



‘Smart’ Colonialism: A case study of international students’ (from non-native English-speaking countries) perspective and experience of navigating ‘smart campus’ features at Oxford University

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MSc in Education (Digital and Social Change), 2023

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Abstract

This thesis is a study of power. More specifically, it investigates the forms and operations of power that can be observed in ‘smart campus’ projects in UK higher education, which promises to improve the student experience with more inclusive and innovative digital infrastructure systems.

A case study of Oxford University is taken to explore its Digital Transformation Programme (DTP), supported by the Digital Education Strategy 2023-2027, which provides a strategic policy to advance learning and research, and the digital technologies that enable access and participation. The purpose of this research is twofold: to examine the extent to which Oxford University is mobilising ‘smart campus’ imaginaries to create data-driven, coded spaces that have the effect of sculpting particular kinds of educational values and practices; and how these features are experienced by international students—an important yet often overlooked group who rely on ‘smart’ applications to overcome social and cultural barriers, and at the same time, find themselves increasingly subject to technology’s racial and imperialist power relations. For such a group, questions of the future of education—and of social justice and equality more generally—are of vital importance to be addressed.

Through the collection of institutional documents and statistics, relational maps, and semi-structured interviews with international students, faculty members, and DTP consultants, a core finding of the research suggests that when it comes to the use and development of ‘smart campus’ features for international students, there are considerable ambiguity, contradiction, and unease among participants as to what this looks like, and the principles and practices that undergird these systems. Drawing on Foucault’s critical concept of the *dispositif* and decolonial theories, the thesis argues that a colonial gaze guides initiatives to create ‘smarter’ universities in ways that, despite its modernist rhetoric of transformation, continue an oppressive history of counting, categorising, and governing Others.

This research attempts to make sense of the long-term consequences of ‘smart campus’ projects in both masking and deepening social inequalities; and thus, engages with alternative ways of imagining the future of education that represents, liberates, and places social justice within a wider and historical field of power relations.

Acknowledgements

I would like to thank my supervisors, Dr Lulu Shi and Professor Niall Winters, for their brilliant guidance, critical insight, and expertise. I am grateful for their endless support and feedback.

I am also indebted to Professor Rebecca Eynon, who offered thoughtful advice and comments on thesis writing.

I would also like to thank all the students and staff I have been fortunate enough to learn from over the past year. I am particularly inspired by my DSC cohort with whom I was able to explore questions about the present and future in an open, intellectually stimulating space.

Finally I would like to thank my family and friends for their unwavering belief in me. I sincerely thank them all.

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Chapter I: Introduction

Setting the Scene

I first came across the Digital Transformation Programme when I received an email notification asking me to take a short survey, titled ‘Share your views on Digital Education Technologies at Oxford’. The message introduced the new initiative, the Digital Transformation Programme (which I term ‘DTP’ from here on), as Oxford University’s commitment for the next four years to investing in digital education and the infrastructures necessary to support the student experience, as well as help address the structural inequalities in teaching and learning. This is supported by the university’s Digital Education Strategy 2023-2027, which is organised around four goals: (1) provide the foundations for digital education, (2) enable a more inclusive learning environment, (3) extend the global reach of Oxford’s educational opportunities, and (4) support experimentation and innovation in digital education. Through this strategy we learn that there are considerable concerns around the inclusiveness and accessibility of digital education platforms for vulnerable groups (see Goals 2 and 3), such as international students from low- and middle-income countries, due to Oxford’s demanding academic and social environments. The solution proposed by the DTP is to invest in ‘holistic and integrated’ and ‘centrally supported’ infrastructures that ‘develop people as digitally skilled practitioners’ and ‘optimise the use of digital tools and technologies’ to make them accessible to the ‘diverse student community’ (Digital Education Strategy, 2023, p.5).

A core argument that is presented by the initiative is the need to ensure that Oxford’s education is ‘digitally fit for the future’ (Centre for Teaching and Learning, 2023, p.2) by not only improving the quality of digital systems and tools but by designing ‘flexible’ and ‘inclusive’ digital education platforms that account for the broader cultural shifts across Oxford. As such, digital transformation is an imaginative vision of the future of education—one that hopes to enact an assemblage of coded technologies and data practices to improve the student learning experience, as well as advance the university’s data infrastructures by making smarter, more efficient use of technology. In this sense, the digitisation of education is inherently optimistic, forward-looking, and an essentially ‘positive project’ (Selwyn, 2021, p.499) coloured by the underlying belief that technological innovations are capable of

‘tackling the biggest challenges, engineering solutions, innovating teaching and learning practices, and fundamentally improving education’ (Facer and Selwyn, 2021, p.3). However, such a vision also raises questions. What kind of educational values and practices is being promoted through increasingly data-driven, software-supported, highly coded digital spaces as ever-growing numbers of international students now study at Oxford University in their pursuit of knowledge and development? Can their experiences be captured and improved through increased investment in ‘smarter’ digital infrastructures, or is such a project instead contributing to the construction of international students as perpetually invisible, illegible subjects, thus imposing colonial policies under the guise of ‘transformation’?

These emerging questions form the central concern of this thesis. The aim of this research is to investigate the extent and impact of ‘smart campus’ features in UK higher education (HE) through an empirical case study of Oxford’s DTP, looking particularly at the initiative’s rhetoric of ‘transformation’ and ‘smartness’ and its implications for international students from non-native English-speaking countries. Specifically, I am interested in exploring how Oxford’s DTP is creating a new hidden architecture of technologies, actors, values and practices that simultaneously permit big data technologies to run constantly and silently in the background, in ways that may significantly transform HE itself, while ‘nudging’ international students and their bodies towards ‘ideal’ behaviours in order to actively participate and sustain these complex digital infrastructures (Foucault, 2008). In an increasingly digital world, a growing number of universities, governments, and commercial organisations are engaging with the ‘reimagining’ of education through the idea of the ‘smart campus’ (Musa, 2016), defined as ‘institutions that mobilise huge amounts of data generated to improve the student experience, enhance research, support community outreach, and advance the university’s infrastructure’ (Williamson, 2020, p.38). At a city level, smart campuses demand a physical infrastructure similar to that of smart cities, buildings or homes—which make use Internet-of-Things (IoT) solutions, sensors and actuators, and materials to provide the connectivity necessary for the deployment of communication architectures (e.g. library system access, 5G, LMS logins) designed for automated sensing and feedback. At a technical level, which forms the foci of this research, is a prototypical ‘automatic university’ in which digital systems automatically gather ‘learning analytics’ data, record and monitor learning spaces, and analyse collected student data. As such, the ‘smart campus’ seeks to leverage large-scale datasets, networks, analytics, and IoT sensors to produce ‘smart’ solutions that

‘personalise the educational experience, enhance market efficiencies and performance, and empower community-based knowledge’ (Datta, 2017, p.407).

However, the vision presented here has limitations. Some may argue that it is speculative science fiction (Min-Allah and Alrashed, 2020), or that smart universities are more of an ideal than reality (Sindle, 2021). But similar ‘smart campus’ visions are now catalysing real-world technical innovations, such as the University of Northampton’s ‘smart campus’ technology suite that enables live tracking of website and software usage by students and staff (Niemtus, 2019), or Carnegie Mellon University’s ‘EduSense’ designed to automatically detect and analyse classroom movements, including where students are looking, their facial expressions, and how often they raise their hands, in order to provide a ‘continuous feedback loop’ for educators to improve their teaching and engagement. As such, a significant controversy raised by this high-tech ideal is that it relies on some of the most contentious AI-based surveillance technologies, such as spatial monitoring, sensor networks, and automated analytics, which are open to serious biases (Winters et al., 2020) and have the potential to enact new forms of power that govern students through assemblages that not only surveil, discipline, and punish but also identify, categorise, and classify bodies in order to modulate their behaviour toward desirable outcomes (Isin and Ruppert, 2020).

While the precise future consequences of the ‘smart campus’ remain unknown, it has clear implications for how teaching and learning take place, the knowledge engaged with, and the values and practices that are prioritised and advocated for in automated decision-making systems. I use Oxford’s DTP as a starting point to highlight the ongoing fascination to envisage HE as digitised and datafied—an in-the-making, fabricated educational space that attempts to leverage digital technologies to capture and process every aspect of the student experience. For such reasons, the scope of this research attends to some of the features of the ‘smart campus’, which focuses on the core digital learning platforms that are used to support the processes of teaching, learning, and assessment at Oxford, such as Canvas, Microsoft Teams and Inspera. I am thus interested in examining the transformative framework of a seemingly benign, neutral, or even utopian initiative: what kind of ‘smart campus’ visions are being imagined, produced, negotiated by certain groups of students, and made into seemingly actionable strategies for universities?

The social consequences of these ‘smart’ projects are significant, especially at Oxford University, a world-leading university that is consistently ranked 1st (Times Higher Education, 2023) for ‘research’, ‘industry income’ and ‘international outlook’. The university has endowment assets of £1.3bn with individual college endowments totalling £5.1bn (University of Oxford, 2022). As such, the university wields a significant amount of financial and discursive power and has an overwhelming influence over the governance and social organisation of education globally. Oxford is also well-known for its troubling past—the oldest English-speaking university has come under constant criticism for its ‘hugely Eurocentric’ and ‘colonial’ histories (Adams, 2019) evident in the student-led protests aimed at addressing issues of imperialism (‘Rhodes Must Fall’), legacies of racism (‘Why is My Curriculum White?’), communal disaffection towards students of colour (‘I, too, am Oxford’), and so on (Radcliffe, 2017; Leibowitz, 2017). In light of this, a growing number of ‘smart campus’ literature (Mouton and Burns, 2021; Kitchin, 2011; Williamson, 2015) argue for the need to critically examine the social and political implications of the role of technology in education—and its accumulation of ‘data’—that creates new data-intensive, market-driven forms of capitalism. This kind of capitalism opens new lines of enquiry into the colonial processes of extraction, commodification, aggregation, and subsequent exploitation of our digital selves. Based on an understanding of Oxford University as a regime of discourse and a project of modernity/coloniality, I interpret the DTP to be about more than a call for improved digital infrastructures. Instead, I aim to make sense of these transformation narratives and how they have come to be so fundamental in creating commercially managed, information-sorting, black-boxed decision-making systems (Eubanks, 2018) that continue to benefit the powerful while inflicting harm onto those who are systematically oppressed.

At the intersection of these tensions and developments, international students constitute an important yet often overlooked group for examining the social, political, and economic implications of increasingly digitised education spaces. For one thing, international students account for a significant proportion of HE students worldwide. In 2022, there were over 600,000 international students studying in the UK, with China (151,690), India (126,535), and Nigeria (14,270) representing the majority of non-native English-speaking students (HESA, 2023). Specifically, Oxford University states that one-third of its overall students are international originating from over 140 countries (University of Oxford, 2023). Statistics from Universities UK also reveal that the intake of international students in 2022 contributed

a huge £50 billion to the UK economy with every 11 non-EU students generating £1 million worth of net economic impact (Universities UK, 2023). Overall, the UK has some of the highest numbers of international students and is considered the second most popular country for hosting. Given such figures, how international students perceive and experience these ‘smart campus’ plans are significant not just for these students themselves, but for HE institutions more generally, as well as for thinking more broadly about questions of global educational equality and justice. As argued by Tannock (2018), non-native English-speaking students are a vulnerable group since they study temporarily in countries in which they do not have citizenship—and thus tend to have fewer rights and protection. ‘Smart campuses’ and the reliance on surveillance technologies have the potential to deepen inequality by combining the extractive practices of colonialism with the quantification of data, which risks the imposition of (western) ideals on Others, while overlooking and excluding local cultural contexts that are significant in shaping educational practices. It is therefore critical to examine the functioning of Oxford’s DTP as an initiative that sculpts and enforces particular rights and entitlements for certain groups; and the educational values, agendas, pedagogies and curricula (often of Western origin) that are engaged with and imposed through digital transformation.

An empirical case study forms the core methodology of this qualitative research study that investigates how international students from non-native English-speaking countries at Oxford University, alongside insights provided by staff and DTP consultants, conceptualise and experience centrally supported digital platforms (Canvas) and additional tools and services (Teams, Inpera) in the HE landscape. I situate this work within a particular policy terrain: where the sociotechnical imaginings of HE as a ‘smart’, digitally-enhanced, and data-intensive sector have become increasingly shared across organisations and borders, from commercial partners, the media, to international organisations and policymakers, amid popular and political beliefs that technology can alleviate inequalities and exclusion (Selwyn, 2004). It is important to reiterate that as imaginaries, ‘smart campuses’ are not ‘actually-existing’ environments (Shelton et al., 2014) but prototypes and technological projects and strategies, such as Oxford’s DTP, that are slowly being brought to reality through discursive and material means. As such, this is an extensive grey area that universities like Oxford, as in other countries, are now compelled to navigate as they make decisions about such things as the organisation of institutional and digital spaces, the use of devices, platforms, algorithms and data, and the kinds of future learning systems that ought to be pursued to best address the

needs of its students and staff. While there is limited research on education futures and technology, and almost none examining international students' experiences of navigating 'smart campus' projects, this is an active research topic in other fields. For example, some studies show the benefits of 'smart universities' in mediating entrepreneurship and knowledge sharing (Swadi and Al-Dalaien, 2022), improving health and safety (Zenki and Mu, 2020), and supporting climate-based initiatives (Zaballos et al., 2020). The majority of existing literature frame the 'smart campus' in a positive light, highlighting its potential to optimise the administration and governance of the future of education. However, there are emerging critical security studies that reveal the issues of surveillance and algorithmic policing (Amicelle et al., 2015; Altenhain, 2023) in IoT-enabled smart campuses, with concerns around its connection to colonial practices of sorting bodies and sustaining historically rooted forms of social domination. Therefore, another level of criticality is needed to evaluate the potential downside of these initiatives for different student groups. This requires us to view these positive framings as a discourse in and of itself, especially to contend with the wider social, institutional, economic, cultural, and political structures embedded in the 'smart campus' and its potential to deepen structural inequalities.

My critical examination of Oxford's DTP, which I interpret as a strategic project invested in the 'transformation' of digital tools and infrastructures in an effort to diversify and enhance Oxford's educational opportunities for different student groups, draws on Foucault's (1977) 'dispositif' as a critical lens for exposing the varied ways in which education and technology are shaped by and fabricated within multiple forces of power. Specifically, I explore the idea of the DTP as a *dispositif* of power—that is, to interrogate the strategies and technologies it uses, the pedagogies and knowledge it prioritises, the 'objects' it governs (student populations), and the resistances it elicits from people as subjects to and of power. I also contend that power is predominantly negative—enacted through fear, violence, or punishment—to suggest that the 'smart campus' is more pervasive, with its method of extracting obedience through positive submissions of hope, optimism, and desire in order to sculpt young people into 'smart citizens' who sustain the production of smart futures. This is closely linked with the quantifying gaze enacted through the DTP, particularly the modern/colonial narrative of data as salvation. The cases I present are specific to the lives and experiences of non-native English-speaking students, a group largely understudied in this context despite constituting a growing proportion of HE students that bring significant value (social, economic, cultural) to UK society.

I am adding my voice to a number of scholars, activists, feminists, and the many thinkers from the ‘Global South’, such as Safiya Noble, Mei Lan Fang, Ben Williamson, Kate Crawford and Danah Boyd, Neil Selwyn, to name a few, who are increasingly critical of the sociotechnical imaginaries that are being realised and materialised through digital transformation, as an attempt to apply the language of objectivity and rationality to a mechanised future that can be profoundly harmful to student groups, people of colour, and those living and studying at the margins. I draw on critical data studies throughout the study to conceptualise the social, technical, and ideological work involved in imagining and producing large-scale networked systems like the ‘smart campus’ and establish the understanding that data is implicated by power relations at various scales. This thesis consists of five chapters, beginning with the introduction. Chapter 2 reviews the existing literature on ‘smart campus’ projects in UK higher education. I first explore the HE landscape—its marketisation and datafication and offer a cautionary discussion of the implications of these changes in relation to emerging ‘smart campus’ projects. I then offer a brief account of Oxford’s history and explore the DTP, especially the technologies, discourses, and practices it deploys. Situating the topic within wider social and historical contexts, I focus on international non-native English-speaking students at Oxford and complement this analysis with an examination of the emerging concept of ‘digital colonialism’, which relies on the racial classification, categorisation, and quantification of colonial subjects. In particular, I look at the ways in which power hierarchies enable processes of dispossession, increasing the stakes of counting and being counted in the digital context. Chapter 3 introduces the research design and provides a theoretical and practical justification of the methods, along with possible limitations. This is followed by a discussion and analysis of the findings in Chapter 4. This thesis concludes with Chapter 5 by drawing these themes together and highlighting some of the educational and policy implications of this study and directions for future research. I consider this study as much of a theoretical project as a practical one, the goal of which is to theorise the inclusion of marginalised learners in future digital education spaces and provide resistance against technological projects that serve to deepen inequality and marginalisation.

Chapter II: Literature Review

Changing Landscapes in Higher Education

The Market 4.0

For several decades, higher education (HE) is experiencing profound transformations as the processes of marketisation, privatisation, and commercialisation have become driving ‘engines’ for how universities are valued and experienced (Espeland and Saunder, 2016; Tomlinson and Kelly, 2018). In the United Kingdom, for example, HE is viewed as a major contributor to economic growth with estimates that ‘between 2021 and 2026’, universities can provide more than ‘£95 billion to the economy and support over 815,000 jobs’ (HE Research Briefing, 2023, p.87). Similarly, the Department for Education’s (DfE, 2021) ‘International Education Strategy’ encourage universities to develop ‘strong venture partnerships with businesses and industry’ (p.18) in order to increase education exports, establish new markets, and tackle challenges of measuring and achieving performance targets. Many voices from across government, policy, and business sectors claim that HE institutions are essential to ensuring that the UK has a ‘competitive international advantage’ in a ‘high-tech, knowledge-based economy’ (Williamson and Hogan, 2021, p.13), especially in supplying the necessary knowledge, skills, and graduates to achieve labour market value. Notably, the influence of neoliberalism within HE introduced new forms of governmentality as policies including the Education Reform Act 1988 and ‘The Future of Higher Education’ (2003), reframing HE from a ‘public’ to ‘private’ good, an ‘elite’ to a ‘mass participation’ system; the consequences of which have expanded the ideological site for training the ‘self-interested individual’ to promote neoliberal logics of economics, performance, audit, accounting, competition, rankings, and return on investments (Selwyn, 2014; Busch, 2017).

From the massification of HE (Evans et al., 2021; Boliver 2011)—which is characterised by a record-high tertiary attainment rate from 29% in 2000 to 57% in 2021 (OECD, 2022), to the diversification of HE institutions and subject disciplines (Trow, 2005), and the increase in tuition fees to £9250 per annum (Coughlan, 2016), UK universities increasingly embody the concept of ‘marketisation’ in ways that commodifies teaching and learning to achieve performative criteria and quantifiable output measures. As such, universities are re-presented

as ‘consumer-managerial’ institutions that market their education as ‘services’ and ‘products’ to be purchased, and accordingly compete for students (customers) who pay tuition fees in exchange for degrees and credentials. Central to this is what Burton-Jones (1999) terms ‘knowledge capitalism’, which reflects a growing consensus among economists and policy organisations such as the World Bank and OECD that knowledge is essential ‘for upgrading human capital, driving economic performance and markets, and creating an increasingly skilled population capable of addressing information problems’ (OECD, 1996, p.23). In particular, the World Bank’s ‘World Development Report’ (1999) focus on ‘knowledge about technology’ (p.10), advocating for the need to take advantage of new information and communications technology (ICT) in order to acquire the technical ‘know-how’ for navigating new markets. This sheds light on a significant change underpinning the HE marketplace that is underway: the so-called ‘data revolution’ or ‘Industrial Revolution 4.0’ where digital technologies, big data analytics, Artificial Intelligence, and other automated systems are advanced across the sector.

It is within this context that universities have expanded a ‘Global HE Industry’ (Schwaub, 2015) to include a range of digital infrastructures, platforms, and ‘data solutions’ service providers, as well as partnerships with businesses, investors, and private and commercial companies, which together function to ‘open up’ and exploit new markets in HE data. Datafication, according to Mayer-Schoenberger and Cukier (2013), has begun to reshape every aspect of HE as new forms of digital data are generated, collected, analysed, and managed to inform decision-making processes. At an institutional level, data is perceived to optimise learning through the use of ‘adaptive digital platforms’ and ‘learning analytics’ that sort and cluster student data into ‘dashboards’ that can be used and analysed to develop more robust pedagogic processes (Guster and Brown, 2012). This mobilisation of data-driven technologies in HE also reflects the growing political agenda of ‘reshaping education’ through ‘datafying learning and assessment processes’ (Williamson, 2018, p.4) promoted by governments and businesses alike. For example, the Department for Education’s (DfE, 2019) ‘Realising the Potential of Technology in Education’ argue that the ‘widespread use of technology can bring positive benefits’ by ‘increasing efficiencies, simplifying administrative tasks, improving benchmarks, targets, and outcomes, and automating feedback loops’ (p.16). This is echoed in the UK government’s Industrial Strategy (2017) which announced a £470 million investment in digital education and data infrastructures, and an additional £725 million in technological innovations. On the one hand, there is considerable enthusiasm

around new digital technologies, from natural language processing models (e.g. ChatGPT) and robot teaching assistants to facial recognition and ‘emotional AI’ wearable biosensors (McSay, 2018), which attempt to ‘enhance’ the educational experience by providing personalised support to students and staff. On the other, from a more critical perspective, Beer (2016) argues that the political shift to mass data collection is itself implicated in neoliberal forms of ‘metric power’, in which corporate models of marketisation combine with the desire to ‘quantify, measure, and rank’ (p.173) institutional processes to embed competitive economic logics into HE.

The combined forces of the global education industry, neoliberal ‘metric power’, and policy reforms are rapidly changing the ways universities operate. A significant context to this is the need to create ‘smarter’ universities by ‘unbundling’ HE into distinct components that are then outsourced to external technology suppliers and platform vendors for ‘rebundling’ as new products and services. Early efforts at this included massive open online courses (MOOCs) offering free/low-cost online learning (Coursera, EdX), which sought to ‘unbundle’ from traditional learning models by working with external platform providers to co-design education (White et al., 2020). This has opened up market opportunities for data outsourcing as for-profit businesses attempt to advance a ‘capitalist restructuring of universities’ (McCowan, 2017, p.735) through centralising and standardising education provision, and leveraging mass data collection to potentially track and analyse student activities in efforts to increase efficiency and reduce costs; thus, transforming HE into ‘entrepreneurial universities’ that rely on commercial data-intensive technologies for their everyday operations. This can be problematic as the appropriation of the ‘raw material’ of data has enabled for-profit companies such as Google, Microsoft, and Facebook to have unprecedented power in ‘monitoring, extracting, using and selling’ (Srnicsek, 2016, p.92) digital data and turning students into new sources of capital. As will be explored in subsequent chapters, Oxford’s DTP is immersed in these discourses and consider ‘empowering’ marginalised student groups through digital transformation as desirable insofar as it is conducive to profit-making and capitalist expansions (Koffman and Gill, 2013).

A growing number of researchers from the field of ‘critical data studies’ (see e.g. Selwyn and Gasevic, 2020; Williamson et al., 2020; Dencik and Sanchez-Monedero, 2022) urge the need to unpack the market-making dynamics of universities and situate its mass data collection endeavours within economic and power relations so as to consider its harmful effects.

Existing approaches to investigating ‘datafication’ in HE tends to focus on evaluating the fairness and equity of data-intensive education systems (Madaio et al., 2021), including issues of bias, privacy, and regulation. For example, Jiang and Pardos’ (2021) study of potential bias present in AI-powered grade prediction systems highlights the uneven distribution of grades, with White and Asian Americans receiving higher grade predictions on average than international students of Latino, African, or Native/Pacific Islander backgrounds, resulting in discriminatory practices that further reinforce often racialised, legacies of historical injustice. Proposed solutions for addressing inequity typically involve ‘de-biasing’ datasets and models by creating more ‘diverse’ and ‘representative’ training and benchmarking data (Marjanovic et al., 2022). However, critical theorists (e.g. Williamson, 2020; Dixon-Román, 2017) have argued that such an approach to addressing biases risks extending a neoliberal co-optation of educational equity that is a narrow, technical fix. This is dangerous for it presupposes that data is neutral, objective and innocent, and that more is always better. In doing so, it quantifies the existing disparities to a set of unintended ‘side effects’ or ‘errors’ to be resolved while overlooking the complex ways in which data can discipline, exclude, and harm.

Although the marketisation and attribution of quantitative value to HE is not a completely new problem, what is different today is the amount of data being generated and used at an unprecedented rate as new technologies gain prominence, and the extent to which such technologies could reproduce social disadvantage (Bourdieu, 1977; Winters et al., 2020) at multiple scales, across all education stages and learner groups in a manner that has never been witnessed before. What is especially concerning is that this new pervasive market force can become fully institutionalised amid the emerging fascination among businesses, policymakers, and universities to reimagine HE—especially the kind of social and technical futures that ought to be pursued at schools and universities through the design of digital data-processing systems. In particular, new ways of mapping education futures are being tangled up with financial investments in ‘desirable’ digital technologies that can yield returns in the form of efficiency and, ultimately, the profitability of investors and whoever controls it. For example, the Education Intelligence Agency HolonIQ reported ‘\$21 billion in venture capital investment in education technologies in 2021’, predicting the market to be worth ‘at least \$400 billion by 2025’ (HolonIQ, 2023, p.2). However, as Williamson (2021) argues, this is not just investments seeking a profitable return. It is investments backing particular visions of how the future of teaching and learning should be, and the digital technologies and bodies

that can be used to simultaneously materialise this future while increasing shareholder value and market opportunities. This links to what Beckert (2016) terms instruments of ‘fictional expectations’, suggesting that it is the fervent pursuit of the future’s unknowability that drives capitalist systems, and attracts policymakers to ‘invest’ in digital technologies that provide a more ‘calculative preview of the future’ (p.146). As a range of commercial and political actors ‘bet’ on visions of digital transformation that promise financial returns while ‘shorting’ and devaluing alternative imaginaries, there is a need to examine the place from which these HE futures originated, how it is being produced and negotiated, and what is at stake for marginalised students as they are turned into prospective economic subjects to be used in the construction of these visions?

A Utopia of (un)Certainty

In parallel with political desires to subject HE to further datafication, various organisations and actors have begun to experiment with the construction of HE as a ‘coded, software-mediated, programmable, and data-intensive sector’ (Williamson, 2015, p.9). In tandem, the idea of the ‘smart campus’ has emerged as an urban ‘sociotechnical imaginary’ (Jasanoff and Kim, 2009): a set of collectively held beliefs, ideas, and performative visions of the future that animate technological developments. Smart universities, as Lane and Finsel (2014) attempt to define, are institutions that ‘leverage large-scale data infrastructures’ used to capture, analyse, and use data in order to ‘improve the student experience, enrich research and community outreach, and advance the campus’ infrastructure’ (p.4). As an imaginary, the ‘smart campus’ is a process of becoming—enacted by an assemblage of technological objects, discourses, standards, and social actors for the purpose of reconfiguring universities into data-driven sites of real-time tracking and measurement. The growing significance of the ‘smart campus’ is being built upon investment in both the physical space, such as CCTVs, interactive whiteboards, swipe cards to monitor building access and movement, facilities and equipment usage, as well as data infrastructures, including WIFI connectivity, learning analytics, library systems, data dashboards and networks, and more. As ‘fabricated spaces’ (Huxley, 2007), the ‘smart campus’ is conceptualised and made intelligible by being ascribed particular characteristics, each produced through discursive and material means, in which HE actors serve as ‘distillations of practices’ (p.194) for shaping the technologies that might be used to govern and administer education.

Many UK HE institutions are now involved in extensive ‘smart campus’ plans due to the growing appeal for politicians and educationalists of the ‘technical fix’—that is, an enduring cultural faith in the ‘power’ of technology to solve long-standing societal problems (Robins and Webster, 1989). This desire goes deep: for example, the University of Birmingham recently announced \$1 billion in funding to ‘build the world’s smartest global campus’ that combines digital sensors and analytics technologies, AI, and renewable energy systems to help change users’ behaviours in ways that tackle important challenges to efficiency and sustainability. Similarly, there are increasing public-private partnerships between mega-corporations and universities (e.g. Google with MIT, Netflix with UCLA, Microsoft with Berkeley) to intervene in HE by supplying the digital infrastructures and technical expertise necessary to roll out features of the ‘smart campus’ at scale. Attention to, and understanding of, this desire for the ‘smart campus’ is particularly important as HE is beginning to encounter a new wave of what Rose (2007) calls a ‘moral economy of hope’, that is, the belief that widespread technological change will undoubtedly treat and cure disparities through circuits of investment, lifting us from ‘toil and struggle’ into a new realm of ‘harmony and fulfilment’ (Zuboff, 2019, p.252): a utopia of certainty. As a data-building project, the ‘smart campus’ is both totalising and utopian. It operationalises a sociotechnical assemblage of people, organisations, technologies, and policies, all working towards the utopian vision of a ‘smart and connected’ (Williamson, 2018, p.13) HE sector. At the same time, it resembles ‘smart cities’ or ‘living labs’ (McCowan, 2017) that collect masses of data on students and faculty and rely on commercial companies competing to supply smart systems to institutions. As such, the ‘smart campus’ is both the end and the means of education: an *imagination* of how education is and ought to be, a *representation* of the social and the individual, and also a set of *technical processes* for bringing the vision to life.

However, the uncertainty of the ‘smart campus’ remains. Beneath its utopic discourses is a more politicised project of market reform that standardises and quantifies student data so as to ensure that the interests of investors and big tech firms are adequately served. The ever-growing ‘smart campus’ literature highlights the significant controversies raised by increasingly digitised HE spaces (see e.g. Kitchin, 2014; Mouton and Burns, 2021), especially the extent to which data—and its subsequent accumulation—is driving new forms of capitalism. In line with researchers who contend the performative nature of narratives around ‘smartness’ (Picon, 2013), there is now a well-established critique of the

'datafication' of universities from the position of surveillance practices, especially the range of digital tools designed for continuous monitoring, sensing, and tracking of student activities. Kelley (2020) shows, for example, how proctoring tools such as ProctorU are surveillance products that 'watch' students take exams, equipped with facial recognition, keystroke sensors, gaze-monitoring and eye-tracking, and the use of cameras and microphones to record. The concern here is not just the significant invasion of privacy, but also the forms of control exercised, allowing these intrusive data monitoring tools to be instituted, legitimised, and scaled with algorithms to optimise the 'smart campus'. This is based on a rationality of constant surveillance of 'seeing' and 'knowing' the activities of students and staff, through a complex procedure of 'collecting, counting, and classifying data' (Miller and Rose, 2013, p.91), that subsequently renders all aspects of the human experience into behavioural data for predicting future outcomes. Kenney (2022) draws on Zuboff's (2019) concept of 'surveillance capitalism' to argue that the 'utopian' aspect of this business model is that it sells the most valuable product: certainty. This is offered through prediction: first, by gathering enough data on students so that patterns can be identified, extracted, and sold; and second, manipulate the learner and their behaviour subtly so that they are controlled. To continue selling 'certainty', big tech firms not only demand more data to be fed into the system, but also the expansion of the breadth of data-collecting activities in ways that benefit the ever-newer aspects of the 'smart campus'. Surveillance capitalism in this context reminds us that exploitation of resources for behavioural surplus and profit is not simply a one-off occurrence; 'it must be repeated and repeated, at expanding scope and scale' (Arendt, 2004, p.198) in order to create new valuable products and services for the 'smart' university itself.

Nevertheless, are these surveillance practices simply another manifestation of extractivist capitalism or is it something more? Isin and Ruppert's (2020) notion of 'sensory power' warn against a new, pervasive form of power that functions most effectively as a positive rather than a negative force. While traditional surveillance practices operate on the human body through discipline, extracting obedience, and dispossessing and disenfranchising subject peoples for more economically efficient ways of governing them. Sensory power, on the other hand, involves modulating the behaviour and performance of bodies through the use of technology that 'no longer wish to kill, but to invest in life through and through' (Foucault, 1978, p.139). The assumption here is that power is most effective when the 'smart campus' reconfigures students into 'smart' citizens who can actively participate in and sustain these

digital initiatives, as well as contribute to the monitoring and management of the university itself. It is within this context that students are increasingly viewed as ‘computational operatives’ and perceived as ‘datasets to be manipulated’ (Williamson, 2015, p.9) in emerging ‘smart campus’ visions. For example, initiatives such as the University of Glasgow’s Smart Campus Digital Masterplan, Open University’s Institute of Coding and MK: Smart Urban Data School demonstrate how students might be trained as apprentice computational operatives through activities such as civic coding, programming, data literacy, digital mean-making, and more. This requires students to learn to code in order to participate in the ‘re-programming, de-bugging and optimisation of HE products and services’ (Vanolo, 2014, p.893), while simultaneously being re-subjectified as productive workers in the construction of the ‘smart’ university. A new source of social power is constructed (MacKenzie, 2006), where teaching and learning processes unfold through spatial and temporal networks of algorithms, sensors, platforms and datasets that constitute the governance of HE. As such, there is a need to be critical of how power functions, its manifestations within ‘smart campus’ plans, and most importantly—the forms of inequalities it elicits.

Transformation

Oxford: A Brief History

Oxford University is an interesting place to situate the past and present. As the world's oldest English-speaking university with a 'global reputation for excellence in teaching, research, and contributions to society' (University of Oxford, 2023, p.1), Oxford has been ranked as the best UK university for the seventh consecutive year (Times Higher Education, 2023) and consistently in the top five of universities globally (QS World University Rankings, 2023). A study conducted by London Economics (2021) reveals that Oxford University contributes around '£15.7 billion to the UK economy, with the value of the university's research and knowledge transfer activities being worth £7.9 billion and the impact of educational exports estimated at £732 million', with an additional '£611 million generated from tourism' (p.5). The report's evidence confirmed something long known: Oxford drives the economy, locally and nationally, and has a strong influence on jobs and investments, and thus, considered 'an engine of the British economy into the future' (Ibid., p.56). As an elite global institution, Oxford University also attracts students from 'more than 160 nationalities and backgrounds, with over 26,000 current students, 41% of whom are international students' (University of Oxford, 2023, p.3). While the traditional HE sector has been understood as elitist, with universities like Oxford and Cambridge seeking to recruit the 'best and brightest'—typically the White affluent male—to maintain their reputational advantage (Koutsouris, et al., 2021); the recent massification and neoliberal reforms have opened up HE to a greater number of students from different countries and backgrounds. In turn, Oxford is under pressure to 'diversify' its student population through widening participation and social mobility agendas, not only as an ethical imperative but also as a means to enhance quality and efficiency in an increasingly competitive HE marketplace.

However, as Akande (2019) suggests, Oxford is a complicated place in the sense that 'it is very diverse in some ways, and not at all in others' (p.2). For instance, the university's 'History of the Oxford and Colonialism Project' acknowledges the tension between its 'complicated ties with Great Britain's colonial past' and efforts to 'innovate and create a forward-thinking vision for Oxford's future' (Singh, 2022, p.4). What is particularly significant about Oxford's history is that it draws attention to the long-standing controversies

surrounding issues of diversity and representation, for example—its predominately white curriculum, private school-educated student population, and so on. In an international context, the ‘I, too, am Oxford’ campaign (Gunaratnam, 2014) further emphasises that despite there being a greater number of students of colour and nationalities studying at Oxford than ever before, institutionalised racism and xenophobia persist—making students feel different and ‘Othered’ from the Oxford community. The ‘Rhodes Must Fall Oxford’ student-led movement also brought issues of colonial legacies to the forefront, making the argument that while Oxford already had policies addressing race and diversity, it has taken a ‘back seat’ in debates over issues of legacy and imperialism (Reay, 2018), especially the benefits and profit gained from the slave trade and exploitation of the Global South. Nevertheless, Guillaume and Adebayo (2022) argue that Oxford is in a ‘privileged position’ to deal with such issues given its own central role in training a record number of political elites (e.g. 30 Prime Ministers, 144 Members of Parliament); all while its colleges and buildings at large are adorned with ‘portraits of dead white men’ (p.3), contributing to a cultural and economic framework that sanctioned imperialism in the UK.

Oxford’s colonial history foregrounds concerns around the centrality of empire and exploitation of ‘Others’ to androcentric social and political power, leading to further inquiry into the extent to which such violence shapes the commodification of student bodies. This is especially important as the university’s ‘Oxford and Colonialism’ (2020) hub recognises the need to ‘improve its anti-racist future by reflecting on the imperial past’ (p.7), with the goal of examining the boundaries between past and present-day coloniality in order to help ‘increase its attractiveness’ as an ‘inclusive global institution’ (p.3) for students and faculty from around the world, including the Global South, as well as students from minority groups studying at Oxford. It is with this in mind that I consider ‘transformation’ as the university looks to investigate and instigate change; not only to re-politicise its historical framing and space, but also to respond to emerging opportunities of digital innovation and practice across the HE sector in moves to re-appropriate their future imaginaries. While digital transformation is often discussed and approached separately from that of decolonisation work, Kwet (2019) argues the need to be critical of new technologies and strategies as being not only global in scope, but also fundamentally colonial in nature and as significant a threat as classic colonialism. Therefore, understanding this historical and digital context is crucial in order to locate digital transformation as building on the legacies of coloniality, particularly in its reliance on discourses of ‘smartness’ and ‘inclusion’ implicated in Eurocentrism, and its

potential in shifting the sites of knowledge and power as Oxford looks to ‘better understand the past to improve the future’ (Richardson, 2020, p.2).

Digital Transformation: an ambitious, moral, and affective vision

In October 2022, the Pro-Vice-Chancellor (People and Digital) Anne Trefethen unveiled a new plan for building Oxford’s digital future as she proclaimed: ‘In an ever-changing world, we are reimagining how the University’s culture, processes and technology must evolve in the digital era’ (University of Oxford, 2023, p.1). There is an urgency, in other words, to innovate and transform Oxford’s digital underpinnings in order to continue delivering the highest-quality student experience that is competitive on an international stage, as well as to ensure Oxford preserve its unique place in the world by being ‘digitally fit for the future’ (Ibid., p.4). With this announcement, the University Council approved funding for the foundations of the new initiative—the Digital Transformation Programme—which I refer to as the ‘DTP’, an effort to fix and improve the existing digital tools and systems in innovative ways, so as to support inclusive teaching and learning and capture student experiences more accurately. The DTP is guided by the new Digital Education Strategy 2023-2027, which outlines the four key principles for change: (1) invest in the digital and physical infrastructures necessary to support positive student experiences; (2) employ digital education to help address structural inequalities in teaching and learning; (3) extend the global reach of Oxford’s educational opportunities to wider audiences; and (4) encourage experimentation and innovation across the university to ensure that it can adapt to changing needs. As the DTP claims, ‘without dedicated resources or an implementation strategy’, there is no way to measure progress toward achieving the digital transformation goals and the experiences with, and ambitions for, ‘enhancing digital education across the collegiate University’ (Digital Transformation Programme, 2023, n.p.). In this sense, the link between the Digital Education Strategy and the DTP is significant in informing the prioritisation of digital projects so as to deliver ambitious educational commitments over the next four years. I argue that the DTP as a strategic plan for the future of Oxford’s digital education is a *feature* of the ‘smart campus’, looking to invest and integrate new digital technologies needed to positively transform the teaching, learning, and management of the university.

The DTP has advanced at an impressive pace, ranging from interventions such as ‘Canvas Enhancements’ and ‘Digital Skills Capability’ that tackle existing problems for students and faculty, to investigative projects including ‘Course Ecosystem review’ and ‘Future-proof WiFi’ that recommend how Oxford can develop new digital solutions for the future (Digital Transformation Programme, 2023), and more. As such, the DTP should be understood as a collection of technology-enhanced initiatives, policy documents, market research findings, and collaborative partnerships among HE actors—both public and private sectors—guided by a key moral objective: to identify the ‘most promising ways’ in which ‘digital technologies can be used to enhance an Oxford education’ (Digital Education Strategy, 2023, p.3). The notion of ‘digital transformation’ has since then become a veritable trend as many universities realise the need to reinvent themselves in an increasingly competitive marketplace of HE providers, with technology enabling this transformation as new forms of digital data are collected, analysed, and used to inform decision-making processes (Selwyn, 2014). Data here plays a significant role in shaping the governance and delivery of the DTP, particularly in opening up new market opportunities for vendors, many of whom have sought to become infrastructural intermediaries in the materialisation of a future vision of a ‘smart’ or even ‘sentient’ university (Kitchin, 2011). A focus area of the DTP, for example, emphasises working with commercial partners to ‘simplify data processes and systems’ (DTP, 2023, p.2) so as to increase efficiency and automate workflows. This illustrates how technological advancements together with a new managerial force are driving ‘digital transformation’ agendas; shifting from reliance on traditional knowledge and skills to digital products and smart algorithms as a means to make HE more comparable, quantifiable, and accessible to intervention strategies, all premised on the objective of adopting standards that are valuable to labour markets (Schildt, 2020). Consequently, Oxford has become a key agent for creating new (predictive) markets by providing—and ‘locking in’—the platforms, partnerships, and performative technologies necessary to elicit ‘transformational’ effects, thereby redefining the value of HE to best serve the needs of its future market through digital platforms, codes and algorithms, and datasets.

Much like the emerging ‘smart campus’ projects discussed in the previous chapter, the DTP expends a considerable amount of effort, expense, and labour on creating a new world. From its elaborate websites, ambitious pledges and visions, extensive consultations, and glossy promotional materials, the initiative provides the means and space through which this ‘ambitious’, ‘aesthetic’, and ‘immaterial’ vision is produced and disseminated. While the

strategy outlines several practical objectives, such as the need to improve the basic foundation of existing digital tools and infrastructures (e.g. IT provision and access, virtual learning environments), it also enables the discursive and technical production of a utopian ‘smart’ university—an idealised vision seeking to operationalise HE through big data infrastructures, sensor networks, and other ‘programmable’ and ‘software-supported’ processes. Oxford’s DTP is also premised on the assumption that the uptake of digital technologies can reduce barriers to access and participation in HE, allowing students to ‘reach their full academic potential’ with ‘easy-to-use, reliable, and joined-up technology’ (Digital Education Strategy, 2023, p.3). As such, a plethora of devices and strategies have been developed to realise this ambition, most notably Oxford’s core digital platform Canvas and additional tools (e.g. Teams, Inpera), as it seeks to exemplify a more flexible and inclusive approach to Oxford’s education.

Furthermore, there is a moral duty to behave in ways that adhere to the collective project of digital transformation (Vanolo, 2014). For example, as I observed in my first encounter with the DTP via an email asking me to participate in a survey, students are very subtly tasked with the construction of Oxford’s ‘smart campus’ and implicitly considered responsible for programming solutions to achieve its goals. ‘Governing at a distance’ (Miller and Rose, 2008), Oxford’s DTP and its group of technical experts, data scientists, and programmers—whose understandings of education are encoded in and enacted by data—simultaneously inform decision-making and planning of the ‘smart campus’ and control and predict its students’ behaviours. This is a form of affective labour, as Gabrys (2014) argues, that produces an immaterial good—a service, knowledge, cultural product, or in other words, *aesthetic solicitations*—that have less to do with students’ exercising their perceived rights or democratic engagements and more with operationalising ‘their bodies and minds’ (p.38) so that the DTP will function optimally. Similarly, Ruppert and Isin (2015, p.4) note that the ‘student’ is reconfigured as a ‘political subject’ that becomes a ‘problem of government’: how to invite, encourage, engage, incite, or coerce them to inhabit behavioural conducts for the ‘smart campus’. In this context, the DTP can be conceptualised as a *dispositif* of power (Foucault, 1979)—a ‘strategic’ and ‘technical’ ensemble of discourses and practices, infrastructures, regulatory decisions, power and knowledge, that is interested in the affective, material, ontological, and subjective transformation of Oxford and its students. From this perspective, these transformation agendas can be interpreted as material-discursive articulations of power; that is to say that these ‘smart campus’ visions articulate material

artefacts of power, as well as hidden and invisible power that are ‘routinised, sunk into, HE structures, social arrangements, and technologies’ (Bowker and Star, 2000, p.35). Understood in this way, it is argued that the DTP is not simply an agenda to improve digital infrastructures (of which much of the ‘fixing’ is outsourced), but also to establish power relations that can be used to capture bodies and subjectivities, as well as new affective relationships, through the inscription of particular moral obligations.

Making and Shaping of the International Student

The internationalisation of HE is an active area of research, with King and Sondhi’s (2017) study revealing that international students pursue study abroad for many reasons, such as employment prospects, social connections, and the recognition that comes with credentials from a prestigious or innovative institution. In the United Kingdom, the international student industry has been driven overwhelmingly by market interests; concerns of the public good, social welfare, and global solidarity—which are phenomena with important educational principles attached. For example, the Higher Education Statistics Agency (HESA, 2023) highlight the clear economic benefit of international students to the UK, showing that the net economic benefit for a non-EU-domiciled is approximately £147,000 over the duration of their studies. Similarly, an Oxford Economics (2014) study estimated that international students generate an estimated £713 million from tuition fees, with an additional £123 million from living expenses and £53 million from visitor spending, and a total of £890 million of gross value added. Weale (2023) observes that the economic benefit rose from £31.3 billion in 2018/9 to £41.9 billion three years later with Oxford University (2023) being a significant contributor to the sector’s total income by generating ‘£2.78 billion in revenue, an increase by 13.3% from the previous year’ (p.6). The importance of international students to the UK economy, as illustrated above, is incontestable.

Nevertheless, the market-driven nature of the industry has led some to fear that it may lead to the erosion of equality and other social justice commitments in HE. As Altbach (2002) argues, the internationalisation of HE can result in the ‘collapse of the common good’ (p.2) in which education becomes a commodity to be bought and sold in the marketplace by consumers and multinational corporations, with universities transmogrified into businesses. At the same time, Dillon and Swann (1997) warn that international students face significant

challenges, such as language proficiency, living in a foreign country, and participation in social and academic life. The growing number of international students has propelled HE institutions to develop innovative strategies to recruit more students; after all, if international students have been ‘repositioned’ as a ‘global commodity’, there is a need to address the challenges they face and provide high-quality, ‘inclusive’ education so as to ensure that universities remain competitive for international student recruitment compared to other institutions. But alongside the pressure of market competition, there is also an enduring and universal commitment to social justice which continually pushes elite universities like Oxford to pay greater attention to considerations of fairness, justice, and equal treatment.

There has been a significant increase in research on digital education, with scholars (see e.g. Seldon and Abidoye, 2018; Wang et al., 2023) highlighting the potential of digital tools to enhance learning value and efficiency for international students, such as personalised chatbots, adaptive testing, and predictive analysis, among other functions to create more inclusive and accessible education. In a study of Chinese university students’ study abroad experience, Tsai (2019) shows that language chatbots, AI-powered translator tools (Google Translate), and other technologies had a positive impact on overall writing proficiency and teaching quality. Similar studies point to the benefits of using digital tools for international students, with the potential to revolutionise HE by creating a more ‘equitable learning environment’ for students from diverse backgrounds (Roll and Wylie, 2016, p.587). The need to adapt education to students’ changing needs is outlined in the Digital Education Strategy’s (2023) Goal 2: enable a more inclusive educational environment and Goal 3: extend the global reach of Oxford’s educational opportunities. On inclusive education, the strategy lays out the ambition to use digital tools to make Oxford’s education more accessible in order to minimise the barriers (e.g. disabilities, language, geographic, etc.) that hinder student learning and participation. This draws parallel to the university’s mission to design, equip, and support physical and digital spaces to make them accessible to diverse groups of students, especially those from low- and middle-income countries and international backgrounds. Not only does this look to facilitate the continued investment and sharing of digital solutions more openly, but it also continues the university’s long-term goal of being a leader in embedding inclusive practices into digital education platforms and systems.

This thesis identifies references to ‘inclusion’, ‘diversity’, and ‘representation’ as particular motifs in the DTP transformational agenda which can be useful in interpreting its impact on

different student groups. Although the DTP does not explicitly state why there is a need to promote ‘inclusion’ and ‘diversity’ for international students in its transformational agenda, or what that would entail, the overwhelming number of international students at Oxford make up 46% of the total student population, with the largest non-native English-speaking groups originating from China, India, Hong Kong, and Singapore (HESA, 2023; University of Oxford, 2023). Despite these significant numbers, international students remain a vulnerable group as they find themselves increasingly subject to neoliberal market forces that encourage universities like Oxford to actively recruit them for study, and populist political policies that compel the UK government to aggressively monitor, restrict, police, and sanction their limited rights and activities (Marginson, 2013). This can be problematic as on the one hand, international students are presented as a neoliberal, economically efficient ‘agent’ or ‘producer’ whose value is narrowly defined by their contribution to the HE market; and on the other, as a mechanism of surveillance, the UK immigration system requires students to count and present themselves through specific identity categories (e.g. EU, non-EU, foreign/overseas) as determined by an ‘unmarked and unseen’ white gaze (Rafael, 2000, p.279). As the internationalisation of HE progresses and attracts mounting attention to issues of ‘culture’ and ‘diversity’ (Cheney-Lippold, 2017) evident in the DTP, international students become what May (1994) terms ‘technicians of transformation’ (p.619), characterised by processes of quantification and classification through which the ‘diversity’ and ‘inclusion’ (D&I) commitments are increasingly narrowed to include only those deemed important for enhancing individual and institutional productivity and economic performance. Within this context, we should then be sceptical of mainstream D&I discourses and its appropriation of international students’ visibility, empowerment, and agency to be consistent with—and largely understood—in terms of economic productivity and consumption. Thus, in spite of its rhetoric of transformation, the DTP appears to be more of a modernity/coloniality project reformulating itself than any innovative break from the structures that continually oppress international students; capitalising on their cultural, historical, and social differences through the extractive practice of counting, categorising, measuring, and managing.

Digital Colonialism

In recent years, the concepts of ‘digital colonialism’ or ‘data colonialism’ have gained considerable traction among academics (Thatcher et al., 2016; Couldry and Mejias, 2019), defined as ‘the combination of the predatory extractive practices of historical colonialism with the abstract quantification of life into ‘bits and bytes of data’ through computational methods’ (Isin and Ruppert, 2020, p.9). In other words, as our bodies and lives become more entwined with the digital, they become subject to practices of commodification, or what Harvey (2014) terms ‘accumulation of dispossession’ to describe how data are ‘produced and extracted to capture surplus value’ (p.65). Another conceptualisation of digital colonialism demonstrates how the use of digital technologies extends, and reinforces, new forms of colonialism; which in turn legitimises—through statistics and data—imperial forms of cultural, economic, and epistemic domination of some people over others. Mouton and Burns (2021) contend that ‘smart campus’ projects mobilise a distinctly *neo*-colonial set of social and political relations, with ‘innovative’ programs like the DTP deployed across multiple scales to make particular knowledge and processes legible; and thus, framing educational problems and their technical solutions as quantitative in nature. As a system of legibility, Kitchin et al. (2018) draw attention to the ways in which the ‘smart campus’ and its complex socio-technical assemblage of sensors, platforms, and infrastructures function as a normalising and legitimising apparatus of classification with a veneer of digital neutrality. This epistemological stance further allows us to see how the DTP’s transformational agenda is, much like similar initiatives, relational and processual (Karvonen et al., 2018) and acts as a key mechanism for digital colonialism by justifying its dominance and extraction on the homogenous category of (non-native) students—an intervention those involved in the governance and profit generation of the ‘smart campus’ stand to benefit greatly.

The DTP’s colonial ‘smart campus’ also raises important questions about the inclusion and diversity goals promoted in relation to international students; for example, the need to create ‘flexible and inclusive approaches’ which ‘recognise and minimise the barriers that hinder student learning’ (Digital Education Strategy, 2023, p.5). Such a discourse, as Mouton and Burns (2021) argue, works to establish a distinction between developed and underdeveloped people and countries, a distinction which paints non-native English-speaking students as victims, and the DTP as saviour, and morally bound to help them in achieving (first world, white) privilege. Although issues of ‘inclusion’ and ‘representation’ are important and ought

to be addressed, there is a need to move beyond neutral and hegemonic discourses to critique the very structures upon which these imaginaries are built (Young and Gilmore, 2013). A key aspect of this is the need to be increasingly critical of the modern/colonial narrative of numbers and statistics as visibility, and thus data as salvation. This is dangerous for it presupposes that data is neutral, privileging objectivity while overlooking the myriad ways digital systems can control, punish, and exclude. This is ‘the god trick’ (Haraway, 1988), emphasising how data is frequently presented in a godlike image, but the ‘trick’ is that the bodies used to produce the data have themselves been rendered invisible. This exposes the stakes of counting and being counted, highlighting the ways in which racialised and imperialist power relations serve to deepen structural inequalities (racism, classism, sexism) that disproportionately harm those at the margins by denying them voice and presence.

More crucial than seeking visibility, then, is the practice of deconstructing the epistemological claims and priorities of Oxford’s DTP. Delnevo (2017) argues that deconstruction should be the first step of a much broader decolonial project, which seeks to resist digital colonialism in the ‘smart campus’ by prioritising ‘other’ knowledge and beings. In closing this chapter, I return to Haraway’s (1998) ‘the god trick’ to ask who benefits from digital transformation? Whose bodies are harmed? How can ‘smart campus’ plans be redesigned for a more equitable future? To explore this further, the research questions are:

- To what extent is Oxford’s DTP as a ‘smart campus’ project shaping international students’ technology use?
- How are ‘smart campus’ features (e.g. Canvas, Microsoft Teams, Inspera) being described and experienced by international students?
- What are some of the representations of international students that are legitimised and foreclosed through the proposed digital transformation framework of the DTP?

Chapter III: Methodology

The empirical study that formed the core of this research was a qualitative research project that investigated how international students from non-native English-speaking backgrounds experience and navigate emerging ‘smart campus’ projects with a focus on Oxford’s Digital Transformation Programme. The aim of this study was to better understand the *features* of ‘smart campus’ that are emerging in the context of HE datafication; the kinds of social- and data-related concerns that are being foregrounded for international students studying at Oxford; the conflicts and tensions that ‘digital transformation’ agendas pose for HE actors seeking to promote social justice in an increasingly globalised world. The objective here was to attend to some of the key dimensions in the application of Oxford’s core digital learning platforms (e.g. Canvas, Microsoft Teams, Inpera) that enable ‘smart’ systems to run silently and automatically in the background of universities, while fundamentally reshaping the values of and relationships within HE. An important aspect of the research design was to think from the margins, recognising local, Southern, and experiential ways of knowing and being in order to challenge the systematic injustices faced by different student groups. This section is structured as follows: (1) theoretical framework; (2) data collection method—including sampling strategies; (3) data analysis; (4) ethics; and (5) limitations.

Theoretical Framework – ‘Dispositif’ and Decolonial Epistemologies

Drawing on Foucault’s (1979) analytical and methodological concept of the *dispositif*, this thesis conceptualises the ‘smart campus’ as a historical and heterogenous assemblage of technologies, material objects, social actors, and discourses: a physical and discursive site where social practices and power relations are enacted (Agamben, 2009). This method looks to explore how subjectivity, history, culture, and knowledge are constituted and transformed through the contingent interplay between discourses, material culture, and social practices (Bailey, 2013). This was critically applied in my analysis of Oxford’s DTP as a ‘digital transformation’ strategy that serves as a mechanism for ‘quantifying, measuring, and appraising’ the kind of education future that should be produced (Foucault, 2003, p.196). I was initially drawn to *dispositif* as a methodology due to its distinctiveness in exploring the history of power and social practices and everything that constantly eludes them, and in the

process, disclose our own inauthenticity (Foucault, 1984). The aim here, as Walters (2012) notes, was the need to ‘shift from the study of objects to the practices that produce them’ (p.18); and in doing so, disrupt the certainties and ‘fictions’ of the present by offering a critique of not only *what power is* but also *how it operates* in the ‘smart campus’. This provided resistance against ‘universal’ approaches to conceiving power by challenging the assumption that power is ‘episodic’ or ‘sovereign’ acts of dominance reliant on costly and violent forms of extraction and instead—more subtle and pervasive (Isin and Ruppert, 2020). A key aspect of this stemmed from Foucault’s (1980) intervention that power is not just negative or coercive but can also be a productive and positive force centred on optimising bodies for production through enhancing capabilities, extortion of usefulness and docility, and subsequent integration into systems of efficiency and economic control (Isin, 2012).

This methodological strategy is threefold: first, it is characterised by an interest in, or indeed excavation of, the heterogeneous ensemble of institutions, technologies, regulations, scientific, moral, and philosophical propositions that produce ‘digital transformation’ discourses. Second, it problematised history by conducting ‘a critical ontology of ourselves’ (Foucault, 1997, p.315), arguing that modernity/coloniality emerges from complex, ambiguous, and chaotic conditions between dispersed and disparate forces. And third, it is a form of analysis that investigated HE practices and particular sites or places, in my case, the ‘smart campus’. With the initial epistemological and ontological directions outlined, I want to emphasise that Oxford’s DTP is approached in this thesis as not only a context-specific strategy but also as a complex instrument and technology of power. It is with this in mind that we can start to think about the ‘smart campus’ as a ‘truth game’ (Veyne, 2010, p.87): played in physical and metaphysical spaces, with particular ideas of how HE ought to be constructed, interventions (e.g. international students in need of ‘saving’ through digital transformation), and the self (e.g. processes of subjectivation and truth-telling, including what constitutes a good citizen in the ‘smart campus’).

The decision to conduct this study through Foucault’s *dispositif* was both practical and theoretical. This study conceptualised the DTP as a *dispositif* of power (Bailey, 2013)—that is, a material-discursive configuration of relations of power which, in partnership with knowledge, intersect and permeate to produce subjectivities that are both *strategic* and *technical*. While this is all quite abstract, the underlying argument being made here is that the ‘smart campus’, and the DTP by extension, should not be conceived as a universal or

ahistorical set of institutions, practices, and processes (Popkewitz, 2013); but rather, as a process of ‘becoming’, of being made and re-made in different ways by the multiplicity of culture, practices, and meaning. Education, in this sense, can be understood as a set of practices governed by, on the one hand, hegemonic strategies (the DTP), dispositions and histories, for example—neoliberalism, colonialism, etc.; and on the other, critical knowledge, creative and reflexive practices. As Power (2013) highlighted, the *dispositif* is an attractive method for rethinking research binaries (e.g. local-global, micro-macro, etc.) by positioning the object of study within dynamic, fluid networks of elements permeated by intersecting practices and processes, and assembled and deployed by various actors. As a reflexive methodology, a *dispositif* aspired to produce knowledge that is situated, affective and inclusive with an explicit focus on making counter-hegemonic discourses and people visible (Kwan, 2002); it does not attempt to idealise the human experience, but instead, critiques the constraints of traditional research. In the digital context, Ash et al. (2018) unpacked the ‘digital’ *dispositif* by examining the broader discursive-material practices that shape the use and standardisation of digital technologies in ways that uphold particular values and interests, as well as centralise and perpetuate relations of power. As such, there was a need to engage with the digital tools and infrastructures in the ‘smart campus’ more comprehensively: including its technical stack (e.g. platforms, codes, data) and the institutionalised and epistemological context of their production in HE.

Such a methodology was imperative for going ‘beyond the limits’ (Foucault, 1986, p.96), but work remained to be done in addressing the rhetoric of modernity/coloniality that is embedded within digital transformation. The purpose of this research was not only to examine the underlying logic of Oxford’s DTP, but also to critique the ‘smart campus’ as a whole, based on an understanding of ‘digital transformation’ in HE as a modern and therefore colonial project. This attended to some of the concerns raised by these utopian narratives, especially how the ‘smart campus’, celebrated as newness and innovation delivered through science and rationality, has a darker, hidden agenda: the ‘colonial matrix of power’ (Mignolo, 1990, p.41) through which students, ranked according to social and racial categories, become expendable. In other words, there was a need to consider the more complicated relations between digital transformation and colonialism, as ‘there is no modernity without coloniality’ (Ibid., p.39). As such, I employed a decolonial framework to critique the DTP’s belief in technology as salvation as an extension of a scientific, colonial project and its epistemic violence, while also thinking through possible acts of resistance through (and beyond)

deconstruction. I framed this methodology by bringing insights from postcolonial thinkers (e.g. Said, 1978; Spivak, 2010) who have used deconstructive critique to foreground the brutal oppressions engendered through colonialism, which in turn legitimised epistemic and territorial domination over ‘Others’. I also foregrounded the works of the modernity/coloniality group (e.g. Mignolo, 1990; Castro-Gómez, 2008; Quijano, 2000), challenging *whose* ‘realities’ and ‘voices’ are represented in the modern/colonial/capitalist-world system, especially the racial structures of inferiority ascribed to people of colour. It is within this context that I argue that Western-centric visions of the ‘smart campus’ cannot—and should not—be forced onto international student populations and the Global South with no consideration of history and culture. Returning to Mignolo’s (1990) point, decolonial epistemologies expose the ways in which modernity/coloniality relies on the delegitimation and (attempted) destruction of alternative ways of knowing and being.

As an Asian American (international) student living and studying in Europe, I often find myself ‘looking South’ for guidance, frustrated at the Euro/Western-centricity of knowledge production in ‘the Academy’s inner circles’ (Lawrence-Lightfoot, 2016, p.20). It is with this in mind that I drew on Quijano’s (2000) ‘coloniality of power’, one of the few Latin American theorists who shed light on the racial classification of colonial subjects as a foundation of modernity. This recognised the inherently racist system that privileges the Global North, the English language, and its instruments, in ways that position the West as the ‘producer of knowledge, arbiter of truth, rationality, and objectivity’ (Delnevo, 2017, p.25). These ideas, and I argue modernity/coloniality more broadly, highlight how colonialism not only led to the creation of a new world-economy (capitalism) but also the formation of epistemic and territorial domination: a discourse, as Said’s (1978) ‘Orientalism’ argued for Asians, constructed Europe as superior and the ‘Orient’ as inferior, backward, exotic, etc. By foregrounding the ontological legacies of colonialism, modernity/coloniality complements some of the postcolonial and poststructuralist works of Foucault. Through a decolonial analysis, I examined how the colonial imposition of race cast some international students as inferior as a result of the forced identification with Eurocentric cultural ideas, including the belief that European knowledge is inherently superior or universal (Quijano, 2000, p.169). From this perspective, the educational values articulated through the ‘smart campus’, which the DTP (as a project of digital transformation) seeks to ‘envision’ through Eurocentric standards, acquire a colonial dimension that cannot be ignored in any serious efforts to emancipate colonised peoples. There was a commitment, then, to engaging deeply with other

knowledges (e.g. local, Southern, indigenous, third world) that have been positioned as inferior by existing hegemonic systems. This attempted to move beyond the mere deconstruction of Western epistemology to take an explicitly *anti-colonial* stance (Nunn and Whetung, 2020) that resists and pushes back, rather than simply envisioning a world free of colonial structures. As such, I employed postcolonial and decolonial methods towards *anti-colonial* ends. Together, these methods helped advance a critique of the DTP—and the development of the ‘smart campus’ at large—without losing sight of the anticolonial alternatives that emerge in the process.

Data collection methods

This research explored Oxford University and its DTP as a kind of ‘case study’, that is, a particular and context-bound setting animated by complex interactions of ‘events’, human and non-human interactions, and relations of power-knowledge (Bailey, 2013). This can, as Robson (2002) observed, illuminate the ‘embeddedness’ of social situations that are not always susceptible to analysis. At the same time, a ‘case study’ aimed to depict ‘what it is like’ in certain settings, capturing the ‘thick description’ (Geertz, 1973) of participants’ lived experiences of, feelings for, and thoughts about a situation. While case studies are vivid and descriptive, they are not merely illustrative, as the data collected can provide powerful insights into micro- and macro-political decision-making, fusing theory and practice (Ball, 1994). The ‘case study’ on Oxford’s DTP was about ‘getting inside’ the *dispositif*. It was about immersing myself as a student and researcher in the ‘smart campus’ and the wider HE community. In some ways, this meant becoming a network ethnographer, by engaging with the ‘mapping, questioning, and following’ (Ball, 2012, p.5) of people, places, and moments, as well as the nodes and activities through which the DTP develops, and the discourses and culture which articulate the ‘smart campus’. A key part of the research strategy involved the collection and analysis of ‘texts’: for example, various strategy documents, policies, media reports, DTP’s web pages and blogs, and other institutional materials.

Alongside this desk-based analysis of existing records—which included academic theory and research, were interviews conducted with 13 international students, 4 faculty members from the Department of Education, and 6 consultants working on the DTP and related digital education projects at Oxford.

Table 1. Participants' demographic breakdown

Participants	#	Age Range	Gender Proportion	Countries of Origin	Field of Studies/Profession
International Students	13	17-35	Female (11) Male (2)	India (3); China (4); Ukraine (1); Pakistan (1); Spain (1); Austria (1); France (1); Germany (1)	Law (1); Social Policy (1); Education (4); Geography (1); Business (1); Materials (1); Mathematics (1); Computer Science (2); Economics (1);
Consultants	6	35 and over	Female (3) Male (3)	UK (4); France (1); Canada (1)	Digital Education (3); Assistive Learning Technology (1); IT (1); Business Consultancy (1)
Faculty members	4	40 and over	Female (3) Male (1)	UK (4)	Education (3); English (1)

The decision to target these 3 groups was—to an extent—to explore the similarities and contradictions within and across groups, as well as gain additional insights into technology use from different HE actors, ranging from students and faculty (users) to consultants (developers). This was a relatively small and selective sample size, as I was not striving for representativeness. Some, though not all, of the student interviewees were privately educated, and many had attended international schools and obtained a high level of English fluency prior to studying at Oxford. One of the faculty members was a post-doctoral researcher who had finished teaching at the time of the interview. Due to the small-scale nature of the study, the main method of sampling taken was a non-probability sample with the majority of participants initially approached via email or the social messaging platform WhatsApp. Due to time constraints, many of the student participants were selected based on convenience—e.g. who happened to be available and accessible at the time and identified through mutual connections. Access to faculty members and consultants was made possible through the Department of Education and the Digital Transformation Programme's web pages and contact lists. Some of the consultants, however, were 'snowballed' into the sample (Cohen et al., 2007) after hearing about the research through participating colleagues.

Following an initial period of explorative research into the DTP, 23 semi-structured interviews ranging from 30-60 minutes were conducted. The majority of the interviews were conducted face-to-face *in situ*, allowing for contextual relevance, both in the immediate setting in which participants studied or worked. Some, however, were carried out at mutually agreed public locations and online via Microsoft Teams. After obtaining informed consent from all participants, the interviews were audio recorded and transcripts were produced for further analysis. The interviews served three purposes. First, it was designed as the principal means of gathering information and gaining richer insights into the DTP—what it is, how it works, and the ways in which it is used and implemented—from the viewpoints of those who either experienced it or were working within it. Second, it was used as an exploratory tool for navigating the experiences, feelings, outlooks, and opinions of the student participants, that is, their performance and subjectivities. In a self-conscious way, I approached these interviews mindful of the political dangers associated with research, especially the failure to shed light on deeper, more enduring structures of oppression. This challenges the idea of participants as meaning-makers and their authentic voice, and points instead to the idea that ‘what is said at particular places and time, from particular subject positions, is given by a history of practice and discourse’ (Bastalich, 2009, p.83). This rejects the view, as Foucault (1980; 1981) argues, that participants are ‘active agents’ in the co-construction of knowledge, but rather, as ‘constituted subjects’ whose knowledge is an outcome of interrelated practices, bodies, and discourses that produce the ‘subjects’ and ‘objects’ of research itself. In this sense, the study methodologically was less concerned with the raw data emerging from the interviews, than about understanding how participants as ‘subjects’ enact, construct, and negotiate their positions to create new ways of being that are often overlooked. The final purpose of the interviews was to give voice to international students’ perceptions and experiences of the DTP and Oxford, attending to some of the tensions between the ‘lived’ and ‘programmatic’, and through it, provide a conduit for the ‘subjugated knowledge’ (Foucault, 1980, p.85) I sought to unearth as participants made sense of themselves and others. The interviews included a scenario question, which I discuss in the findings chapter in detail, that described a seemingly hypothetical—but in fact real—‘smart campus’ project and assigned the participants a role in the context. The elaborateness of the scenario aimed to uncover the imagined actions, performed and behavioural, participants would ‘act out’ (Hamilton and Gifford, 1976) as they navigated the series of ‘scenes’. This enabled participants to place

themselves in relation to discourse, and the subjectivities or broader relations of power in which they are imbricated.

At the end of the interviews, I employed a visual non-linguistic arts-based method of drawing, an activity that allowed participants to reflect on the topics explored by bringing into expression their emotions, aspirations, and needs. The purpose was to facilitate participants' reflexivity and account for the layers of experience that cannot easily be put into words, as well as enable me to bear witness to the deployment of material and discursive elements by different HE actors. I was not interested in participants' drawing abilities or evaluating the content of their sketches, instead, my focus was on how visual methods could be used to encourage participants to think more deeply about their lives, experiences, and personal values. I employed a graphic elicitation method of 'relational maps' (Josselson, 1996) designed to ask participants to draw themselves in relation to the technologies they use, taking into account the DTP and the 'smart campus'. Similar to the interviews, I relied on broad and open-ended instructions in order to leave more space for the participants' own interpretations and visualisations. These drawings then formed the basis of further questions, which directly related to the content of the participants' drawings. The inclusion of non-linguistic dimensions considers the 'crisis of representation' (Eisenhart, 2006) in research, especially whose voices are heard, how they are represented, and the challenges and implications of representing others. Traditional interviews, as Bagnoli (2009) argues, rely on the English language as the privileged medium for the exchange of knowledge and ideas. Instead, I argue that our lives are composed of many dimensions, which include the visual and sensory, that have yet to be identified and explored fully. This was especially pertinent for international students from non-native English-speaking backgrounds, whose experiences are worthy of investigation but cannot be easily expressed in words as not everything can be reducible to the English language. In efforts to re-shift the methodological boundary towards creative practices that resist Eurocentric research methods (Eisner, 2008), drawings promoted a rich, embodied engagement with the evocative qualities of the arts. Data collection, then, becomes an iterative, reflexive process that is attentive to the diversity of experiences—how researcher-participant bodies interact to communicate more empathetically, negotiate the space, capture the hidden, and pursue alternative forms of representation.

Data Analysis

All data collected were subject to thematic and discourse analysis to find patterns and categorise common themes and codes. Thematic analysis was chosen for this study as it was particularly suited for ‘identifying and analysing patterns within and across data in relation to participants’ lived experiences, feelings, and perspectives’ (Clarke and Braun, 2017, p.297). This approach was potentially fruitful for producing rich data and concepts as it does not require adherence to any particular languages or explanatory frameworks in the search for, or evaluation of, human experiences. Given the aim of the research was to examine international students’ perceptions and experiences of navigating ‘smart campus’ features, thematic analysis developed a rich and meaningful account beyond surface-level meanings in the data, as well as articulated a ‘politics of refusal’ (Tuck and Yang, 2018, p.3) by refusing to portray or betray marginalised communities to the spectacle of the settler colonial gaze. This was the place from where I begin data analysis, with the recognition that traditional research often forced pain and violence onto groups that are not White or wealthy. As such, there was a need to ‘democratise’ (Giddens, 2013) our approach to data analysis in ways that prioritised subjugated experiences and ways of knowing. The objective was to produce a meaningful account of participant experiences that addressed the research questions, with ‘codes developed in a transparent way, interpretations justified, and validity and reliability upheld’ (Wodak, 2014, p.312).

I complemented this with Foucauldian discourse analysis (FDA) by taking into consideration the discursive nature of truth-making, in which relations of power are embedded, and applied an ‘analytic gaze’ to the texts and codes generated in order to recognise the ‘conditions under which people exist to produce certain political and cultural values’ (Mills, 2003, p.25). Through deconstruction, I challenged the idea that the researcher can assign definite meaning to participant data, since Derrida (1997) argues, all data lead to different interpretations and different meanings. In this sense, the process of analysis was more concerned with the mechanisms of power and the ‘history of the present’ (Foucault, 1980) that come to shape and legitimise particular versions of knowledge as worthy of analysis, rather than merely analysing the data itself. FDA also shed light on ‘how participants behave, think, what they know and how their knowledge is culturally embedded’ (Raby, 2002, p.30). In the study, for example, interviewees constructed the term ‘smart’ in three different ways: smart as innovation, smart as efficiency, and smart as control; thus, creating three different identity

groups based on historical epochs and cultures: as workers, consumers, and subjects. Here, analysis was not simply a fixed set of mathematical processes to count and manipulate data, but rather, an assemblage of texts and social actions with different interpretations and (hidden) motivations.

On a practical level, I explored these differences through coding, defined as ‘the process of analysing qualitative text data by taking them apart and putting them back together in a meaningful way’ (Creswell, 2015, p.156). I prioritised the dialectical interaction between data collection and analysis by employing an iterative process in which codes are used to make sense of the data, and data are used to develop further codes (Hammersley and Atkinson, 2007). In other words, the codes and themes generated continuously move back and forth so that data analysis is not just a matter of categorising information, but going beyond the data to develop themes that will link them in ways that shed light on further ideas, and so on. This was engaged with on two levels: first, an initial round of coding was completed using descriptive, low-inference codes to summarise the data segments. This provided the basis for more interpretative analysis, leading to a second round of coding centred on pattern codes. This was inferential and inductive, a sort of ‘meta-code’, with the initial codes pulled together into meaningful patterns, bringing together ‘less abstract and more descriptive codes’ (Punch, 2014, p.174). What was important to emphasise is that data analysis is a complex and messy process of co-construction—with limitations. Rosiek and Heffernan (2014) advanced this by arguing that thematic coding can lead to misrepresentations, by privileging ‘presence’ over ‘absence’, the ‘spoken’ over the ‘silenced’. With this in mind, I made the decision not to change any verbiage used by participants and instead, have sought to include nonverbal expressions, including gestures and posture, to highlight people’s untold stories. Thus, the ‘unspoken’ can provide new critical insights for data analysis, instead of reproducing pre-existing structures that privileged some over others.

Ethics

The Central University Research Ethics Committee’s (CUEC) procedures were followed throughout the study with ethical approval granted (Appendix A) by the Education Departmental Research Ethics Committee (DREC). Informed consent to voluntarily participate in the study was obtained from all participants prior to data collection via the information and consent form (Appendix B). On two occasions, oral informed consent was

obtained instead as participants admitted to being potentially put at risk by the existence of a paper record, especially in fear of retribution. Participants were also informed of their right to withdraw from the study at any point in time, for any or no reason provided, with anonymity and confidentiality strictly maintained. Due to the potentially sensitive nature of the interviews, all transcripts and recordings, as well as task results (e.g. photographs of drawings) were stored securely on Microsoft's Nexus365 OneDrive provided by the university. Given that most of the participants currently work or study at Oxford University, all personal data was fully anonymised to the extent that it is de-identified through code numbers and does not reveal any direct identifiers or background information about the participants. Participants were also made aware of how the data will be disseminated and given the opportunity to remove any information before and after the research.

Limitations

Before concluding this chapter, I want to address some of the limitations of this study. Due to resource constraints, there were many themes I was unable to explore or indeed include in the analysis. As a case study, the research was designed with relatively specific inclusion and exclusion criteria in mind—for example, the eligibility to participate depended on participants' (exclusive) membership to Oxford University, either through study or work, and student participants were further limited to those from international, non-native English-speaking backgrounds. To an extent, interview discussions also required skilled knowledge and experience using Oxford's digital tools and systems, such as Canvas and Microsoft Teams, and some awareness of the DTP and Digital Education Strategy 2023; thus, may have discouraged some students or staff to participate. Given that most of the interviews took place face-to-face at a university location (e.g. Department of Education, college, etc.) I felt that there was a reluctance on the part of some participants to share information due to the publicity of the setting and the personal nature of some of the questions asked. As such, this study is very much a starting point, but it is certainly not an exhaustive or complete account.

I also admit that my own methodological approach to Foucault's *dispositif* and Quijano's (2000) 'coloniality of power' was rather modest because living up to their appetite for ethnographic data was rather challenging. Whilst these theories were helpful for understanding *how* power operates through the participants, it is also important to note that such a research practice, even with the best of intentions, can risk advancing a 'programmer's

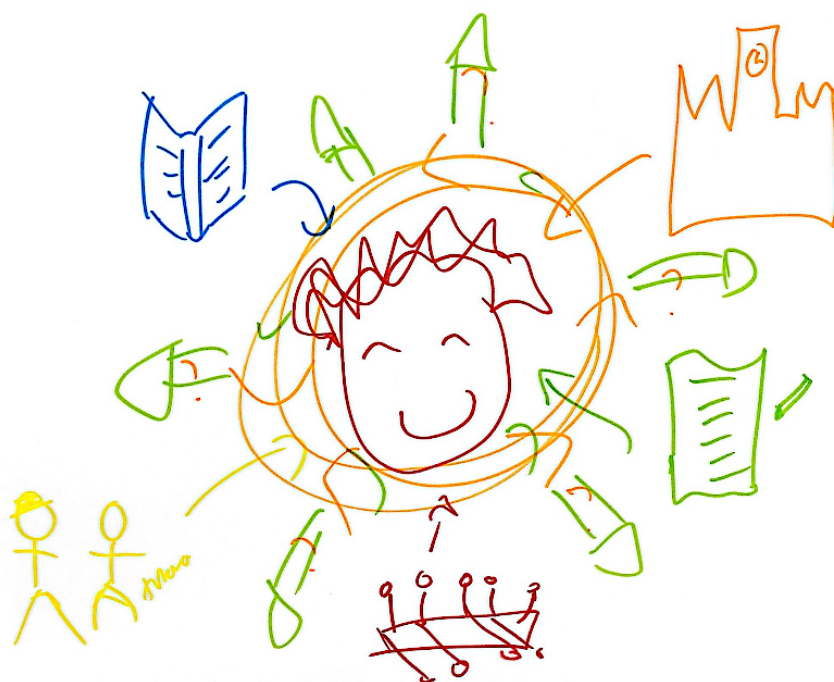
worldview' (Bailey, 2013) and is itself an instrument of power. As an international student from a non-native English-speaking background, I recognise that I am both an 'insider' and 'outsider'. I related to the experiences and frustrations of the student participants and was, of course, 'reflexive in the data collection process' (Mason, 2002, p.66). Yet, I feel the need to hold myself accountable as the researcher or an 'outsider' looking in. For this reason, I should state that I am a middle-class Master's student at Oxford University, with all the education and social privileges that come with it. I also admit that I was deeply troubled by some of the practices described by interviewees and as an 'outsider', continue to observe, experience, and at times—even participate in these practices. However, it is not enough to merely critique oneself. Instead, there is a need to become a 'militant researcher' (Sousa Santos, 2018) in actively challenging one's own inauthenticity and complicity to research in ways that uphold objectivity and rationality. In this way, I approached this research—as I am sure many have before me—as someone attempting to contribute to its critical transformation in which I was already a constitutive actor.

Chapter IV: Findings and Discussion

The study's findings show that there is considerable uncertainty, ambiguity, and even tension among participants as to what digital transformation at Oxford looks like and to what ends. To explore this further and address the research questions, this chapter is organised around four themes: (a) re-programming an Oxford education, (b) market-making in HE; (c) nudging apparatus, and (d) decolonising visibility. Pseudonyms are used to protect participants' identities.

Re-programming an Oxford Education

Figure 1. A student-centred 'transformation'



Description: Consultant Sarah drawing her vision of the DTP; the student (smiling) at the centre of digital transformations that enhance their Oxford experience, from academics, social activities, sporting, etc.

Since launching in November 2022 after an initial period of consultation, Oxford University's new Digital Transformation Programme (DTP) in partnership with the Digital Education Strategy 2023-27 has steadily gained support and operational capacity, with increased investments, a new resource hub, and various digital education projects approved and in delivery yielding favourable results. The implementation and expansion of the programme have been a key commitment of the University, as one consultant stated:

I am absolutely delighted that we managed to get some kind of agreement across this really complex and devolved university to be able to deliver the current version of the education strategy and DTP—which was approved in council. We are very keen, the working group, to clarify the university’s position on digital systems and IT governance, with a strong inclusivity and innovation focus. (Erin, consultant)

The huge capacity for innovation and the promising ways in which digital technologies can be used to enhance an ‘Oxford education’ is also highlighted in the DTP’s mission statement:

Future developments in the digital world will continue to inform how and what is taught at Oxford. The Digital Transformation Programme is both foundational and ambitious. If successful, it will enable innovation to enhance Oxford’s traditional educational excellence (p.4-5).

The DTP and its ambitious promises are presented here as a progressive and modern strategy, filled with hope and new possibilities, and backed by a community of consultants, researchers, and technicians working together to shape the future of HE. At the same time, the DTP is as ambitious as it is practical; needing to ‘get the basics right’ in terms of having the appropriate digital and physical infrastructures in place in order to ‘create ground-breaking outcomes and deliver world-leading innovations’ (DTP, 2023, p.1). The language of ‘innovation’ and ‘transformation’ is accompanied by a moral agenda that views the existing education state as in need of intervention. This is evident in the programme’s more or less implicit critique of ‘traditional Oxford’, especially the need to improve the University’s existing digital infrastructures and capabilities. As other consultants observed:

The DTP is an IT governance issue and recognise that Oxford has fallen quite behind in its investments, which was leading to problems on the ground for both staff and students with systems that were old and creaking. So a lot of the work was to try and identify what needed fixing first. (Frank, consultant)

Oxford is very, very devolved in its structure. And this means that from the point of view of IT delivery, everything is harder and takes longer. Potentially, because decisions might be made at the lower level of departments or colleges which are not optimal for overall delivery. It’s very, it’s a slightly surprising experience to have this level of negotiation and variation. (Gil, consultant)

According to these accounts, re-engineering Oxford’s education is a complex, difficult and often bureaucratic process. There is also recognition that Oxford has fallen behind in terms of its implementation of digital tools and systems. This is a practical and physical issue: on the

one hand, there is a need to repair ‘old’ and ‘creaking’ systems that are not as robust or reliable, and on the other, the devolved nature of Oxford’s structure—with departments, faculties, and colleges each having their own systems that are often incompatible with new digital developments makes it increasingly difficult to lead change. Interestingly, this also highlights some of the discrepancies between the project’s visionary discourses and the realities of what is being implemented on the ground. While the DTP markets itself based on the transformational capacities of its technology to enhance teaching and learning and foster inclusivity for all students, we are led to believe that this kind of reform is perhaps not as innovative as it seems. Here, the emphasis on ‘fixing’ advances a form of ‘computational thinking’ (Vanolo, 2014, p.893) that reduces complex social phenomena like education into computable, neutral outputs focussed on ‘fixing’ tech issues with the right combination of codes and algorithms. This exemplifies Foucault’s (1988) notion of ‘superficial transformation’, remaining generally within the same mode of thought and practice that underpins similar university IT projects. At the same time, there seems to be considerable ambivalence and contradiction among participants as to what digital transformation would look like in practice, as students admitted:

I’m confused because what are we transforming? Sometimes digital solutions are not solutions they just create more problems...it's deeply concerning. I’ve never heard of this [DTP] maybe I need to check it out. (Amélie, French)

My first instinct is to critically think about what transformation means, because it’s quite a generic term, and could probably be used in a lot of different contexts to refer to a lot of different things. And it’s kind of a buzzword. Is it being used to create hype rather than actually deliver something that’s really transformative? (Jinghang, Chinese)

In some ways, the DTP introduces degrees of uncertainty, insecurity, and precarity into students’ lives as they are made fearful and anxious, and therefore active and willing to navigate its policy agendas as a form of reassurance. While concerns over the term are voiced by some students, leading to debates over whether and exactly how digital transformation should be promoted and implemented at Oxford, other participants began with an opposite viewpoint that this was a needed change:

I think that Oxford being what it is, has almost an unspoken responsibility to keep up with the latest developments and keep innovating...isn’t that the authentic Oxford experience? (Yuhan, Chinese)

I think digital transformation is an ambitious starting point for our work...to ensure that all students, including those from international backgrounds, are digitally capable of pursuing their studies. Maybe...they struggle more with access, participation, and even language. With that, there had always been a need for digital processes and systems to be more inclusive. (Pierre, consultant)

Inclusivity is a key aspect of digital transformation as it enables the DTP to remain active and authoritative while also appealing to investors and prospective international students. In this sense, the programme is driven by the urgent need to improve students' digital learning experience and capabilities, which, situated within a political framework of inclusion, draws attention to some of the access and participation challenges faced by international students. There is, however, a crucial function of the DTP that goes beyond merely 'diversifying' digital systems to reaffirm a *hierarchical* order to this diversity. For instance, participants voiced their concerns about the DTP as an attempt to further expand Oxford's classificatory racial gaze, which privileges the power and social status of some students over others:

Oxford gets away with a lot of things because it's a rich, old, and quite frankly, white university. But there is also this whole about valuing what makes Oxford special because if we do become like an entirely smart university where everything's digital, some of the romance and the madness of Oxford will be gone. (Helen, faculty)

On the Oxford homepage, it says we promote an inclusive environment and institution. But if you think about it, we're 100% an exclusive institution. Money, language...I mean, you have to speak English to sort of ridiculously high levels and you have to have loads of money or, have lots of bureaucratic knowledge to navigate different funding streams and so on. Right, so we're super exclusive and then trying to be inclusive on the edges. And inclusive only for some students, you know, when it is convenient. (Eli, consultant)

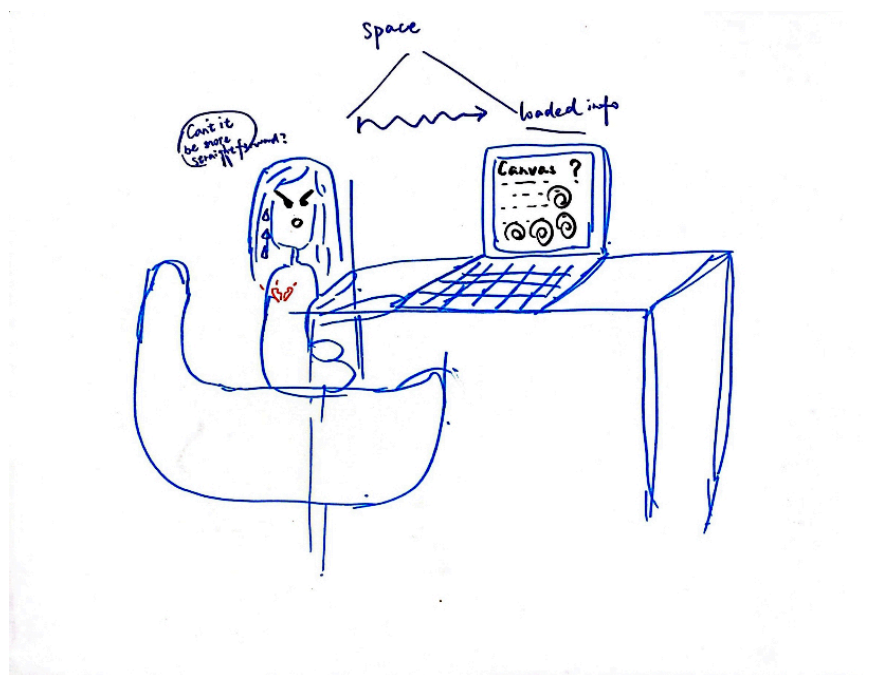
The broad range of issues—as implied above—is not simply limited to the DTP but the wider university; questions of history, racism, academic prejudice, social inequality, and so on. Helen also shed light on some of the tensions in *values* when thinking about the ways in which the DTP as both a concept and a sociotechnical assemblage is shaping the future of Oxford's education. While there is a need to innovate and transform, there are also reservations about how this technical project will change what makes Oxford unique: its rich history and traditions, the tutorial systems, old buildings and libraries, the 'romance and madness' of it all. At the same time, Eli argues that trying to 'be inclusive on the edges' only when it is 'convenient' points to some of Oxford's imperial biopolitical endeavours, especially the mass concentration of wealth, power, and material legacies of the empire. This is not only a critique of the DTP, but also a critique of the elitism, exclusionary practices, and

assumptions that undergird an ‘Oxford education’ and whether such ‘diversity’ and ‘inclusion’ commitments mask tokenistic moves to uphold the status quo; and thus, work to sustain Eurocentric power relations and an ‘imaginary of whiteness’ (Castro-Gómez, 2021). It is tempting, as the evidence suggests, to situate international students within a framework of visibility—to locate, categorise, and contain them so as to regulate and manage their lives and educational experiences. When asked if Oxford’s digital systems are inclusive or accessible, one student responded:

Absolutely not. I’m from a rural part of India and my parents weren’t well off. So when I got into Oxford they saved up to buy me a MacBook because my mom said people who go there use really high-tech stuff...and you might need it to keep up with them. And she’s right, the stuff I do you won’t be able to do with the laptop I had previously, which was like, this really small, tiny Lenovo. So, for one, Oxford assumes everyone have a laptop and is digitally literate...but the worst part is that you still have to work twice as hard when English isn’t your mother tongue or...if you’re not White. Like if you don’t type messages a certain way on Teams they don’t respond back. And they get like, offended! I didn’t know there was a hidden system with certain languages I needed to use to be treated the same. (Divya, Indian)

These kinds of unfair practices are *historical*, implying that there are indeed racial and classist elements embedded into HE processes that advance a *history* of exclusions, positioning international students at the centre of the problem. While unfair practices are not new, then, I argue they take on new and more pervasive forms when manifested in the digital context. As Winters et al. (2020) argue, what is different this time around is the *extent to which* multiple inequalities—old and new—work together to compound disadvantages at a systematic scale that is unavoidable: what is termed *digital structural violence*. This articulates new forms of power that may now be able to codify bodies, behaviours, and thoughts for the imperial project aimed at exploiting the invisible labour of populations.

Figure 2. Can't it be more straightforward?



Description: Chinese student Jinghang sketching her relationship using Canvas, showing frustration and difficulty with navigating the platform and (spatial) 'gaps' in comprehension as a non-native English speaker.

Divya's experience and Jinghang's drawing also highlight and reify race, especially how non-native English-speaking students are portrayed as representatives of backward, primitive cultures in need of saving, thus, justifying Western/Euro-centric interventions like 'digital transformation' in an effort to make them more modern and civilised. This creates an inherently colonial system that relies on counting, classifying, and containing student populations so as to ensure that whiteness is superior and the backdrop to an 'Oxford education'. Such a system assumes that digital transformation can empower previously 'invisible' student subjects and a means to their salvation, constructing them as victims to be saved, assets to be exploited, and problems to be solved. Decolonial thinkers and Indigenous activists (Olufemi, 2020; Quijano, 2007) further contend how deeply rooted, historical and class-based issues are overlooked in the drive to standardise digital systems for constructing the 'smart campus'. This is problematic as it determines whose rights should be respected, whose needs should be prioritised, who should dominate and be dominated, and ultimately—whose life is more valuable. As such, 're-engineering' Oxford's education poses significant challenges: it raises questions about who is (in)visible, and what gets measured and valued through 'sorting, classifying, regulating' (Burrows, 2012, p.356) people and objects; and therefore, risks creating new disadvantages that replicate and amplify known inequalities and other injustices for international students.

Market-making in HE

As we have seen, the drive to create a ‘smarter’ Oxford through the DTP has created a pernicious ‘technological solutionism’ (Morozov, 2013) with colonial undertones, where digital technologies alone are seen as capable of righting perceived wrongs in education and assumed as the default response to any problem. The initial consultation undertaken to develop the DTP also highlight the need to improve Oxford’s core digital learning platform, Canvas, and other tools (e.g. Teams, Inspira) in order to maintain the distinctiveness and quality expected from an Oxford education:

We aim to provide departments wishing to develop online courses with access to the partnerships, platforms, commercial models and services needed to accelerate development. (Digital Education Strategy 2023-27, p.8)

Our priority is to enter into university-wide partnerships with a range of internal and external preferred suppliers. (Ibid)

This goal supports the University’s strategic priority for public engagement...through continued investing in digital tools and infrastructure to be a leader in research data outputs. (Ibid)

These are the values and logic of business and the private sector, evident in the language rhetorically deployed—e.g. efficiency, competitiveness, investment, partnership, profit, measurability, etc.—which is now embedded in the material reality of HE spaces and enacted in practice. From a critical perspective, the DTP’s ongoing ‘digital transformations’ are indicative of further commercialisation and privatisation, blurring the lines between public and private and subjecting education to the logic of competitive markets. The making of markets is a core focus here, aimed at re-making and re-shaping the non-marketable aspects of education into desirable platforms and technologies with fixed values and prices attached. In the Oxford context, this market-making process relies on ‘partnerships’ with a range of ‘internal’ and ‘external’ actors, including policymakers, investors, and firms and businesses, in addition to the complex set of rules and conventions, technical infrastructures, devices, metrics, and skills in circulation—all of which are engaged in power struggles over how HE should be governed, by what means, and to what ends. As consultants observe:

We have the innovation and inclusive aspect of the project...which just makes it sound nice. It's just an easier way to get money right? Because that's what funders want to see and hear. (Eli, consultant)

From my personal view, looking at what we published [Digital Education Strategy], it's less visionary than I think I would have liked...because the need almost was to be really thin on strategy and really big on implementation. We are so aware of the importance of these strategic documents, the need to have impact, but you have to be thinking right from the beginning about, you know, which groups will support this, how's it going to be funded? (Erin, consultant)

In this sense, the DTP participates in the marketisation of Oxford itself by managing and presenting a particular public image and brand—a *persona*—in order to ‘capture a clientele’ or ‘build positive attention and trust’ (Zarifian, 2003, p.192) with funders. It is through advertising and marketing that the DTP appeal to the sensibilities of the market, both by discursively promoting its ‘innovation’ and ‘inclusion’ priorities to potential investors and by actively prompting a shift toward data-driven, industry-led, and skills-oriented forms of education. This observes the DTP as a *generative* instrument—an active and affective strategy in the construction of a new education state, and with that, a new kind of learner and economic subject, as participants observed:

I've got real concerns about the ways these technologies are used to narrowly define what universities are for...that really strangles the life out of people. And I guess, potentially, making more and more data and information visible so that it can be used to inform decisions not necessarily in good ways. (Justin, faculty)

All the talk about the ‘smart campus’ seems very profit-oriented, capitalistic, and whether they are serving the purpose that they're putting out there I don't know. (Ilse, German)

This highlights some of the concerns felt by students and staff in navigating HE within the confines of capitalist markets, which seeks to make ‘more and more data’ visible. This has arguably shifted the ideal of the ‘knowledge-intensive’ university—which previously relied on the acquisition of knowledge and skills to maximise economic growth—to a ‘data-intensive’ university where the quantification of HE has been put forward as solutions. As Justin observed, this has intensified the uptake and visibility of data: from metrics used to assess the ‘quality’ of teaching and research outputs, to measuring institutional performance through numbers and statistics, these practices are part of a longer genealogy of ‘governance by numbers’ (Piattoeva and Boden, 2020). It is within this neoliberal context that Oxford

becomes a competitor, with its digital innovations becoming the subject of market competition among universities, as one consultant stated:

So if you compare us [Oxford] with Cambridge...they're lagging behind us. But maybe they'd catch up...but so far, I've heard that we're doing well. (Gil, consultant)

Figure 3. DTP's 'Imagine the Future of Digital Education' writing competition

The University is developing a new [Digital Education Strategy](#), and the Digital Education Strategy Working Group is hosting the competition. All competition entries will contribute directly to the new strategy, thereby helping to shape the future of education at Oxford.








The competition is open to all current University of Oxford students, at any level of study.

The following voucher prizes will be awarded to the six winning submissions:

- One (1) first prize winner: £100 voucher to a local business or restaurant
- One (1) second prize winner: £50 voucher to a local business or restaurant
- Four (4) third prize winners: £25 voucher to a local business or restaurant

Highly commended

The following entries were highly commended by the judging panel, with each student winning a £25 voucher to a local business or restaurant.

	Oxford integrates the 'New Educational Curriculum' of the 2026-2030 period  is studying for a MPhil in Visual, Material, and Material Anthropology.
	OX-FOR-DIGITAL: Imagining the future of digital education  is studying for a BA in Music.
	To begin, select your experiment  is studying for a MSc in Radiation Biology.
	Imagining the future of digital education  is studying for a MSc in Social Science of the Internet.

Description: Student competition entry page (left) and competition winners announced (right).

The writing competition is interesting because it reveals the fear of falling behind and the need to compete with other universities in order to maintain Oxford's elite position. It also invites and capitalises on the competitive spirit ('The following voucher prizes will be awarded') and the responsabilisation of students—many of whom were international—as economic subjects tasked with the role of reinventing themselves and Oxford through their (in)visible labour; but despite their contributions, remain 'objects of study' or 'raw data' used towards commercial ends. The DTP is therefore presented as a game of *human capital*, in which international students must use their innovative capacities—a responsibility to self—to get the most out of their educational experience. It is within this context that international students' visibility relies on their legibility and is essential for sustaining the neoliberal structures of economic exploitation. An outcome that, as I contend, (re)produces a violent system of classification used to justify the colonisation of students' minds and bodies whereby they are seen as productive, entrepreneurial subjects expected to engineer solutions

for the benefit of Oxford and the HE market. As the evidence in this section reveals, the centring of students in digital transformation projects does not necessarily mean a concern for their struggles, but rather a capitalist co-optation of such concerns in the interest of market expansion and profitmaking.

Nudging Apparatus

Alongside these market-making practices, I want to illustrate the kind of subjectivities that are solicited in the DTP, that is, the particular way of living and being it seeks to impose on international students so as to respond to the competitive demands of ‘digital transformation’. This is evident during my conversations with Chinese student Ling:

Ling: I think these digital innovations have raised the standard for international students’ literacy of technology. I use technology for the bare minimum, like Canvas and stuff. But now more people are coding.

Me: Do you feel like you need to learn to code?

Ling: I do, actually. I was having lunch with friends and they were talking about Stata...like what is that? Why is everybody talking about that? Like...what...do I need to do this? I was really, really panicking for awhile...I need to learn MATLAB, I need to learn Python...I’ve been talking about it for ages now but I haven’t started.

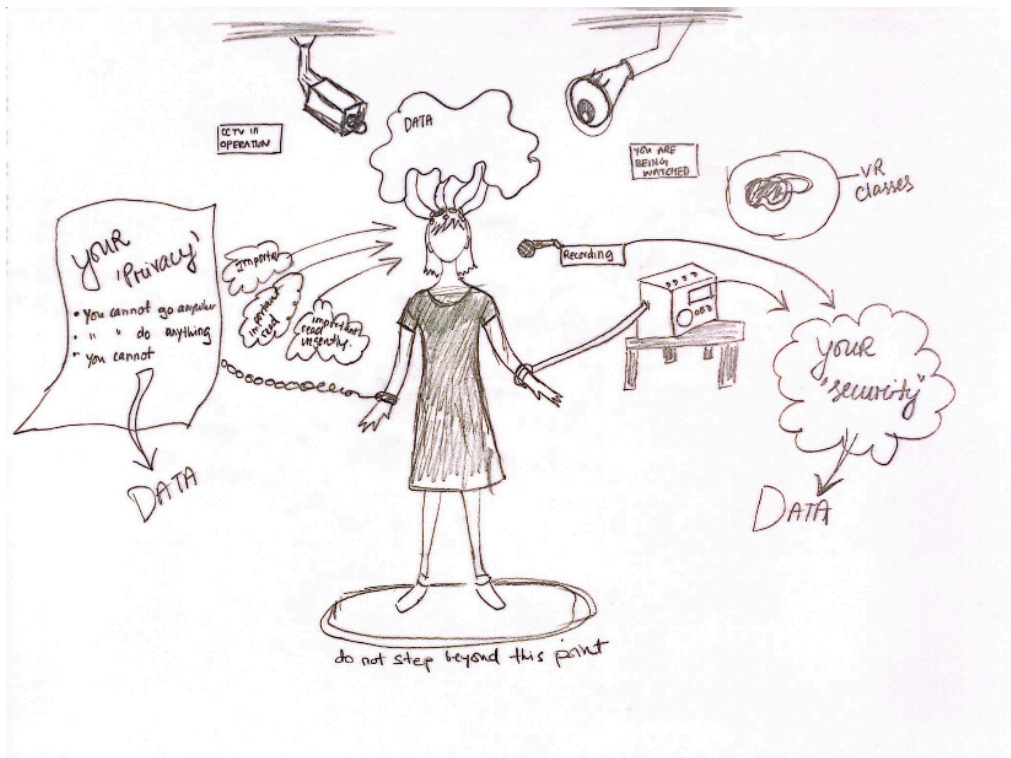
The way that students are subtly prompted to ‘learn to code’ becomes a prerequisite for access to and participation in Oxford’s education. This is, perhaps, a new form of ‘governance at a distance’ (Vanolo, 2014, p.894) whereby international students, as *cultural agents and ‘smart’ citizens*—are ‘nudged’ towards forms of social behaviours and conducts that are appropriate for membership to the ‘smart campus’. The archetypal citizen, then, is someone who embodies the dual obligations of contributing to the design of technologies that enable the ‘smart campus’, while also actively using such technologies to allow the campus as a sentient learning environment to learn about its student subjects so as to reshape their forms of conduct and actions. It is also worth noting the new, more pervasive kind of ‘nudging’ the DTP employs through ‘affective activation’ (Bailey, 2013), as students stated:

I definitely think its’ [DTP] a very positive thing...and a necessary step forward. That being said, I think there’s still resistance, not just by students...but by staff...because they don’t really want transformation...or contribute to it or actually make use of it.
(Lena, Austrian)

Tools like Canvas—from what I’ve seen—are quite inefficient from professors actually not wanting to use them properly. I think that’s the problem Oxford needs to address. (Yungyu, Chinese)

These accounts exemplify the kind of ‘affective nudging’ designed to ensure that students realign their technical capacities (‘learn to code’) and moral duties (‘a necessary step forward’) to optimise the functioning of the DTP. At the same time, they are reminded to be vigilant of who the *real problems* are, shifting the blame for the inefficiencies of digital systems like Canvas onto professors because they refuse ‘to use them properly’. I argue that this ‘nudging’ apparatus activates, and is articulated through, a *mass surveillance state* in which students are treated as ‘data producers’ through coding and reminded to monitor and report to ‘authorities’ (Oxford) fellow students or staff they suspect of subversive behaviour (‘anti-transformation’ acts), in what constitutes a process of ‘governing without governing’ (Olssen, 1996, p.340).

Figure 4. You are being watched



Description: Ukrainian student Alina envisions what her relationship with digital systems looks like.

Central to this mass surveillance state is what Vanolo (2014) describes as ‘smartmentality’ that involves regulating bodies not only for surveillance—by providing real-time data on

students' activities, but also for improving health and economic vitality—through prescribing interventions that persuade, guide, and 'nudge' students and their social behaviours in ways that their 'health and wealth' derives from it (Isin and Ruppert, 2020, p.6). The purpose, then, is not so much to seize, punish, or discipline bodies as it is to identify and provide the means for bodies to adjust their conduct towards desirable outcomes. But it is important to recognise that this exercise of power serves to privilege certain groups—typically the wealthy, educated, White, able-bodied student who can best adapt to becoming the 'smart' citizen and use computational methods—over those who cannot:

Oxford was complicated in the sense I was dealing with a lot of emotional baggage...the war, politics, family...a lot of that. And studying here...it's naturally assumed we should know how to access these very European-based systems...whether we're international students or not...that in itself is quite ableist. (Alina, Ukrainian)

I'm very clear when I speak, so I enunciate well, and this is something I was trained. I was literally trained out of my Indian accent so...how I speak...my transcript (on Teams) comes out clean. (Saanvi, Indian)

Digital transformation, then, always occurs within relations of power. This has serious implications for knowledge production in HE, which privileges the Global North and whiteness ('European-based systems') as the primary expert of knowledge while relegating the 'underdeveloped' Global South and racialised students as 'raw material' (Bowker and Star, 2000) to be used (or trained) by technical experts in the production of knowledge. By crafting digital systems that demand, if not privilege, Eurocentric knowledge at the expense of marginalised groups, the DTP risks reproducing racist and ableist logics of capitalist modernity that—hidden beneath the discourse of 'newness' and 'innovation'—constructs international students as 'Other'. At its most extreme, these imperialist structures serve to deepen social inequalities, reproducing disadvantages (e.g. race, class, gender, ability, age, etc.) that negatively shape educational experiences and outcomes. This exposes the stakes of counting and being counted, enacting new modes of technological redlining that extract, control, and disembody international students; an outcome that, as Olssen and Peters (2007) argue, standardises education policies, privileges objectivity, and denies the capacity for local institutions and cultures to negotiate, re-interpret, or resist this homogenising form of knowledge production.

Decolonising visibility

At the end of the interviews, I proposed to student participants a scenario:

Imagine the University implementing a digital solution that aims to create a ‘smart campus’ by tracking student locations on campus using real-time tracking software and sensors in efforts to improve ‘student engagement and attendance to lectures/seminars’, would you: (a) consent to this; (b) if there wasn’t the option to opt-out how would you feel about this tool being implemented; (c) do you think it would affect how you learn?

Almost everyone, in unison, exclaimed in outrage. ‘No I would *never* consent to that’, ‘*Absolutely* not’, ‘What a *terrible* idea’, and ‘I would *hate* that’ were echoed. While there was an outward rejection of consenting to this tracking system, there were mixed responses to whether students would still attend Oxford if there wasn’t the option to opt-out, as participants responded:

I think I would actually have just gone with it and accepted. Because my goal was studying at Oxford. The name gives you some reassurance it will be a good experience. (Alejandra, Spanish)

I would feel bad about it...obviously...it depends. If this was an undergrad course, or PhD, I think I would seriously consider not going. But a one-year Master’s I think I would live with it...for the sake of having Oxford on my CV. (Hamza, Pakistani)

Once again, Oxford’s reputation and employment prospects (‘having Oxford on my CV’) appear to be significant influences on students’ decisions to still enrol or not, with Alejandra even realigning her mindset to exhibit some level of trust (‘it will be a good experience’) in the tracking system because *Oxford* implemented it. Similarly, some of the initial outrages expressed disappeared when I asked whether this tracking system would affect learning, to which one student replied:

It wouldn’t change how I learn. I would probably mess with the system and try to irritate it and make it not work properly. Leave my bodcard—if that’s how they track you—somewhere random for three days...that kind of thing. (Arjun, Indian)

This reveals some of the ways students have sought to question and challenge the tracking system by manipulating data to produce ‘appropriate’—or in Arjun’s case, ‘inconclusive’ results. Such surveillance mechanisms have created a performativity culture (Ball, 2013) in which the university’s regulatory and disciplinary ‘gaze’ seeks to increase students’ visibility through the public displays of data; tracking and monitoring students as ‘quantifiable data objects’ (Williamson, 2015, p.8). The high stakes involved also mean that there is great potential for ‘game playing’ (Bradbury, 2013), such as deliberately messing with the system to ‘irritate it’ and ‘make it not work properly’ in order to resist the crude statistical measures and calculative apparatus of the ‘smart campus’. Much to participants’ dismay, I revealed that this tracking system is in fact a real ‘smart campus’ project at the University of Northampton—the ‘Cisco DNA Centre™’, which provides live analytics and insights on every user within the university network, regardless of where they are. By making students visible and knowable, databases and infrastructures have become dominant forms of governance; but at the same time, we are reminded from Arjun’s account that by viewing visibility as disobedience, or willingness to ‘play the game’, there is a need to search for the possibility of decoloniality beneath these modern/colonial projects of quantification.

Figure 5. Uncertain futures



Description: Professor Jane expresses her emotions and feelings on the future of the ‘smart campus’.

I close this chapter with an analysis of Jane's artwork that encapsulates the uncertainties and possibilities of the HE future:

It's a figurative stormy sky with lightning strikes...when it darkens because a storm is coming in. I suppose I was representing oppression, pushing down people at the bottom underneath. It's swirling danger. Unknown. Complicated. Not easy to understand or make sense of...I'd be suspicious of the idea of the smart campus [after a long pause] but I wanted to create light...solidarity...that mustardy yellow light coming through to show that it's not all doom-laden.

Indeed, a crucial aspect of Jane's artwork is its explicit articulation of eluding the colonial gaze—to 'disobey' its quantifying eye—and to subvert its efforts toward liberatory ends. One way of breaking this is to avoid being counted or classified at all, and therefore refuse to be made visible and legible as 'objects' to be exploited by the 'smart campus'. We could then think of decolonising visibility as *anti*-colonial, an act of 'epistemic disobedience' (Mignolo, 2009) by refusing to be codified and co-opted within the confines of the DTP and its imperative of rationality. This means paying close attention to the oppressive structures that organise our lives; committing ourselves to power struggles, and thus, rejecting the illusion that 'digital transformation' is always for the better. The notion of 'solidarity' is also important for decolonisation because it challenges the idea that power revolves around the West and whiteness. Instead, it invites us to politicise the trauma of our own experiences and expose the racial and class dominations that exist across borders, nations, and states, and are forced onto marginalised bodies, races, genders, and more. In this sense, participants' artworks enact a kind of *reflective* solidarity that serve as a starting point in the search for justice and the political possibilities that decoloniality offers us.

Chapter V: Conclusion

This thesis has broadly explored Oxford University's Digital Transformation Programme (DTP) and, more specifically, the 'smart campus' imaginaries that are mobilised in an effort to improve the student experience through the deployment of 'innovative' and 'inclusive' digital systems. Drawing on the 'methods' and 'sensibilities' of critical ethnography, I attended to some of the coloniality of power and its insinuations in imagining and governing the future of higher education (HE). In part, this involved conceptualising Oxford's DTP as an assemblage of discourses, practices, values, and hierarchies that inform modern/colonial projects of counting and classifying, and by extension, the governing of society and ourselves. Throughout this study, I have been concerned with the ways in which the DTP render international students 'visible', manifested in the racial taxonomies that negatively shape their experiences of technology use at Oxford. This is a world, as I attempt to illustrate, that is filled with newness and ambition, but also with risks, emotions, and a kind of moral obligation that *compels and elicits* the production of knowledge, subjectivities, and discourses best suited for the management of the 'smart campus', and at the same time, *anticipates and delimits* students' actions towards particular ends. This is evident in the ways that the DTP employs the discourse of data as salvation, seeking to make international students from non-native English-speaking backgrounds visible in deeply racialised ways that eliminate other ways of knowing and being. However, in contrast to classical colonialism, which articulates forms of power that are ritual, costly and violent, the DTP obscures its colonial agendas by proclaiming a seemingly positive focus on 'digital transformation'—a move that standardises and universalises hegemony while essentializing itself as a utopian initiative that will 'save' student bodies from their communities.

Participants' stories, artworks, and institutional documents have served as a critical device for exposing the local manifestations and forms of power and discourse, truth and knowledge, which 'condition' the present (Koopman, 2014) and shed light on how the DTP is enacted, rationalised, and made operable. By investigating international students' perceptions and experiences using 'smart campus' features such as Canvas and Microsoft Teams, I want to highlight the ever-growing importance of an 'Oxford education' as a locus of truth, especially how Oxford has emerged as a dominant cultural trope and governing ethos. On the one hand, Oxford's prestige and reputation have allowed it to exert power over student bodies,

institutions, and geographies and, in turn, the governing of HE policy and practice. On the other, it introduced market-making processes by transforming non-economic practices (education) into competitive economics, thereby establishing the neoliberal capitalist market conditions necessary for the DTP to emerge, function and produce value, both for the University and the economy—through counting, classifying, and extracting. I also attempt to illustrate the archetypal student and the hyper-performative culture of which they are part of, especially how they are ‘nudged’ towards particular knowledges, duties and obligations. Here, the racialised student becomes the ‘smart’ citizen: an affective, resilient, agile, depoliticised, technically capable individual who accepts and can live and prosper in an uncertain future, adapt and submit to its shifting demands, and frequently ‘play the game’ to perform their obligations. What this implies is that the DTP as an instrument of power seeks a particular future and subjectivity which embodies the uncertainties, anxiety and fears of the present, of the need to be hyper-active and bold, and endlessly productive and transformative. This is a vision of the ‘smart campus’ in which ‘digital transformation’ is not simply a pursuit of rational economic gain (for profit, exploitation), but also a moral mission of salvation, both for the self and others, through the colonisation of Others.

Whilst I do not aim to standardise these very real conditions faced by international students at Oxford and around the world, nor do I deny the fact that most technology initiatives are often successful in bringing about some form of change for beneficiaries. What is clear, then, is that Oxford and its DTP is a key site of struggle. As I hoped to have demonstrated through this discussion, there is a need to critically evaluate the discursive implications of the DTP frameworks deployed because solutions that sustain coloniality serve to further oppression. There is more to do, especially in calling to question how transformative agendas are shaped and legitimised, so that an opposing set of critique and strategies may begin to be developed to address the dangers and possibilities of the present. All of these themes are crucial and deserve further attention because without the capacity to imagine in this way, education is purposeless. This is a struggle over the future, a way to imagine an alternative reality, a commitment to a world that has not yet been built; knowing that if we do not attempt to see this world, someone else will.

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Appendix A – CUREC Approval

**SOCIAL SCIENCES & HUMANITIES
INTERDIVISIONAL RESEARCH ETHICS COMMITTEE
DEPARTMENTAL RESEARCH ETHICS COMMITTEE**

Department of Education
15 Norham Gardens, Oxford OX2 6PY
student.curec@education.ox.ac.uk; staff.curec@education.ox.ac.uk



Shu Yuan (Lucy) Zhang
Department of Education, Social Sciences Division
University of Oxford

10 March 2023

Dear Shu Yuan (Lucy) Zhang,

Research ethics approval

Research title: The Smart University: an embedded case study of international students' (from non-native English-speaking countries) and faculty members' experiences of navigating 'smart campus' features in UK higher education.

Research ethics reference: C1A-23-102

The above application has been considered on behalf of the Education Departmental Research Ethics Committee (DREC) in accordance with the University's procedures for ethical approval of all research involving human participants.

I am pleased to confirm that, on the basis of the information provided to the DREC, ethics approval has now been granted for this study.

Please note the following:

Personal data: It is the responsibility of the PI to ensure that all personal data collected during the project is managed in accordance with the University's [guidance and legal requirements](#).

In-person activities: Any data collection involving in-person interactions with participants must have an up-to-date fieldwork risk assessment in place; further guidance is available from the Safety Office's [website](#).

Amendments: Please notify the committee if you intend to make any amendments to the information in your ethics application as submitted at date of this approval, as all changes must receive ethical approval prior to implementation. The amendment form is available on the [SSH IDREC webpage](#).

We welcome feedback on your experience of the ethical review process and suggestions for improvement. Please email any comments to staff.curec@education.ox.ac.uk / student.curec@education.ox.ac.uk or ethics@socsci.ox.ac.uk.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Katharina Ereky-Stevens'.

Katharina Ereky-Stevens

DREC member

cc: Dr Lulu Shi (Lulu.shi@oii.ox.ac.uk)

Appendix B – Information and Consent Form

15 Norham Gardens, Oxford OX2 6PY
Department of Education



Shu Yuan (Lucy) Zhang

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The Smart University: an embedded case study of international students' (from non-native English-speaking countries) and faculty members' experiences of navigating 'smart campus' features in UK higher education.

PARTICIPANT INFORMATION SHEET (STUDENTS)

Central University Research Ethics Committee Approval Reference: #C1A-23-102

1. Introductory paragraph

You are being invited to take part in a research study. Before you decide to participate, it is important to understand why the research is being conducted and what your participation entails. Please take time to read the following information carefully. Please ask if there are any aspects of the project that are unclear or if you would like more information. Take time to decide whether or not you would like to take part in this research.

2. What is the purpose of the study?

This study is an exploration of digital automation and datafication in higher education (HE). It attempts to investigate 'smart campus' developments at Oxford University through its adoption and implementation of key technology and digital solutions within teaching and learning. This study intends to understand the extent to which the university has adopted 'smart campus' features, the factors influencing its adoption and implementation in pedagogical practices, focusing specifically on the perspectives and experiences of international students at Oxford.

3. Why have I been invited to take part?

For this study, we are seeking those who identify as a current international student (from non-native English-speaking countries) at Oxford University and has had experiences using or engaging with smart technologies and tools within their course or overall study. You have been identified as someone with experience in this area and it is hoped that by interviewing you and other international students, a broader picture of 'smart campus' features in HE institutions can be explored.

4. Do I have to take part?

It is your decision to take part in this study. You can decide to stop participating and withdraw at any time. You do not need to answer questions that you do not wish to. If you choose to withdraw, any data that has already been collected about you will be destroyed. Every effort will be made to preserve confidentiality so that you cannot be identified in the final report. There are no known risks to taking part. The benefits are helping researchers and members of the public better understand 'smart campus' developments in higher education institutions. Your participation, as part of this study, will benefit those trying to shape digital technology plans and policy in education by highlighting some of the complexities surrounding its use.

5. What will happen to me if I take part in the research?

- The interview will be held in-person at a place that is convenient to both you and the researcher. Normally, the location will be at the Department of Education, 15 Norham Gardens, Oxford OX2 6PY. Any information as to what to expect on arrival will be communicated to you beforehand.
- Consent will be taken through the information and consent sheets. You can decide to participate by signing the consent form.
- The interview will not take more than 30-40 minutes.
- The interview will involve a drawing activity for 10 minutes followed by a discussion of the set questions prepared. You will be asked questions about your experiences using digital technologies and tools in your university life. The questioning style is semi-structured and not considered to be sensitive.
- With your consent, we would like to audio-record you and take photographs of your drawing so that we can have an accurate record of the conversation.
- In exceptional circumstances the interviews can take place online via MS Teams. In this case the conversation will be audio and video recorded with your consent.
- You can ask to pause or stop the research activities at any time.

6. What are the possible disadvantages and risks in taking part?

The research topics are not considered to be sensitive or cause any foreseeable discomfort, disadvantages, or risks. If you do feel uncomfortable due to taking part in the study, you can decide to withdraw from the research at any time. All data collected will be anonymised and steps will be taken to ensure confidentiality.

7. Are there any benefits in taking part?

It is hoped that this research will engage you with the topics discussed in education and further the collaboration and co-production of knowledge. This can help you with your daily interactions and uses of technology in ways that improve your self-awareness and digital wellbeing.

8. What information will be collected and why is the collection of this information relevant for achieving the research objectives?

I will collect contact information, audio, and video record (if via MS Teams) of the interview, which will be deleted after transcription. Written consent forms, contact details (e.g. email addresses), and photographs of the drawing activity will be initially collected through university email and online correspondence and transferred to Nexus365 OneDrive for storage. Contact details will be kept in a password-protected file. These devices will be owned by the researcher and not shared with anyone. Records will only be kept for the approaching participants' stage and will be wiped from storage device completely afterwards adhering to the university's policies and GDPR and data protection regulations. Only the research team will have access to the research data collected during the project. Identifiable data will be removed whenever possible and any data transfer will be done securely and with a similar level of data protection as required under UK law.

9. Will the research be published? Could I be identified from any publications or other research outputs?

The findings from the research will be written up in an Oxford Master's Thesis in Education. All data will be anonymised. We would like your permission to use direct quotations but without identifying you in any research outputs. It will most likely not be possible for you to be identified from the outputs and you will have a choice about whether you want your name to be attributed to any work produced or quotes.

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11. Who has reviewed this research?

This research has received ethics approval from a subcommittee of the University of Oxford Central University Research Ethics Committee. (Ethics reference: **C1A-23-102**).

12. Contact for further information, follow-up, of if I wish to complain

Should you have any further questions about this research, please feel free to contact the researcher (shu.zhang@wolfson.ox.ac.uk) or Dr Lulu Shi (lulu.shi@oii.ox.ac.uk), and we will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible:

The Chair, Social Sciences & Humanities Interdivisional Research Ethics Committee;
Email: ethics@socsci.ox.ac.uk; Address: Research Services, University of Oxford, Boundary Brook House, Churchill Drive, Headington, Oxford OX3 7GB

Have you read and understood the information above?

Signature: _____

I agree for the interview to be audio (and video, if using MS Teams) recorded

Signature: _____

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PARTICIPANT INFORMATION SHEET (FACULTY MEMBERS)

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The Smart University: an embedded case study of international students' (from non-native English-speaking countries) and faculty members' experiences of navigating 'smart campus' features in UK higher education.

PARTICIPANT INFORMATION SHEET (CONSULTANTS)

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3. Why have I been invited to take part?

For this study, we are seeking those who are currently developers or consultants working on 'smart campus' projects Oxford University and has had experiences developing or engaging with smart technologies and digital solutions as part of their professional work. You have been identified as someone with experience in this area and it is hoped that by interviewing you and other developers/consultants, a broader picture of 'smart campus' features in HE institutions can be explored.

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Have you read and understood the information above?

Signature: _____

I agree for the interview to be audio (and video, if using MS Teams) recorded

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Consent to take part in: The Smart University: an embedded case study of international students' (from non-native English-speaking countries) and faculty members' experiences of navigating 'smart campus' features in UK higher education.

Central University Research Ethics Committee (CUREC) approval reference: **C1A-23-102**

Purpose of Study: This study is an exploration of digital automation and datafication in higher education (HE). It attempts to investigate 'smart campus' developments at Oxford University through its adoption and implementation of key technology and digital solutions within teaching and learning.

I confirm that I have read and understand the information sheet version for the above research. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that my participation is voluntary and that I am free to withdraw at any point without giving any reason.

I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project.

I understand that I will not be identifiable from any publications or research outputs unless I have chosen to include my name or elements of my identity in the findings presented.

I consent to being audio and video recorded (if on MS Teams).

I consent to having my task activities (e.g. drawing) photographed.

I understand how the photos will be used in research outputs.

Use of quotations: Please indicate your preference (select *one* option):

a) I do not wish to be quoted. **or**

b) I agree to the use of quotations in research outputs if I am not identifiable. **or**

c) I agree to the use of direct quotations, attributed to my name, in research outputs.

I give permission for you to contact me again to clarify information.

I understand how to raise a concern or make a complaint.

I agree to take part.

Name of participant

dd / mm / yyyy
Date

Signature

Name of person taking consent

dd / mm / yyyy
Date

Signature

Appendix C – Email Recruitment Template

Approaching students:

Dear [potential participant],

I hope this email finds you well.

I would like to invite you to **participate in a study on XXX**. The study is part of my Master's dissertation in Education that explores international students and faculty members' experiences and attitudes towards the use of 'smart campus' features, such as platform-based technologies (e.g. Canvas, MS Teams) at Oxford.

As an international student, your thoughts and perspectives on the topic will be a valuable addition to the research study. Your participation can improve public understanding of 'smart campus' developments in higher education institutions and how it is dealt with by students from non-native English-speaking countries.

Participation will take form of an in-person interview at the Department of Education, 15 Norham Gardens, Oxford OX2 6PY. The interview should take around 30-40 minutes. If you are interested, please respond to this email, and I am happy to discuss this in further detail.

Best wishes,
Shu Yuan (Lucy) Zhang

Approaching faculty members:

Dear [potential participant],

I hope this email finds you well.

I would like to invite you to **participate in a study on XXX**. The study is part of my Master's dissertation in Education that explores international students and faculty members' experiences and attitudes towards the use of 'smart campus' features, such as platform-based technologies (e.g. Canvas, MS Teams) at Oxford.

As a faculty member/professor at Oxford, your thoughts and perspectives on the topic will be a valuable addition to the research study. Your participation can improve public understanding of 'smart campus' developments in higher education institutions and how it is dealt with by educators.

Participation will take form of an in-person interview at the Department of Education, 15 Norham Gardens, Oxford OX2 6PY. The interview should take around 30-40 minutes. If you are interested, please respond to this email, and I am happy to discuss this in further detail.

Best wishes,
Shu Yuan (Lucy) Zhang

Approaching developers:

Dear [potential participant],

I hope this email finds you well.

I would like to invite you to **participate in a study on XXX**. The study is part of my Master's dissertation in Education that explores international students and faculty members' experiences and attitudes towards the use of 'smart campus' features, such as platform-based technologies (e.g. Canvas, MS Teams) at Oxford. A key aspect of this is to gain a better understanding of the extent to which Oxford University has adopted 'smart campus' plans and some of the factors influencing its development and implementation.

As a developer/consultant currently working on the [digital project] at Oxford, your thoughts and perspectives on the topic will be a valuable addition to the research study. Your participation can improve public understanding of the 'smart campus' in higher education institutions, especially some of the benefits and challenges in developing and making recommendations on these digital solutions.

Participation will take form of an in-person interview at the Department of Education, 15 Norham Gardens, Oxford OX2 6PY. The interview should take around 30-40 minutes. If you are interested, please respond to this email, and I am happy to discuss this in further detail.

Best wishes,
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Appendix D – Interview Schedule

DRAWING ACTIVITY (relational maps – require pen and paper) – approx. 2-3 minutes

- Can you briefly sketch your relationship to the kinds of technology you use or interact with during your education/work here at Oxford?
- OR ALTERNATIVE PROMPT: Can you briefly sketch what you think/envision a ‘smart campus’ at Oxford to be in relation to you as a learner/teacher/professional?
- Additional prompts to assist with creative process:
 - ‘You’ as in identity: it can be a focus on you as a person, learner, or student/educator/worker
 - ‘Education’/’Work’: this can focus on learning experiences, different forms of learning both within and outside of the classroom (but must focus on your time here at Oxford), and working experiences/professional encounters.
 - ‘Technology’: this can be any sort of technology (ideally something that comes to mind or that you frequently use/interact with), it can be one particular technology/app/system or it can be a cluster (e.g. platform technologies, MOOCs, etc.)

SENSORY – this directly follows from the drawing activity

- Can you describe what you have sketched here?
 - Follow up questions based on responses given by participants (semi-structured component)
- What was the first thing that came to your mind when you were given this prompt and asked to do this task?
- Looking at this drawing holistically, what detail sticks/jumps out at you? Why?
- Do you see [the drawing] as something fixed or changing?
- Did any particular feelings or emotions emerge while you were drawing?
- Did you experience any unexpected surprises while drawing? Or tensions?
- Was there a deliberate way you decided to approach your drawing? (e.g. what the participant wanted the viewer to see, was the picture in colour or black and white, bright or dark, etc.)
- Other senses (if discussed): sight, sound, touch, feel, taste, smell

BACKGROUND

- Can you tell me a bit about yourself? (e.g. age group, socio-economic background, gender, nationality/ethnicity, education)
 - **Maybe more broad**
- Where are you from? (may be only applicable for international students)
- What is your education/teaching/professional background?
- How long have you been studying/teaching/working here at Oxford?
- How do you feel about being an international student studying at Oxford?
- How do you feel about being a faculty member working/teaching at Oxford?
- How do you feel about being a developer/consultant working at Oxford?

EXPERIENCE

- Can you tell me about your experiences using technology in the classroom?
- What technology tools and/or systems do you currently use for learning/teaching at Oxford?
 - How/when/where/why do you use these technologies in your learning/teaching practices?
- Is there a specific technology tool or group of technology that you use the most?
 - How do you feel about using technology in your everyday? And how do you feel about its implementation in learning/teaching?
 - Is [x] something you want to use? Or is it part of university/department policy?
 - How has using [x] impacted your learning/teaching processes or academic pursuits? Or motivation to learn/teach?
- Drawing on your own experience as an international student, do you think technology is inclusive and accessible?
 - Are there any challenges of navigating these tools as a non-native English speaker? Such as its design, its implementation, or the way it's being used?
- How does the use of technology in your classes influence your interactions with your peers or students?
 - To what extent does it impact your relationships with your peers and students on campus? Off campus?

For developers/consultants (only)

- Can you tell me what you have worked on and/or currently working on in terms of digital technologies, tools, or systems in Oxford? (*There may be limits to what can be discussed due to client confidentiality and contractual agreements)
 - Sub-questions may be asked depending on response given
- Drawing on your experience and work, do you think technology can be used to enhance an Oxford education?
- Why do you think there needs to be a digital transformation?
- What are your thoughts on smart campus plans, especially Oxford's digital transformation programme for 2023-2027?
- In your experience, what are some of the needs of students and educators when designing platform-based technology solutions?
 - Can you provide an example of conflicting needs or challenges you faced and how you addressed it?
- What are some of the main goals/objectives you as a developer/consultant focus on when designing/consulting smart campus projects?
- A main goal of Oxford's digital transformation programme is to make 'Oxford digitally fit for the future', could you elaborate more on this?
 - How do you think these developments can best serve the needs of everyone at the university? Especially international students from non-native English speaking countries?

- Can you talk more about how you approach issues of inclusivity and accessibility for students and educators, regardless of abilities?
- Do you think these smart technologies can reimagine the way we learn and work? Can it create new ways to teach and learn?
 - What are some of the desirable skills/knowledges learners/educators should possess in this digital environment?
- Do you think these developments can impact relationships within higher education (e.g. student-student, student-teacher, teacher-teacher, etc.)?
- Are there any particular challenges or concerns you have when designing/consulting these smart campus projects?
- Do you think these developments are sustainable and are there plans to extend beyond Oxford?
 - Where do you imagine or hope the future of smart technology use are?

BEHAVIOUR/ATTITUDE

- Technology is mentioned a lot these days as being 'smart' solutions for higher education, what do you think about the term 'smart'?
 - How much do you know at the smart campus? If not, what comes to mind when thinking about this concept?
 - Have you ever been concerned about these smart campus plans or moves to digitise almost every aspect of higher education?
- How do you feel about the level of control you have when using smart technologies in your academic work?
- Are you ever concerned about the technology you use in learning/teaching? Does it raise any challenges and dilemmas (data, security, privacy, surveillance, etc.)
- Do you think you learn/teach differently now with technology being alongside you?
 - Do you think you might approach a task differently? Or think through things differently (Provide example if possible)
- How do you feel about the university's current policies and strategies on how students and staff should be using technology in the classroom?
 - Do you think its fair and just for you?

SCENARIO

- What are some of the benefits and challenges you have encountered of using platform-based or 'smart' technologies?
 - Can you describe a time when technology helped you learn in a new and meaningful way?
 - Can you describe a time when you felt overwhelmed or frustrated using technology?
- Imagine the University implementing a digital solution that aims to create a 'smart campus' by tracking student locations on campus using real-time tracking software and sensors in efforts to improve 'student engagement and attendance to lectures/seminars', would you: (a) consent to this; (b) if there wasn't the option to opt-out how would you feel about this tool being implemented; (c) do you think it would affect how you learn?

- Imagine a new automated classroom analytics tool being implemented for teaching staff that record and analyse the visual and audio features of lectures (this includes a camera and audio equipment to record teachers and students at the same time) in order to automatically identify information such as where students are looking, their facial expressions, the space that professors use, how long they pause, how fast they talk, etc.) to sense engagement and provide feedback on teaching, would you: a) consent to this; (b) if there wasn't the option to opt out how would you feel about this tool being implemented; (c) do you think it would affect how you learn/teach?