. Even when analysing survey data from other regions, it

often originates from large global surveys designed, developed and even distributed, by researchers in the Global North (a notable exception is the Afrobarometer) (Buil-Gil et al., 2024; Zweiner-Collins et al., 2023). Researchers from the Global North inevitably bring their own life experiences and assumptions to the table, shaping the formulation of questions and the available response options for participants.

It is important to highlight to students that the categories used in social research are arbitrary constructs that are deeply entrenched in historical practices and biases (Castillo and Gillborn, 2023). Indeed, discussing national census surveys, Winlow (2020, p.317) describes how the “Categories...reflect governmental concerns of population control, as well as the immigration history of the country concerned”. For example, in the UK, the 1966 census used classifications including ‘old commonwealth’ and ‘new commonwealth’ to estimate the size of the Non-White population (Laux, 2019). Later, Ahmad (1999) discussed the approach to asking about ethnicity in the 1991 census. They highlighted the difficulties of operationalising a “fuzzy, flexible and contingent concept” (p.125) into a list of response options deemed “conceptually haphazard” (p.127) and ultimately constraining for those respondents who do not identify as ‘White’. Moreover, it was only in the 2021 UK census that certain ethnic groups, such as Roma, were included for the first time. This historical context underscores the importance of critical engagement with the categories employed in research, as they significantly shape the understanding and interpretation of social data. We encourage students to explore the Story of the Census (ONS, 2022) which describes how the UK census came to be in the 1800s and how it has developed, including changes to questions and concerns about response options available.

Similarly, research findings often aggregate small ethnic groups and compare them to a larger, typically White male, group (Arellano, 2022)- possibly, because these categories have been created by White males (Walter and Andersen, 2013). The act of comparing ‘others’ with the most privileged can be seen as an act of oppression and leads to the homogenisation of participant groups meaning that

significant cultural and contextual nuances can be overlooked (Arellano, 2022, Zweiner-Collins et al., 2023).

By engaging in critical discussions around these issues, students can develop a more nuanced understanding of the potential biases inherent in quantitative research methodologies and cultivate a more culturally sensitive approach to data analysis and interpretation. We encourage readers to look at alternative datasets that they can incorporate into their teaching including Afrobarometer, Annual Status of Education Report (ASER), or the Demographic and Health Surveys (DHS).

4.3 *Thinking Reflexively*

Historically, objectivity in quantitative research has been synonymous with the notion of 'good' and as such, reflexivity has often taken a backseat in quantitative research (Ryan and Golden, 2006). However, effective decolonisation of the quantitative research methods curriculum requires actively encouraging students to embrace reflexivity and to acknowledge that quantitative research methods require subjective decision-making and are just as socially constructed as other research methods (Gillborn et al., 2023; Ismail, 2024; Williams, 2015). Ismail (2024) describes statistical output as being contingent on several factors including the researchers' social and cultural background and advocates for researchers to critically unpick the viewpoints and influences that led to various decisions in relation to variable selection, data collection approach and so on throughout the research process.

Recognising the non-linear nature of research when measuring and recoding demographic characteristics or social phenomena is crucial. Students must understand how the decisions they make during the research process can influence or constrain conclusions drawn from their statistical models. Encouraging students to reflect on how their own positionality and experiences shape variable choices and data interpretations is equally significant in quantitative research as it is in qualitative research.

Castillo and Gillborn (2023) and Ismail (2024) advocate for the inclusion of a positionality statement in research outputs. They contend that the lack of such statements in much quantitative research creates the erroneous perception that the study was conducted in isolation from social influences and the researcher's personal experiences. They propose that researchers, including student researchers, should explicitly acknowledge how their personal backgrounds have influenced the research process.

By fostering reflexivity, students gain a deeper understanding of the subjective elements inherent in research methodologies, contributing to a more critical and nuanced approach to knowledge production. This cultivates an environment where diverse perspectives are valued, challenging dominant narratives and advancing toward a decolonised curriculum.

5. Challenges and Discomfort:

Decolonising the quantitative research methods curriculum which destabilises and decentres existing hierarchies takes time. It also requires a collaborative effort and willingness to engage in potentially uncomfortable conversations. It is important that these efforts are not disproportionately left to those who have themselves been marginalised from the curriculum or higher education in the past (Meda, 2020). As social scientists, this challenge is one that we should embrace wholeheartedly. Indeed, questioning and challenging assumptions that have gone unexamined is fundamental to the role of a social scientist.

Furthermore, it is important to clarify that the above points are not meant to diminish the significance of teaching quantitative research methods or to underestimate their role in illuminating structural barriers, inequalities and promoting greater equity. Indeed, both of us have collaborated with colleagues over several years to advocate for greater inclusion of quantitative research methods in the social

science curriculum. Walter and Andersen (2013, p.7) assert that “Statistics are powerful persuaders” and acknowledge the importance of numbers in policy and practice, in turn, they argue that abandoning quantitative approaches altogether will not benefit marginalised groups. They caution readers against falling into the trap of seeing qualitative methods as less culpable and abandoning quantitative approaches altogether. Instead, they advocate for statistical literacy for all, enabling diverse voices to be included in the creation of quantitative data collection tools, the analysis of statistics, and the presentation of results to policymakers and other key stakeholders. Promoting such literacy ensures that the tools of quantitative research can be wielded to highlight and address inequities more effectively.

We are also cognisant of the fact that in many social science departments, quantitative research methods training may fall solely on the shoulders of one or two faculty members (MacInnes, 2009). We do not want to underestimate the challenges that these colleagues may already face in championing the quantitative research methods curriculum singlehandedly and thus, appreciate that the prospect of decolonising the curriculum may seem daunting. However, the intention of this paper is to prompt readers to engage in critical reflection on research methods, particularly regarding the Eurocentric nature of research methods, and to consider how this can be integrated into their current teaching practices. Teaching plays a pivotal role in ensuring that these practices are widely questioned, as the skills and values imparted to students resonate in their future endeavours, both within and beyond academia (Arellano, 2022).

Whilst Q-Step funding in the UK has now finished, we believe that the decolonising agenda, underscores the necessity for quantitative practitioners across the country (and further afield) to remain engaged in discussion and share ideas about how to ensure the quantitative social science curriculum remains relevant and accessible to students.

6. Conclusion:

This paper has advocated for decolonising the quantitative research methods curriculum in social science disciplines. While progress has been made in integrating quantitative research into social science education, efforts to decolonise the curriculum can further enhance its accessibility and relevance for students. Quantitative research methods are often caricatured as being objective and value-free and contrasted to qualitative methods of data collection. However, in this paper we have demonstrated that by decolonising quantitative research methods encourages students to think critically about these approaches to collecting data on social phenomenon.

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