Australia's Generative AI Framework - Policy networks and the case for Regulation

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Abstract

This study is guided by the current literature that policy development and consensus-building take place through a myriad of spaces and relationships. More particularly, that ideas of learning and education policy are shaped by actors, discourses, conceptions, connections, agendas, resources, and solutions that interact. The rise and proliferation of Generative Artificial Intelligence technologies has led to new ways of attending to and understanding education policy. Using the Australian Framework for Generative Artificial Intelligence in Schools ('the Framework'), this dissertation explores how discourse and actors at the global and local mobilise government reform to inspire policy changes within education. Conducting analysis of policy documents and interviews with actors' part of the Framework's taskforce, this study identifies some of the ways policy of education and technologies construct. Following people and policy, this study hopes to offer some explanations for the gaps between policy design and enactment within Australia. My findings demonstrate entangled interests amongst actors in constructing the meaning of regulating Generative AI technologies in Australian education. My findings also show how complex policy networks between private and public make discussions around ethics and responsibility both conceptually and practically messy for government.

Key words

Regulation; Artificial Intelligence; Australia; Policy; Schools; Chat GPT

1. Introduction

With the release of Chat GPT, a large language model and class of AI technology, Australian federal and state governments have sought and continue to advance changes within Australian Education (Department of Education, 2023). In this dissertation, I consider one of these initiatives, the *Australian Framework for Generative AI in Schools* ('the Framework'). I look to understand how the introduction of the Framework extends our discussions of contemporary education policy and regulation.

Indeed, the background to this is important. Released on the 30 November 2023, the Framework presented itself as an important step in providing schools, teachers and students with much-needed advice on Generative AI technologies (McKnight and Furze, 2023a; Clare, 2023). Undergoing several rounds of consultation across the Australian education sector, the Framework delivered 6 principles and 25 guiding statements. These included issues of privacy, transparency, responsibility, security and safety (Department of Education, 2023). However, as a policy document, the assumptions and expectations it put forward cannot be viewed within a vacuum. Creators of the Framework were faced with a new technology; to grapple with its complexity and implications for students and teachers; the speed of Generative AI's developments; and all whilst the Australian Government were trying to assess the technologies' advantages or harms to educational systems. The proliferation of Chat GPT led Australian state Governments, bar South Australia, to ban its use across Australian public schools in early 2023 (ABC News, 2023a, 2023b; SBS, 2023).

Australia's reaction to Chat GPT also operated within a larger world discussion on the profound influence Generative AI technologies have on education and learning. Launched on November 30, 2022, Chat GPT has been considered an unprecedented technological revolution (Grassini, 2023). The ensuing frenzy and subsequent release of other Chat bots by Microsoft and Google has arguably indicated a rapid popularisation and social deepening of artificial intelligence ('AI') technologies (Yu, 2023). Accordingly, it is important to locate this dissertation topic in the social and political factors that surrounded it, not only as a matter of background, but to highlight why this dissertation is interested in questions of actors, ideas and discourse. Specifically, how they travel, who shapes what and how. In doing so, this dissertation hopes to connect such discussions into broader discourse, linking questions of new technologies within education to concerns of broader society.

My use of theory is informed by an attempt to capture the processes and effects of policy, and in doing so, to try and understand what is going on inside and outside the Framework. This is because in considering policy narratives and directions, the interdependency of actors and the

movement of ideas in the framing of problems, I can begin to see how discussions of Generative AI technologies relate to Australian education (Ball, 2015). These critical connections help form my understanding of the tensions and struggles that move and flow within Australian education.

Conceptualising the mobilisation of discourse and external and local actors as policy tools is also helpful in exploring how regulatory approaches shift (Ball, 2016; Ball et al., 2017; Peck and Theodore, 2010). This is important because in considering how Australian policy forms, this dissertation must consider how the use and narrative of Generative AI technologies have developed in Australian education. This dissertation therefore asks: who is active in the space that has led to the development of the Framework? What spaces and networks do such policies travel through? And what does this problematise for addressing Generative AI within Australian education? It is with these questions in mind that I focus on how networks of actors and discourse travel and enact. Addressing these and related questions is far from trivial, but rather crucial for exploring how narratives, relations and ideas about Generative AI in Australian education are forming.

Therefore, as a first step towards addressing my research questions, I begin this dissertation by considering the literature. Looking to policy networks, AI policy, education studies and the Australian context, I provide an overview of the current research, where it connects and diverges. Such a review highlights how important interdisciplinarity is when investigating the regulation of technology in education. Through assessing the collective literature, this dissertation can also focus on emerging gaps within the discipline.

Furthermore, this dissertation's methodology employs two steps of data collection and analysis. This includes a documentary analysis of the Framework, using available secondary resources on Generative AI in Australia, and collected responses from semi structured interviews. Participants were purposively sampled based on their acknowledgement in the Framework or based on their prominence in the Governance, Education, Law, and Digital Technology fields. The methodology also draws on a policy mobility perspective and network ethnography approach but acknowledges that it is not a full-scale network ethnography. This is purposeful in addressing the different ways in which policy is mobilised and mutates and provides a structure to looking at the role of policy networks. This is because the educational contexts which Generative AI technologies aspire to enhance, highlight the need to understand the entangled actors, their motives and ideas, to account for what spaces such policies travel through, how spaces are reconfigured as policies move through them, along with many other considerations.

The data collected included responses from semi-structured interviews, and document analysis using available documents on AI and more specifically Generative AI in Australia. Interviews were conducted with eight stakeholders across academia, government, and policy

between March and June 2024 and document analysis included 25 documents. Critically, findings revealed an entanglement between actors and their positions. That the Framework's introduction helped reveal some of the federal government's narrative - that of the need to be seen as active and the 'reality' posed to Australia in regulating AI technologies. That the Framework's structure and the government's discourse regardless of merit, influenced and shaped the attitudes towards Generative AI in Schools. However, this did not ensure cohesion and agreement amongst actors. Analysis also revealed that actors both inside and outside the Taskforce, locally and globally, helped construct the Framework's meaning. Finally, findings showed that the Framework's problematisation of certain ideas highlighted how issues surrounding ethics and government power within AI and Education policy may be limited.

2. Literature Review

2.1 Situating this dissertation:

In the following section, I outline this dissertation's theoretical framework, its structure and development. Understanding policy networks and their connection to network governance are essential in mapping how actors and discourse relate (Ball, 2016). First, a network analysis helps explain and conceptualise the structures, positions and characteristics of a policy outcome or process (Oliver and Acuto, 2015). Second, a policy network approach is helpful in locating the role of groups and actors involved in policy making, how they evolve and the spaces they travel through. A focus on the mobility of such actors not only helps connect my focus to the actors that perpetuate such flows, but also how they connect to the local and global contexts they operate in. Understanding such elements and features of a policy network is a key aim of this dissertation.

I then move to situate the theory of policy networks within education itself, expanding the scope to consider how education policies have specifically tried to understand actors, their connections within and across networks. By highlighting how current literature identifies 'state' and 'non state' actors', their authority and fluidity, I can also distinguish the limits of current research. This is essential for discussions on education policy and more broadly, in connecting the relationship between government, education and technologies.

This dissertation then looks to the literature on AI policy responses, how governance has been studied, its initiatives and its consequences for education. This is critical for addressing the other key aspect of this dissertation, that of how regulation and policy relate to digital technologies.

These crucial findings help locate the trends regarding Generative AI, and where, how and why the case for its regulation has been articulated. This allows the study to marry up three seemingly disparate areas of policy network theory, AI policy and literature specific to Generative AI.

This dissertation also considers the Australian context. Specifically, current literature on the actors and discourse within Australian education and what Australian policy reform looks like and where has it been enacted across technologies. Again, this is essential for framing this dissertation's focus, being Australian policy, regulation and education. Providing such a context also ensures a relevant lens in which to consider these findings.

Ultimately, this literature was crucial in disrupting notions that political activity and the global and local can be viewed a binary, with distinct boundaries. Instead, I learnt from the research, that policy networks mutate over time, that education policy includes such relational dynamics, and that education policy spaces include fluid networks. AI governance is both complex and disordered, at both a global and Australia level. Yet, technology policy and governance within Australian education, provide a unique vantage point for examining discourse and actors. Critically, this helped to answer this dissertation's research questions, by illuminating where the vast literature overlapped and where it was distinct.

2.1.1 Understanding policy networks

2.1.1.1 What is Policy Network theory?

Policy network theory seeks to understand how policy networks form and change. In doing so, it helps us inform how policy processes work and influence attitudes, and how ideas build and mutate between actors. The role of policy in the State, its institutions, individual actors, and groups, have attracted the interest of scholars around the globe (Avelar et al., 2018). Specifically, in investigating the clusters of individuals and groups that make policy; the structural relationships between actors and institutions; and the sharing of power between private and public actors in society (Rhodes, 2007). The processes of policy making, sometimes referred to as network governance, have concerned researchers especially when considering the opaque ways networks connect and change (Rhodes, 1994, 2007).

Two major trends have accordingly been identified in the conceptualisation of policy networks. The first identifies general changes in the form of government (Rhodes 1996, 1997, 2009). The second denotes the array of social relationships that influence and shape policy (Ball, 2008, 2009, 2012, 2013a; Ball and Junemann, 2012). Ball has extended such discussions of

policy networks in a series of influential studies (Ball, 2013b; Olmedo et al., 2013; Santori et al., 2015; Junemann et al., 2016). Ball has argued against viewing political activity and the global and local as a binary, with distinct boundaries. Instead, political activity is one characterised by "multi-directional and non-linear relationships across agenda setting, policy text production, and policy enactment" (Ball, 1994, p. 150). Ball's term of 'enactment', as opposed to 'implementation', captures the variety of complex actors that shape, modify and contest policy as they move within discussion and practice (Ball et al., 2012).

Ball's contributions have significantly informed policy mobility research, positioning us to ask: "what spaces do policies travel through on the way from one place to another? Who is active in those spaces and who moves between them? how are spaces reconfigured as policies move through them? and how do policies change as they move?" (Ball et al., 2017, p. 16). Ball's focus ties in with other theorists, like Peck and Theodore (2010), who have argued policies are mobile, not in distinct and compact forms or 'bundles', but rather in a piecemeal fashion. They mutate and (re) assemble in particular ways, in particular places and for purposes - therefore "never arriving as complete concepts but as policies in transformation" (Peck and Theodore, 2010, p. 170). Indeed, for some researchers, policy networks reflect and inform social relationships and communities (Santori and Jin, 2023; McCann and Ward, 2012). These relationships develop through fluid and evolving forms of financial, discursive, political, technological, and social exchanges (Santori and Jin, 2023). The relationships between and involvement of institutions and individual agents within the policy making process also reflect a broader shift from "government to governance" (Avelar et al., 2018, p. 56).

2.1.2 Turning to policy network analysis within education

2.1.2.1 Policy networks amongst education actors

Researchers have turned their focus to the ways policy networks can enact themselves within education. This focus includes understanding the role individual policy actors play; how these policy actors connect within and across networks; and the spaces, practices, and infrastructures in which policy actors navigate in order to influence the governance of education policy (McKenzie et al., 2015; Ball, 2016; McKenzie, 2017; McKenzie et al., 2021). Stahelin and McKenzie (2023) in their examination of the relational dynamics of education policy programs, suggest that policy can be studied through how it is initiated, held together and its mutation over time and across contexts.

Researchers have also focused on how networks can have uneven and differentiated outcomes across dynamics of policy learning and persuasion that surround global policy discourses (Mundy and Murphy, 2001; Grek, 2009; Ball 2012; Olmedo, 2013). As Stambach (2016) observes, networked governance involves the localization of global policies and the continuous reinterpretation and construction of the promise of educational progress by actors at all levels of the global polity.

However, the reinterpretation and contestation of policy in education systems can work differently when considering developed and developing nations (Stambach, 2016). Williamson (2019) similarly contends that the increasing power and influence technologies have in schools, colleges, universities, and education systems must be attended to. These dynamics of power and influence are important for identifying new power networks and their dynamics. As Lubienski (2018) suggests, they also assist educational research in seeing how educational technology companies and their promoters become key policy actors in their own right.

2.1.2.2 Non-state actors – reform and authority – creating expert nodes

Moreover, research has examined the role non-state actors play in informing and shaping education policy. When considering how ideas about authority and expertise mutate across local and global policy, conceptualising the role non-state actors is particularly helpful. For example, research has sought to investigate the influence that edu-business, think tanks, nonprofits, social movements, philanthropies and international organisations have on educational policymaking (Han and Ye, 2017). Exploring the role of philanthropy, research highlight how venture philanthropy reforms education policy but in doing so effectively drives ‘philanthrocapitalism’ and the role of the capitalist state (Rowe, 2021, 2023).

The combination of think tanks, philanthropic funding, and political elite actors can also influence policy debates, the framing of policy problems, and power balances between advocates (Savage, 2016b; Avelar et al., 2021). Peck and Theodore’s (2015) study suggests that the relationship between international organisations and global policy has shaped ideas of knowledge ‘experts’ in education. These international organisations help sow authoritative nodes in policy networks which can validate “international expertise and verifiable evaluation evidence” (p. 30). Typified by UNESCO, OECD, IEA, and Pearson, such international organisations cement their place and authority within education networks (Hogan et al., 2015a). Therefore, to understand policy networks research must look to consider the influence of international organisations.

Similarly, Addey and Sellar (2018) contend that the authority advanced by international organisations has implications for standardisation and testing within education. These powerful standards help constitute education as a measurable space, where global governance enacts through the alignment of communities to learning standards and tests (Sellar and Lingard, 2013a; 2013b; 2014). Lewis and Hogan's (2019) research of Australian school policy and reform also express that in adopting and translating the like of OECD's global evidence, local education institutes in effect, become experts with their own authority. Local schools can thereby enhance their power by virtue of drawing upon the evidence and expertise of international organisations (Lewis and Hogan, 2019). Critically, this can become further complicated when governments use educational outputs as political opportunities to advance their pre-established policy preferences (Bürgi, 2016).

2.1.2.3 Fluid networks: Examining both state and non-state actors

Furthermore, education scholars have considered the fluid and mobile forces that continue to define education policy and practice. Grek (2013) suggests that in order to analyse global education governance, education must not only understand how knowledge is communicated through the construction of international tests, but the actors who take part in these projects. Specifically, how education policy can become the space where the interests of actors and international tests and standards are mediated (Grek, 2013). Olmedo (2017) argues against viewing policy networks through the binary of global-local, international-national-regional, macro-meso-micro. These divisions are artificial and insufficient to understanding the relations and structures between organisations of power (Olmedo, 2017). Researchers similarly suggest that in one sense, international organisations and their policy always seek to simplify, whilst in reality, policy production and education practice are always more complex and contingent (Lingard and Sellar, 2016). These complex education practices extend to discussions around policy in the Global South. For example, it may be inadequate to explain the political decisions and their effects in the Global South without making reference to the social, economic, and political activities of other parts of the world (Olmedo, 2017). Hence, research highlights an awareness that networks are changing and fluid (Han and Ye, 2017). The fluidity of networks is important when considering that resources, access, membership and structures can be used to better understand the changing fashions in education policymaking and even broader governance reform (Han and Ye, 2017).

2.2 AI policy responses

The next component of this literature review draws on AI policy responses. Literature on the policies of AI highlights the contention of regulating new technologies and the legal implications in doing so. Such literature is important in considering and contextualising AI governance initiatives both locally and globally. By explicitly considering how policies have responded to AI technologies, we can see where policies are comparable and where they diverge. For this dissertation, recognising where governments have or have not taken policy action proves insightful when mapping roles, power and influence. Mapping the legal perspective is therefore important for characterising the 'what' issue being presented, by the 'who' and 'how'.

2.2.1 AI Policy and Governance – why consider the legal perspective?

The processes of AI policy and governance provide a unique vantage point for examining the expectations, concerns, and hopes of future technologies. Not only is the law a potent form of social engineering but a process where political actors participate in its production (Cohen, 2019). These political actors steer regulation by drawing the boundaries for acceptable and unacceptable use of technologies and systems (Esko and Koulu, 2023). Such steering of regulation influences and controls the regulation of AI, offering social, ethical, economic and legal implications (Bello y Villarino et al., 2023). For example, researchers, policymakers, and the public have become increasingly aware of issues related to economic impact, labour displacement (Au-Yong-Oliveira, et al., 2019; Acemoglu and Restrepo , 2020; Dencik, 2021), efficiency (World Bank, 2018; OECD, 2021), autonomous vehicles (Bagloee et al., 2016; Bello y Villarino et al., 2023), and digital skills (Marzal and Vivarelli, 2024). Increased research and public funding have also been dedicated to addressing ethical issues like explainability and bias in algorithms (Caliskan et al., 2017; Cath et al., 2018; Chae, 2020; Balayn and Gürses, 2021) and privacy (Manheim and Kaplan, 2019). As Merriman (2020) contends, attending to these distinct networks assists in capturing policy's "complex webs of social and political relations" (p. 142).

While attention has been paid to a wide range of technological applications and their ongoing developments, the technologies also remain subject to negotiations between actors such as developers, private companies, academics, civil society, public or governmental and political entities (Pham and Davies, 2023). As Findlay and Ford (2022) argue, policy debate around the proper governance of AI technologies is disproportionately dominated by a handful of very large Big Tech firms. Such actors are hardly passive in how responsibility should be conceptualised and

governed, asking us to consider: how and with what effect do these actors shape the narrative? And what is what is being traded-off in policy and regulatory approaches to new and emerging technologies? (Findlay and Ford, 2022).

2.2.2 AI governance initiatives

The ‘race’ to regulate AI has led to greater questions of risk and disruption that such technologies present, and discussion of what appropriate regulation ensues. In its current place, researchers describe the governance of AI as a mixture of ‘soft law’ where expectations develop in the form of ethics, responsibility and guidelines, and eventually legislation (Gutierrez et al., 2021). As Figure 1 shows, Global AI strategies of 50 nations in 2020, representing 90% of Global GDP, include initiatives like roadmaps, recommendations, and guidelines (Holon IQ, 2020). As Figures 2 and 3 show, ethical and rights-based approaches to principles for AI have developed amongst governments, private sectors, civil societies, intergovernmental organisations, and multi-stakeholders since 2016 (Fjeld et al., 2020). These Figures are important because they situate the diversity of soft law which has continued to develop amongst nations. Whilst understanding each country’s specific response or various documents is beyond the focus of this dissertation, the Figures demonstrate broader research trends, that Governments around the world see artificial intelligence as a “nation defining capability” (Holon IQ, 2020, p. 1).

Research also critiques soft law attitudes towards governance of AI, its stop-start progression of the law and its lack of clarity. Radu (2021) describes AI’s ethics-oriented rather than rule-based systems as deliberate, where governance of AI exists in a hybrid between public–private actors. These hybrid dynamics inform the design of AI governance, the assignment of roles and responsibilities and broader attitudes towards industry’s inclusion and embedding in governance (Radu, 2021). As Radu (2021) argues, the consequence of assigning a dominant place for industry in the drafting process is the confusion of permissible boundaries in which private actors drive AI innovation and regulation. Other researchers suggest that AI policy is arguably best understood to be undergoing agenda-setting, the often-contentious process wherein policy actors compete to shape the key policy problems and solutions that will set the stage for future policymaking (Schiff, 2023).

Moreover, research considers how in response to AI’s innovation and attention, governments, private sector organisations, and NGOs have rapidly begun to produce normative documents or task forces with plans to produce formal strategies in the near future on AI (Schiff et al., 2020; Zhang et al., 2021). These documents include publishing more than 100 AI ethics codes, principles, guidelines, frameworks, and policy strategies (Jobin et al., 2019; Fjeld et al., 2020;

Schiff et al., 2021). As of 2022, more than two dozen countries have developed and adopted national AI policy strategies, with some engaging in multilateral partnerships through the UN, OECD, Global Partnership on AI and other fora (Cihon et al., 2020; OECD, 2022). For example, in 2017, China released its ‘New Generation AI Development Plan’ (NGAIDP), formalizing and signalling their “national-level focus on AI” (Ding, 2018, p. 8). In 2019, the United States released the American AI strategy and in 2022 the U.S. Algorithmic Accountability Act was introduced to the Senate (Halim and Gasser, 2023).

Countries including Canada (Kung et al., 2020; Radu, 2021; Attard-Frost et al., 2024); Australia (Geist, 2021); Singapore (Remolina and Seah, 2019; Taeihagh, 2021; Pande and Taeihagh, 2023); Japan (Kozuka, 2019; Habuka, 2023) and Israel (Ben-Israel, 2020; Paltieli, 2022) have implemented AI policies. Researchers suggest, that whilst these efforts have proceeded in a somewhat fragmented manner, there are emerging signs of consolidation as the United States, Europe, and other countries begin to coalesce around shared principles (Feldstein, 2023). The most far-reaching international initiative has arguably been the EU’s Artificial Intelligence Act (AIA), which aims to establish the first comprehensive, binding framework for regulating AI (Edwards, 2021; Veale et al., 2021; Madiega et al., 2024). Proposed by the European Commission in 2021 and adopted by the Council and the European Parliament in early 2024, the EU AI Act introduces a common European regulatory framework encompassing all sectors and all types of AI technology, except military systems (Tallberg et al., 2024).

Figure 1: Global AI Strategy Landscape 2020 (Holon IQ, 2020).



Figure 2: A Map of Ethical and Rights-Based Approaches to Principles for AI (Fjeld et al., 2020).

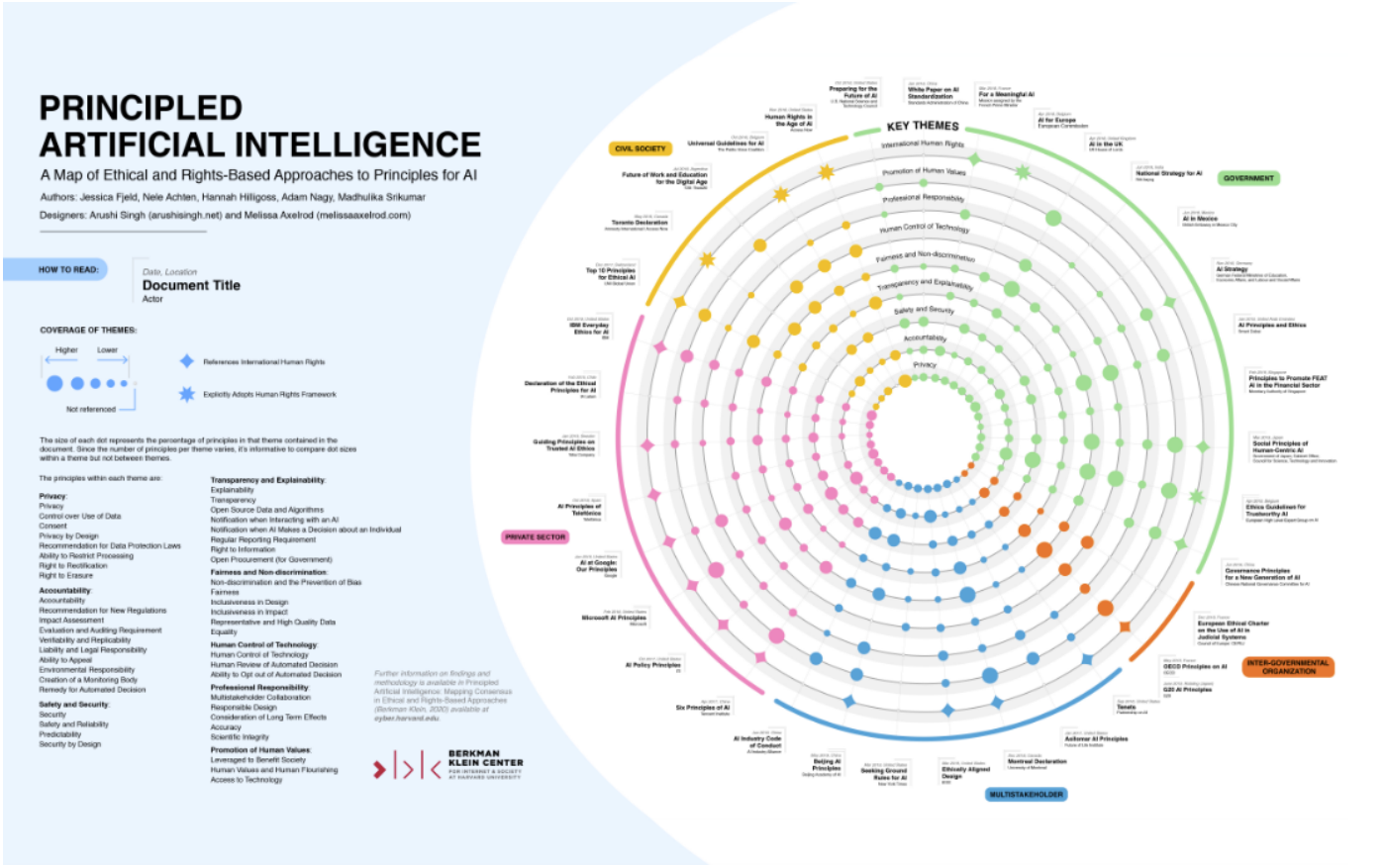
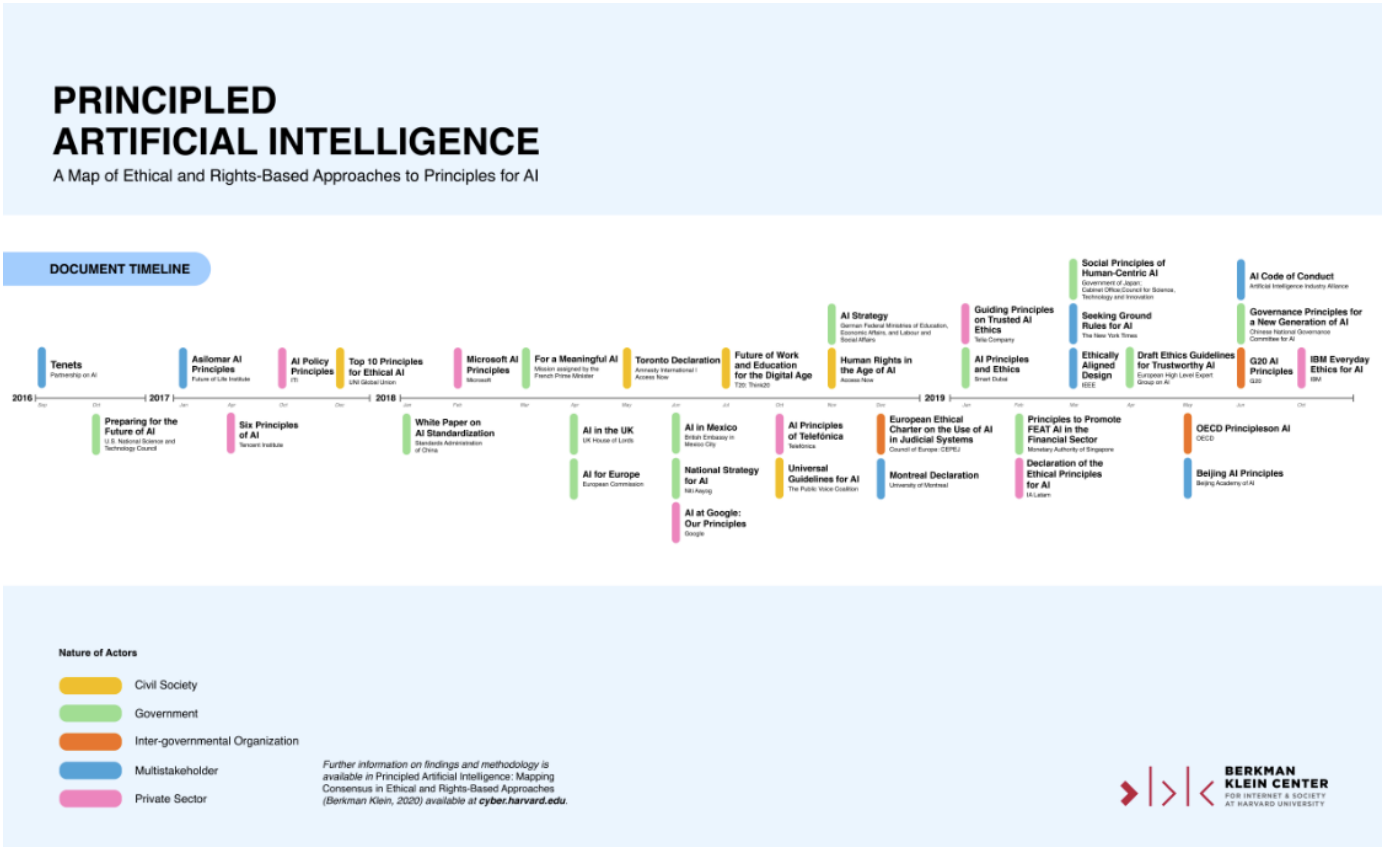


Figure 3: Document Timeline of Ethical and Rights-Based Approaches to Principles for AI (Fjeld et al., 2020).



2.2.3 Interaction, alliances and global standards?

Discussions of AI policy also relate to ideas of policy networks by considering who is involved, what ideas circulate, and what certain actors are trying to achieve (Williamson, 2019). For example, researchers of AI and the law reveal a global increase between 2016 to 2021 of laws containing reference to 'artificial intelligence' (Zhang et al., 2021; Taeihagh, 2021). Increasing reference to AI moves a focus to the field of AI governance, and researchers suggest this indicates that the 2020s will be a period of significant policymaking activity (Perry and Uuk, 2019; Valle-Cruz et al., 2020). So too, a period where participation in global standard setting for AI will be essential to facilitate a global AI ecosystem that encourages compatibility across borders and deter the development of malicious AI (Dixon, 2023). Therefore, Dixon (2023) suggests that global alliances must implement measures to discourage rhetoric or intentions of an AI race and foster a strong common goal for advancing AI to benefit all of humanity.

However, global standard setting of AI also present questions of harmonised AI regulation. International organisations such as the OECD, the Council of Europe and UNESCO have conducted reports and research with countries to build consensus on AI (Smuha, 2021). Yet, as Smuha (2021) notes this is a "consensus on (certain) ethical considerations raised by AI" (p. 65). This is important when unpacking the values and ideologies embedded in AI documents. Pham and Davies (2023) ask how AI is being enacted through efforts to legislate, contending that specific enactments of AI are entangled with the perception and construction of European security and Europe itself. In tracing the evolution of the European Union's AI governance and policy initiatives and challenges to the bloc's effort to develop, consolidate, and diffuse AI norms, Feldstein (2023) in a similar vein asks: what has motivated the European Union to pursue this approach? and how will this effort influence AI norms globally?

Extending discussions, researchers also argue that there is an imbalance in the regions that AI governance research is coming from, with most literature originating from the global north, and AI initiatives largely being produced and analysed by actors in the same region (van Berkel et al., 2020). This is notable for researchers. Specifically, when considering the substance and sway that AI principles can have when used as fundamental guidelines for policies and regulations (Dixon, 2023; Feldstein, 2023). These influential AI principles have led some researchers to ask: what are the unseen implications of AI systems designed external to the context within which they are to be introduced? and whose knowledge becomes privileged when said systems are fully integrated into education through policy and practice? (Nemorin et al., 2022). For Nemorin et al., (2022) it is not through the issuance of Westernised statements and one-sided declarations that will ensure that AI norms and principles are implemented.

2.2.4 AI policy and Education

It is also valuable to consider how developments in AI policy and governance have come to impact and relate to questions of education. Research has identified how popular media and online spaces representing AI in education stakeholders indicate widespread acceptance that AI is the future of education (Selwyn, 2019; Vivitsou, 2019; Gellai, 2023). Through examining the benefits, risks and disruption that AI presents to education, like fundamental human rights, education studies are encouraged to discuss the complex array of factors that are shaping data-led forms of governance (Means, 2019; Berendt et al., 2020). Yet, this has been a source of contention within discourse around AI in education: some focus on how AI ecosystems might be harnessed to progress global education, given the need to move teaching and learning online like during the COVID-19 pandemic (Crick, 2021; Nemorin et al., 2022), while others are increasing cautious with the uses of AI in education (Luan et al., 2020; Smuha, 2020; Holmes et al., 2021; Miao et al., 2021).

For some researchers, the need to focus on actors and their discourse has presented bigger questions beyond discussions of risks and benefits (Wang, 2020). Schiff (2022) in examining national AI policy strategies, notes that strategies offer an excellent source to understand how some of the most important global actors make sense of AI-related issues and how they intend to respond to them. Even more so, to understand what kind of futures policy actors, like governments and international organisations envision AI technologies to be (Tuomi, 2018; Pedro et al., 2019). Notably, some consider that apart from a handful of large multinational corporations, government actors exert the greatest influence over how society will respond to AI, especially in public domains like education (Schiff et al., 2021). This has led Schiff (2022) to ask: “do policymakers view AI as a tool to improve education or are they focused on education as a tool to improve AI? are they concerned about possible ethical harms resulting from improper uses of AI in educational systems, or have these issues not captured their attention?” (p. 528). However, research on connecting ideas of policy networks with education governance and AI remain limited (Sharma et al., 2020). Therefore, there presents a necessity to not only pay attention to the discourse around AI, but to link research on policy and policymaking with attitudes and actors within education.

2. 3 Generative Artificial Intelligence and Chat GPT

2.3.1 Posing new questions of risk and benefit

Similarly, Generative AI, a distinct class of AI and example of large language models (LLMs), highlights discussions around perceived risks and benefits of technologies in education. However, the technology has also revealed a notable tension in the field of education and its regulation. Developed by OpenAI, and made public in November 2022, Chat GPT is a product of deep learning (OpenAI, 2023), which is a subset of machine learning that mirrors the human brain in learning and responding to data, information, and prompts (Sahoo et al., 2023). Its proliferation has prompted discussion of its use, with some reporting its detection in one-fifth of student assessments and study (Cassidy, 2023). Concerns over Chat GPT's use have prompted debate around assessment, like originality and plagiarism (Stokel-Walker, 2022; Chatterjee and Dethlefs, 2023), and the challenges it creates for educators, like monitoring for cheating and ensuring safe and accurate content within the classroom (Stokel-Walker, 2022; Baidoo-Anu and Owusu Ansah, 2023).

Conversely, researchers have also advocated for the opportunities Generative AI presents for educators and students alike (Zhai, 2022; Pavlik, 2023). For example, its ability to automate repetitive administrative tasks (Yu and Guo, 2023); its efficiency in providing students with instant feedback and guidance (Chen et al., 2020; Wu, 2023; Alier et al., 2024); and engagement of learners unable to attend physical classes (Lin et al., 2024). Although, its use in education has also attracted concerns over its cost and effectiveness, alongside emerging ethical and privacy considerations (Williamson et al., 2020; Williamson and Eynon, 2020; Selwyn, 2022). For some scholars, addressing Generative AI in education has offered a critical dual impetus: the first, to respond to claims of potential in addressing educational priorities and the second, to address the risks, their scale, design and use of when such AI is wrong (Cardona et al., 2023; Knight et al., 2023). For example, concerns over accuracy and reliability of the information provided by Chat GPT, as well as the potential for perpetuating existing bias, stereotypes, and discrimination; the existing power dynamics that LLMs can reinforce and exacerbate; and the perspectives it reproduces i.e., predominantly white, male, Western, English-speaking (Kasneci et al., 2023). In fact, studies surrounding Chat GPT have suggested that educators using AI software incorrectly to detect cheating can result in false accusations and the withholding of grades (Pechenkina, 2023). Thus, researchers like Irons and Crick (2022) have considered not just its use, but how Chat GPT raises questions about the collection, storage, and usage of learner information, particularly the potential for data breaches and unauthorised access to personally identifying data.

2.3.2 Articulating the case for regulation of AI within Education

With its popularisation, regulatory attitudes towards Generative AI tools, like Chat GPT have varied. On the one hand, researchers advocate that the emergence of Generative AI presents a transformative innovation along the likes of the internet and the smartphone, and with it, an opportunity to reimagine and transform the future of education (Lim et al., 2023). Specifically, a future of education where educators must inevitably transition and embrace Generative AI tools rather than shun them (Lim et al., 2023). Researchers ask: why would education not try and embrace tools and technologies like Chat GPT to support innovative practices? (Malik et al., 2023). So too, media surrounding AI's use in education has advocated that its use and adoption requires not only a technological shift, but a mindset and cultural one (Breen, 2023; Roose, 2023).

Although, government responses to Chat GPT in education remain variable. For example, Departments of Education in all Australian states, bar South Australia, announced in 2023 they would ban Chat GPT across public schools (ABC News, 2023a, 2023b; SBS, 2023). In the United States, Chat GPT was banned in both New York City Public Schools and the Los Angeles Unified School District (Lukpat, 2023). Within higher education, the Sciences Po in Paris, France and the RV University in Bengaluru, India placed outright bans on the use of the software (BBC, 2023). However, in Italy, Chat GPT bans over concerns for users' data privacy were lifted in April 2023, and in Australia bans were reversed in January 2024 with the introduction of the Framework (BBC, 2023; ABC News, 2023b).

Importantly, for researchers, such bans, their pronouncements and reversals, highlight attempts to control the use of the technology, either permanently or temporarily, while policies and regulations are developed or revised (Sullivan et al., 2023). So too, the bans encourage debate about appropriate regulation. For example, whether banning Generative AI tools only adds to existing inequalities, likely affecting students who may already have been (unfairly) marginalized and penalised (Marc Lim et al., 2023; Ventayen, 2024). Similarly, whether they present a reaction to fears of AI-assisted cheating (ABC News, 2023a; Lukpat, 2023), like trends observed in academic publishing (Nature, 2023), or whether they highlight issues of uneven protections and access to Chat GPT (Pechenkina, 2023).

2.4 The Australian Context

This final section seeks to achieve two purposes: first, to provide a brief, yet contextual impression of some of the relationships that shape policy reforms in Australian education and AI; second, to highlight the action, but also the inaction that Australian Government has taken towards reforming AI technologies. This is important for connecting previous discussions within this paper of policy networks and network governance to the Australian context, and in highlighting the research and its attention of certain actors and stakeholders. In mapping broader questions of technology governance, Australian educational policies require context. In understanding the actors, individuals, and systems that form this, we are also better positioned to see their strengths and limitations.

2.4.1 The Australian Education landscape – navigating standards, actors, and government money

Australian education policies indicate a diverse range of stakeholders and settings that are important when considering the context of domestic AI and education. Comprising of a federated government system, education is the constitutional responsibility of each Australian state and territory (Savage and Lingard, 2018; Reid, 2019). However, growing national reforms, intergovernmental agreements, and new policy organisations have come to introduce novel processes of negotiation between state and federal governments (Brown and Bellamy, 2007; Savage, 2016a, 2021; Gurr, 2020). These novel processes are reflected in attempts to produce greater national consistency in schools, including the development of a national curriculum, standardised national assessments in literacy and numeracy, national standards for teachers and principals, and a revised national model of school funding (Savage, 2016b). For example, the creation of bodies like the Australian Curriculum, Assessment and Reporting Authority (ACARA) have developed the Australian Curriculum, National Assessment Program and My School website, and the Australian Institute for Teaching and School Leadership (AITSL), has led to the development of the Australian Professional Standards for Teachers. Both bodies have become recognised and consulted stakeholders within education. Notably, both bodies were part of the Australian National Artificial Intelligence in Schools Taskforce, acknowledged within the Framework (Department of Education, 2023).

Further, intergovernmental bodies have come to highlight a broader shift from state governing of education, to standards-based governance developed at a national level, created by the federal government. For some researchers, these continuous developments suggests that the federal government is assuming an increasingly prominent role in the steering of national education reform (Savage and Lingard, 2018; Nevill and Savage, 2023). Other theorists note that the growing emphasis on international research and organisations, like the OECD, about what constitutes teacher quality and effectiveness and its indirect influence on Australian education (Savage and Lewis, 2018; Hardy, 2024). Simultaneously, questions of resourcing, within states and territories have been a focus of debate. For example, Australian schools themselves comprise of different actors, with most students enrolled in government schools (64.0%), followed by Catholic schools (19.7%) and independent schools (16.3%) (Australian Bureau of Statistics, 2023). Yet Australian public schools are largely funded by their respective state or territory government rather than the federal government, whilst private schools are a continually growing and expanding sector, funded by the well-resourced federal government, and high parent fees (Watson and Ryan, 2010; Forsey et al., 2017; Rowe, 2019). For researchers, this has attracted an interest into the funding gaps (Bonner et al., 2016; Thompson et al., 2019; Rowe and Perry, 2020a, 2020b), the divide between public and private schools, and venture philanthropy operating within Australian schools (Williamson, 2019; Hogan and Williamson, 2022; Rowe, 2023).

2.4.2 Mapping Australian policy reforms to AI in Education

2.4.2.1 What is the situation?

Australia's national policy response to technologies, like Generative AI in Education, present a slow and developing picture. For Loble (2022), Australia's strategy for regulation of algorithms has been lagging. Compared to other countries, like the US, the UK and Singapore, Australia has been slow in "proactively getting involved in shaping and improving the edtech tools on offer, and ensuring that they are safe, fair and effective in classrooms" (Loble, 2022, p. 10). For other researchers, in the context of domestic AI regulation in Australia, the expectations have never been particularly high (Lindsay and Hogan, 2019; Smith and Urbas, 2021). As Lindsay and Hogan (2019) assert, Australian response to the regulation of new technologies have been overwhelmingly consequentialist and enabling, reflecting more general characterisations of Australia regulatory culture that is likely to pragmatically favour "technological development over ethical design" (p. 125). Although considered an important policy space, the Australian regulatory context for technology has also been described as disjointed and complex, with Australia still

considering its place in the global (Gulson and Witzenberger, 2020; Bello y Villarino et al., 2023; Groth and Southgate, 2024).

2.4.2.2 Where are we?

As of July 2024, there is currently no generally applicable law regulating the use of AI in Australia. A final report on the Australian Privacy Act 1988 Review was only delivered in 2023, with recommendations still to be implemented (Attorney-General's Department, 2023). The Australian Government's Department of Industry, Science and Resources has released national, voluntary AI ethics principles, produced two discussion papers on AI regulation and announced in February 2024 a new artificial intelligence expert group (Andrews, 2019; Department of Industry, Science and Resources 2019; Husic, 2024). There are national and state-based Commissions such as the Office of the Australian Information Commission and the Australian Human Rights Commission. The Australian Human Rights Commission provides guidance on the governance of technology and delivered a final report in March 2021 (Australian Human Rights Commission, 2021). There is also an intergovernmental 'Safer Technologies 4 Schools' initiative which provides privacy and safety advice on procurement (Safer Technologies 4 Schools, n.d.), and in 2023 the national taskforce produced the Framework (Department of Education, 2023).

As Groth and Southgate (2024) contend, much of the policy work around the use of technologies in schools has fallen onto "state-based education departments for public schooling, diocese-based education administrators for Catholic schools and principals in private schools" (p. 5). For example, the NSW state government has issued a range of AI-related guidance, including an AI Assurance Framework and Artificial Intelligence Assessment Framework to aid NSW government agencies in the safe and responsible use of artificial intelligence (NSW Government, 2024; Department of Customer Service Circular, 2024). In fact, the NSW government has been described as a leader on AI in Australia through its formal policies, investments in smart digital tools and mandatory action (Loble, 2022).

2.5 Aim of the research

Therefore, as this literature review demonstrates studies have successfully considered policy networks and its analysis within education; AI policy responses; and the risks and benefits regarding Generative AI and AI technologies. However, there remain gaps in extending these essential findings to Australian education. Particularly, in building the research on how narratives

for regulation of AI technologies in education form. Accordingly, the aim of my research is to investigate the policy networks of the Australian National Artificial Intelligence ('AI') in Schools Taskforce, focusing on the networks that led to the development of the Framework, its constructions of Principles and Guiding Statements, and the perspectives it ultimately envisions. Critically, I hope to consider not only the attitudes of key stakeholders towards Generative AI within Australian Schools, but the changing processes, actors, spaces, and relations by which the policy document was developed, disseminated, and contested. The study is conducted along the following research questions:

2.6 Research Questions:

Who is active in the space that has led to the development of the Framework?

What spaces and networks do such policies travel through?

What does this problematise for addressing Generative AI within Australian education?

3. METHODOLOGY

3.1 Why a network ethnography approach?

Importantly, this research situates its interviews and document analysis within a network ethnographic approach. Network ethnography is interested in the pattern of actors, locations and products, their "ties and structure – clustering, nodes, boundary spanners, asymmetry, density and connectivity" that form networks (Ball and Junemann, 2012, p. 14). Network ethnography premises an understanding that networks are predominantly social and organisational structures, connected and intertwined (Ball et al., 2017). So too, network ethnography helps map both the form and content of policy relations and locates the interactions and meanings actors share (Ball, 2023). As Peck and Theodore (2010) describe, this involves "following processes, practices, discourses, technologies or networks, thereby connecting sites, scales and subjects" (p. 171).

A network ethnography approach also recognises that an awareness of context is central to identifying and analysing how global education policy networks are created and continue to constitute themselves (Ball, 2023). Researchers have followed how external experiences and curricula mobilise policy in local education (Jin and Chen, 2023); the private sector's influence over education policy (MacKenzie and Lucio, 2005); financial and ideological influence in education reform (Allen and Bull, 2018); policy entrepreneurship (Arthur, 2018); venture philanthropy (Rowe, 2024); and edu-businesses' influence on education policy processes globally (Hogan et al., 2016). If the relationships that exist between big technology, government actors, policymakers and educational institutes are complex, rapid and transnational, a methodological approach must accordingly try to avoid an oversimplification of structures, people and policies (Ball and Junemann, 2012).

Therefore, this dissertation is informed by such a theoretical background in its attempts to both construct and locate the network of the Framework. This dissertation recognises that although not a complete network ethnography, the approach is helpful in conceptualising how policy spaces and actors, across classrooms, schools, schooling system, and the State are *connected* (Lewis, 2023). Likewise, how policy spaces and actors are *disconnected* (Lewis, 2023). As Lingard et al., (2014) suggest, it pushes education research to reimagine "what is near or connected and what is distant or disconnected" in the shaping of policies and policymaking (p. 713). Network ethnography is accordingly effective for this research in recognising the interplay between actors and the network structures they operate within (Avelar and Ball, 2023). Informed by network ethnography equips my research with an appropriate lens to address the networked and globalised nature of contemporary education policymaking (Ball et al., 2017).

3.2 Network ethnography within education and policy studies

3.2.1 Mobile and mutating actors

Accordingly, there has been a strong interest in adopting an ethnographic approach to locate actors and their movements. This is useful in constructing a view of networks, and mapping actors and positions that require further in-depth analysis (Ball, 2016). Williamson et al., (2018) looking at schools, demonstrate how modern education policy and governance is accomplished through sprawling assemblages of actors, events, materials, money and technologies, that move across social, governmental and geographical boundaries. Research has also employed an ethnographic focus to understand new educational governance structures and interactions

between education policy actors. These include areas of government, business, philanthropy and civil society (Ball and Junemann, 2012; Olmedo, 2014; Shiroma, 2014; Hogan, 2014). For example, looking to the relationship between philanthropy and global education policies, researchers highlight how actors influence policy (Reckhow et al., 2014; Matovich and Cardini, 2019; Brakman Reiser, 2020; Esper, 2020; Patil and Brakman Reiser, 2021). Matovich and Esper (2023) show how members of the global philanthropy community work together, hold ties, and share affiliations, values, and ideas across nations. That these philanthropic actors can play a substantial role in ensuring certain sociomaterial conditions within education (Matovich and Esper, 2023). Rowe (2022b) argues that venture philanthropic networks steer education reform for their own interests. Recognising the role that other actors like philanthropy have in education, help this literature to understand how global policy networks adapt and shape spaces, introducing new ideas for legitimate form of education policy.

3.2.2 Global flows within Education

A network ethnography approach also focuses on investigating and identifying catalysts and their drivers in different contexts. Identifying different drivers is valuable when considering broader global organisations and their investors (Williamson et al., 2018). For example, researchers have investigated the role of external organisations and curricula within local education and how this demonstrates new dynamics. Studies focus on Ed-Tech companies (Santori et al., 2015; Williamson, 2019), edu-businesses such as Pearson (Hogan et al., 2015b), global philanthropic foundations (Reckhow and Snyder, 2014), and the global chain ‘Teach for All’ (Olmedo et al., 2013). Jin and Chen (2023) also explore how external experiences and curricula are mobilised as policy tools. They contend that external organisations and sources can inspire local education to enact educational changes (Jin and Chen, 2023). Through critical policy analysis and network ethnography studies, researchers have found how new educational policy developments result from global policy flows and associated changes in governance modalities (Adhikary and Lingard, 2018). These global policy flows highlight how international initiatives exemplify the new modes of networked governance occurring through education (Adhikary and Lingard, 2018). Even more so, changes in governance locate an important theme for this dissertation, that global flows and connections of policy models operate within contemporary comparative education. Attending to policy flows help consider the wide range of mechanisms that advance AI governance (Cihon et al., 2021).

3.3 Research Design

Considering the methodology, my research involves two steps of data collection and analysis. To understand the policy trajectory of Generative AI in Australian Schools and the struggles involved in constructing the meaning of this initiative, I first conducted an analysis of 25 documents. These documents include reports, frameworks, guidelines, reviews and articles from government, industry, academic and media sources between July 2019 and January 2024. A complete list of documents can be found in appendix 5. These documents were selected and refined through key works and google searchers. The process began with conducting an initial Google search of government websites, academic databases, and major media outlets using the terms “Technology Policy Australia”, “Australian Education Generative AI,” “Australian AI Frameworks” and “Australia Government Artificial Intelligence”. With this collected sample, the search was then refined by keywords like “Schools Taskforce,” “Discussion paper”, “Public consultations”, “Review” and “Framework”. This allowed for narrower and relevant results. Importantly, using pre-existing texts as a source of data also helps triangle repeated themes across a range of documents and actors. This is a strategy designed to increase the trustworthiness of a study and to develop a deeper understanding of the topic being investigated (Morgan, 2022).

The findings from the documentary analysis informed the next data collection step, which involved semi-structured interviews. Questions focused on the specific purposes, audiences, opportunities, and risks promoted and identified during analysis. Supplementing such analysis with interview meant I could explore both the substantive structure of the Framework and map areas of interest and perspectives amongst actors. This method allowed me to gain new insights and awareness of any description’s participants may have provided during an interview (Morgan, 2022). Balancing my observations with the input from the participants not only promoted collaboration within the research but is critical to understanding the “social facts” (Durkheim, 1982, 52). The flexibility of semi-structured interview was also purposeful, allowing me to probe the participants during interview. Probes are questions or requests that ask the participant to provide additional information about their previous response (Adeoye-Olatunde et al., 2021). Probing accordingly encourages greater levels of detail and depth from participants by seeking clarification, elaboration, or explanation of a previous answer (Robinson, 2023). Without knowing the extent of familiarity or involvement in the Framework prior to interview, allowing for follow up questions revealed more sensitive and concealed layers of the participant’s network which could then be explored (Brinkmann, 2013).

Participants were purposively sampled based on their acknowledgement in the Framework or based on their prominence in the Governance, Education, Law, and Digital Technology fields. This was grounded for three reasons. First, such selection allowed me to concentrate on specific actors, attending to their 'situations', and places within the network (Avelar et al., 2021). Second, selection provided a point of comparison and contrast – those at the core, directly involved with the Framework and those indirectly affected by such documents, yet somehow related. Third, as a matter of practicality, this allowed the research to be directional within the time it had. Critically, the ambition of trying to include *all* 'somehow related' voices would have pushed this study into a resource and timeline beyond its limitation. Instead, in trying to pin prominent voices directly in the Framework and some voices outside yet still affected, this study aimed to contribute to some ideas about the broader network, discussions not obvious at first glance. This is important, for as Ball (2016) suggests, recognising the changing relations "to and within the local", highlights the muddled and changing relationships/interactions that is local and global network interactions (p. 561).

The interviews were conducted between March and June 2024 with eight stakeholders across academia, government, and policy. Participants were primarily based in Australia, although some of the participants had experience across sectors and countries, having worked internationally in academia, industry, and policy positions. The Australian focus is intentional, with the Framework being Australia's inaugural national education policy towards Generative AI. Paying attention to the local, in this case the Australian context, is arguably also relevant for understanding the degree of interconnectedness and "indivisible flows between people, money and policy at a global level" (Rowe, 2022a, p. 1).

The interviews explored participants' reflections in two parts. First, in the development of Framework, with an emphasis on if and how they came to be involved; what the consultation process looked like; what the Government's focus and purpose for creating the document was; and what they thought was left out and missing. Second, questions adopted a broader focus on Generative AI in the context of learning within Australian schools: who held responsibility for such technologies; if and why regulation is important; and how the landscape of Australian education reform was evolving. The style of interview was deliberately flexible and open, facilitating the collection of rich data related to participant's views (Rapley, 2001; Brenner, 2006). This was important because of the diversity of experience amongst participants (deMarrais and Lapan, 2003). This was also interesting, given the evolving nature of Generative AI, enabling the research to somewhat timestamp discussions, feelings, and thoughts on the topic (Oancea, 2018).

An interview guide containing a list of themes and key questions was prepared before the interview and a complete list can be found in appendix 3. Example questions included: how did

you become involved with the Framework? who led the development of the Framework? where is Australian AI regulation currently? does Government have a responsibility and role to regulate AI technologies in schools? what is the role of commercial actors in the governance and stewardship of AI? and what is important for the safe, ethical and responsible use of Generative AI? For interviewees involved with the Taskforce, my focus was on understanding their involvement, recruitment, and what feedback they gave to the Government. For interviewees outside the Taskforce, I attended to whether they had heard of the Framework, how they conceptualised the purpose and reason for the Framework and more broadly, conceptualising private and public responsibility for Generative AI and the regulation of Generative AI in Australia, particularly in education. This is because attention has already been given to the politics of justice in AI governance (Taylor, 2023); networks developing for-profit pathways into Australian public schools (Rowe et al., 2024); structural conditions for governing generative AI systems (Hoffmann-Riem, 2020; Ferrari et al., 2023); and the legal and ethical of global generative governance (Kadaruddin, 2023; Ghimire et al., 2024) and informed use (Rudolph et al., 2024; Wang et al., 2024).

3.4 Ethical considerations

Before commencement of this research, ethics clearance was approved by application to Oxford's Central Research Ethics Committee (CUREC, reference no. C1B-24HT-Educ-005). The CUREC application process includes summary of design and methods, acknowledgment of data protection, review of information sheets and consent forms. Each participant was provided a synopsis of the main aim of the study, as well as the information sheet and consent form. Attestation of the consent form was required before participation. Participation in the research was voluntary, and participants were assured that they could opt-out at any time if they no longer wished for their information to take part in the research. Research participants have been anonymised and measures to ensure confidentiality were outlined in the CUREC application and conveyed to the participants.

4. FINDINGS AND DISCUSSION

The following discussion sets out to explore the discourse surrounding the creation of the Framework, the actors involved, and the problems being presented around Generative AI and Australian Education. By understanding the interpretations of these key actors, what they set over and against what else is in play, and what consequences might ensue from responding or not

responding to AI technologies, we are able to see which practices are thought to be and constructed as the 'focus' (Ball et al., 2011). In doing so, these findings help address this research's questions, to better understand the actors and networks that mould and move such policy and the spaces such policies travel through. The limits of technology make it impossible to explore all the complexities and nuances involved in policy enactments in education. This is therefore a starting point for which some of the interplay between theory and analysis can be explored and further research can hence develop.

All interview recordings were transcribed and manually coded using the Stanford Network Analysis Platform in NVivo (NVivo, 2024). 15 themes in total were identified by coding and a complete list can be found in appendix 6. Manual coding not only ensured the grouping and identification of common themes, but that the nuance and meaning of participants could be more accurately captured. To help mitigate my individual bias, review from my supervisor was critical. Yet, the manual coding is limited insofar as it was done only by me. With additional researcher involvement, this research could have ensured more robust coding of the same text. Graphs and timelines produced for this research as a method of visualising findings, were created in the SmartArt design tool of Microsoft word. Any data used from Government reports or attributed Government quotes are publicly available and not restricted by paywalls or privacy settings.

4.1 Selection and Narration

The narratives of a policy can reveal the priorities and attitudes of their actors. This section highlights some of themes which helped construct the Framework's narrative. Particularly, the focus on 'improving' efficiency and performance in the future of education, and the 'immediacy' required in confronting AI technologies in Schools. These findings are distinct in building our understanding of what the Australian Government selected in its construction of the Generative AI in Australian Education narrative. These findings also build on and diverge from previous literature.

4.1.1 'Improving' efficiency and performance

The Framework's narrative in some part suggests that the disruption afforded by Generative AI technologies to Australian education are both revolutionary and inevitable. Therefore, such inevitability positions the Framework's story and introduction as one of a necessary solution, reacting to the technologies changing Australian education. For example,

although federal and state education Ministers varied in their expressions describing the Framework, they recognised its status in the future of Australian education.

South Australian Minister for Education, Training and Skills, Blair Boyer stated:

> *"AI will be a part of our work and lives in the future, which means we have a responsibility to educate young people about its appropriate use"* (Clare, 2023).

West Australian Minister for Education, Dr Tony Buti proclaimed:

> *"AI has the potential to revolutionise education, change marking and assessments, lesson planning, even the way students provide feedback, however we must ensure it is done safely and effectively"* (Clare, 2023).

In addition, Federal Minister for Education, Jason Clare claimed:

> *"If we get this right, generative AI can help personalise education and make learning more compelling and effective, and this Framework will help teachers and school communities maximise the potential of this new technology"* (Clare, 2023).

Whilst these quotes only offer a glimpse into some of the perspectives held by state and Federal education ministers, broader findings allude to a portrayal by government that AI technologies hold transformative implications. This is interesting because whilst the Framework itself states that Generative AI technologies have "great potential", government actors were feeding into more direct narratives (Department of Education, 2023, p. 5). Specifically, that Generative AI was revolutionary and the future of education. That its potentials also included improved efficiency for future learning. These vast education potentials, position the discourse on technologies in schools but also shape a narrative of considered and actualised improvements by government into policy. Broader findings also support a narrative focus on efficient learning processes for students and the development of innovation skills in adapting to future jobs. This raises the questions: why was a focus on efficiency and performance within education key? And if and how was this connected to commercial and private actors within education, their ideas of technology and 'improved' education?

On the one hand, this supports the current literature. That networks mobilise around efficiency and that concerns regarding inefficiency within education can reflect a neoliberal rationality (Ball, 2013a, 2016). These neoliberal policies can be deeply enmeshed within ideas of education, increasing the pressure regarding performativity (Col and Stahl, 2023). Therefore, by considering narratives towards education efficiency and performance, this research can better deconstruct the narratives of policy problems, models of good or best practice, and the 'solutionism' offered (Ball and Olmedo, 2012; Cook and Ward, 2012).

However, the findings also diverge from previous literature. Ramiel's (2021) analysis of the intersection between neo-liberal educational reforms and educational technology finds that ed tech policy work is characterised by a willingness for disruptive change in education. Yet, findings in part suggest a narrative of caution around Chat GPT's use. The Government's narrative of improved efficiency was not unqualified by a recognition that this must be done safely and securely. This reveals a more complicated narrative of 'good policy' and does not cleanly reveal its neoliberal focus.

4.1.2 'Immediate' response

Furthermore, the narrative of the Framework produces and justifies itself as one of an immediate response to a growing and changing technology space within Australian Education. As Federal Minister for Education, Jason Clare stated:

> *"This Framework will help guide all school communities so they can enjoy the potential benefits to teaching and learning that generative AI offers, while mitigating the risks"* (Clare, 2023).

That the Framework reflects an agreed direction of support and guidance to schools based around a shared narrative. Such a quote speaks to broader findings. That the development and production of a Framework by the federal Government intends to present as a logical and necessary next step in providing guidance and assistance in confronting, preparing for, and harnessing the opportunities that AI had to offer Australian schools. These critical next steps position AI within education as the Government's priority. Whilst on its face, these assumptions have validity, they are also important for advancing the immediacy in producing the Framework. On further inspection, interview findings and document analysis reveal messy entanglements within discourse and between actors. That though the Government's narrative of immediate response helps characterise the Framework, the networks behind the Framework are not necessarily fixed, unified or mutually exclusive, nor do they fit into neat categories. For example, as this research will later explore, the motives for introducing the framework are murky and relate to the panic of Chat GPT.

This builds on current literature, by considering how is education and technology policy being constituted, by whom, and to what effects? (Allen and Bull, 2021); and why do some policies travel faster and further than others? (McCann, 2011). By grappling with the narratives of immediacy, this dissertation considers the contemporary complexities of policy and its effects on

education. The findings also support the literature that AI is not only positioned as a solution to educational problems but is bound by other mutual interests, directly and indirectly by its policy network actors (Gellai, 2023). This suggests that whilst reading the published Framework offers many insights, it remains only one part of the Government's narrative regarding AI technologies in schools.

4.2 Following the discourse

In an attempt to follow and identify the different sorts of discourse active and the narratives embedded in the processes of interpretation and translation, I discuss the types of policy positions involved in making this Framework. By following the discourse, I highlight novel themes that led to the Framework.

4.2.1 A reality to regulate

Whilst some Government narratives can be encouraged and pronounced by policy, narratives can also fall short where cohesion is missing. For example, findings, supported by the literature, demonstrate that Australia has engaged in an active process concerning how responsibility should be conceptualised and governed when considering AI technologies. Interview findings highlight that Taskforce members recognise the importance, or at least a value in engaging with and developing a Framework. This stems from general agreement that the banning of Chat GPT would be untenable and unsustainable, and that guidance could be assuring and useful for Schools, Teachers and Principals. As one participated noted:

> *"Well, you know, Chat GPT emerges in early 2023 and all the states bar SA moved to ban the use of Chat GPT… Which it became apparent that was not gonna be a sustainable policy. So, that there was a general question of what is Chat GPT and what does it mean? There was a specific question of if we're not gonna have bans, then what will we have? and that that sat behind the decision to move forward on a framework."*

Yet, unity as to how to interpret this Framework was lacking. Specifically, in opinions of what a comprehensive and tangible response to Generative AI in education might include and how it might be best achieved. Some emphasised the necessity to better consider teacher expertise in the classroom and current teacher shortages, whilst others focused on the additional burden within the classroom that such Frameworks places on teachers. For others this was a question for broader Australian education and regulation, like adopting recommend amendments for existing Australian laws (e.g., the Privacy Act 1988), improving digital literacy, ensuring better avenues of

AI competition, and strengthening standards for monitoring AI tools. Importantly, what this highlighted, was that even amongst academic members of the Taskforce, priorities and concerns diverged and on occasion mismatched. Document analysis revealed similar themes. For example, encouraging tech industry and competition, but also correcting for bias within Chat GPT and its black box algorithms, whilst simultaneously providing region-specific regulation but also nationally consistent frameworks for developing relationships towards technologies for all users, and so on. Crucially, this revealed disparities between the Government's narrative about how schools could include and balance Generative AI technologies, compared with ideas of what taskforce members thought Generative AI in schools to be.

These findings relate to existing literature. That the integration of policy into education settings is not always successful when actors within the network diverge. As Ball (1994) notes “interpretation is about strategy and translation is about tactics, but they are also at times closely interwoven and overlapping” (p. 74). This became evident when looking to the Framework, as it was far less clear which perspectives were winning out. A key task of policy analysis is to grasp the significance of the policy as a text. At the very least, the Framework affirmed that Australia was and is still considering its place within the context of regulating technologies (Gulson and Witzenberger, 2020; Bello y Villarino et al., 2023; Groth and Southgate, 2024).

4.2.2 The need to be seen as active

Another aspect to the discourse was that of the intrinsic politics of constructing the policy. A theme identified by participants was that of the Government’s need to be seen as active within AI policy. As one participant described, this could be seen as ‘FOMO’ (‘Fear of Missing Out’):

> *“Remember when it comes to education technology and policy, and very often all of these things are simply driven by the need to be seen to be that they are doing something like, you know it's it's a very political thing that drives a lot of… especially around generative AI, that's literally like an amazing case study of the policy frenzy that like all this new thing, OK, can I kind of FOMO almost, you know, fear of missing out policy FOMO or you might call. You know, and then we need to put out something. Let's do a consultation and quick and early consultation with a bunch of stakeholders, you know, and then let's you know, put out a paper.”*

This was illuminating not only because it recognised a policy attitude from Government in confronting the potentials of such AI technologies, but revealed a much cloudier narrative as to where this pressure was coming from. As document analysis highlighted, over the last 8 years, Australian policy on AI has included upwards of 29 documents, including reports, discission papers, principles, frameworks, practice guides, roadmaps and action plans (See Figure 4). For

example, the Australian Government has directed research and funding, including AUD$53.8 million in its 2021–22 Budget towards investigating AI in the region and AUD$101.2 million in its 2023-24 budget (Department of Finance, 2021; 2023). Whilst understanding each document included in Figures 4 and 5 is not the focus of this dissertation, seeing its complexity is critical to understanding that the Framework did not operate within a policy vacuum. The Figures affirm that discussions on AI have been active within Australian education and policy prior to the release of Chat GPT.

In constructing Figures 4 and 5, this research also identifies a broader tension within the discourse, that of the ability for the Government to respond quickly but also to contribute a meaningful presence in the policy space of AI. Figure 4 affirms that policy traction of AI has neither been clearly top-down or bottom-up. As Figure 5 indicates within an 18-month period, various initiatives and actors were involved in Generative AI documents or discussions.

These findings also support the current literature. As Peck and Theodore (2010) highlight politics to the policy are “rarely, if ever, just about transferring policy knowledge and technology from A to B” (p. 169). Policy transfer involves connections, power relations, ideology and cannot be reduced simply the transmitting of best practice (Peck and Theodore, 2010). Therefore, to consider the policy development of AI in Australian education as distinct and disconnected sets of policy makers and policy implementors does little to explain what has made Chat GPT and Generative AI distinct (Gulson et al., 2022). My findings build on the literature and ask to consider: what policy network led state governments in the first place to ban Chat GPT after its release? And what policy discourse operated before engagement with a framework that led to such an approach?

Figure 4: Timeline 2016 to 2022

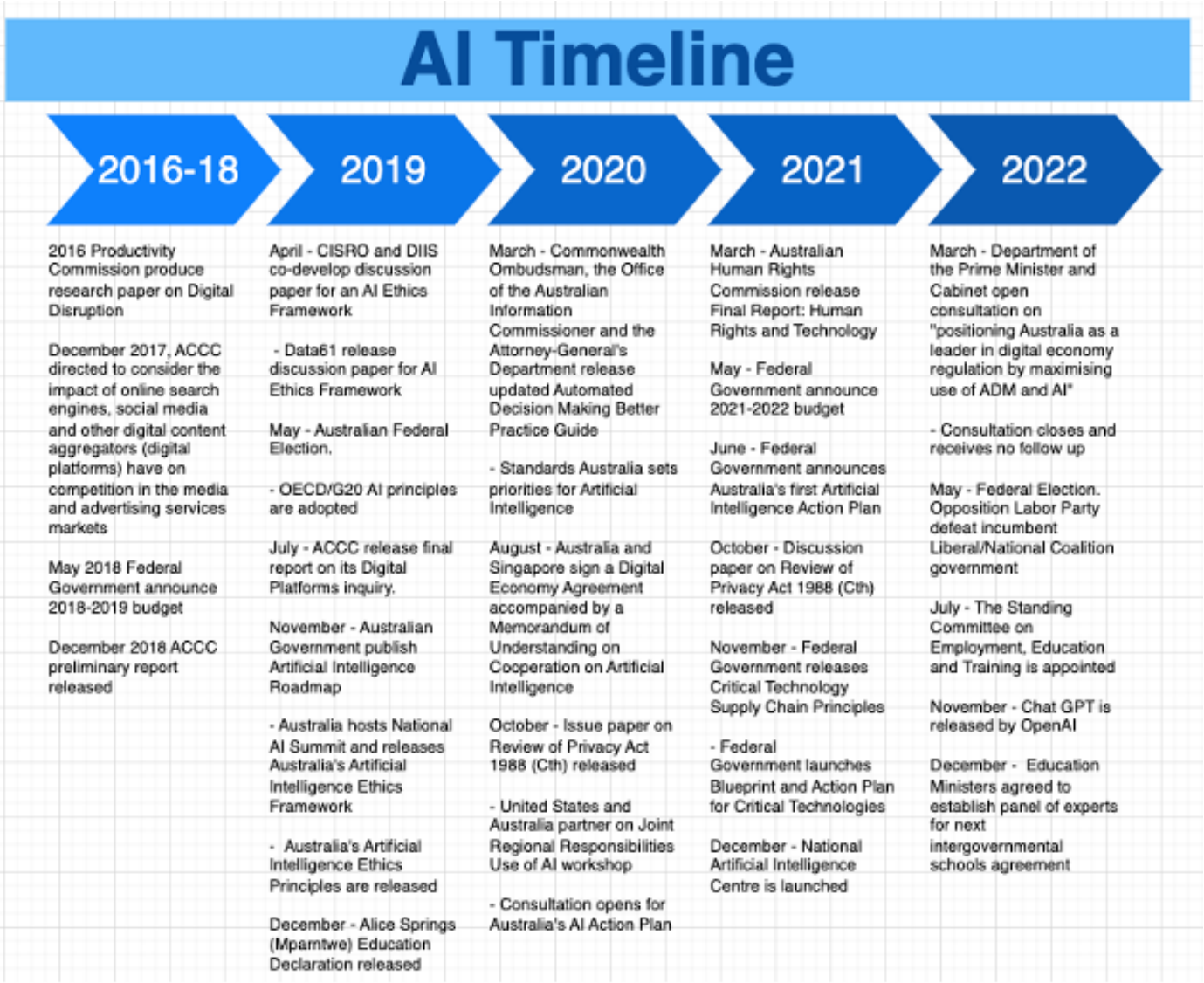


Figure 5: Timeline 2023 to 2024



4.2.3 Putting forward an agenda

Nonetheless, the translation of policy into text produces and impacts the discourse. Indeed, in circulating ideas regarding Generative AI in education through the Framework, the Australian Government has helped formed the discourse around its use. For example, in creating its six overarching principles and 25 guiding statements, the Framework establishes ways of thinking about and organising Generative AI tools. As one participant said:

> *"So, you often, often they are symbolic, governments just want to say we have said a thing about this thing. 'There we are, we're over it, you know, or we're all on top of it'." And I guess it's exactly the same with this Australian framework for generative AI, it's a kind of soft power thing. It's sort of saying this is an issue, but here are some broad areas of concern or things you might want to think about, copyright, data protection, you know,*

pedagogical expert. So, in a way, it's it's better than allowing the industry to define the terms with which the technologies being picked up."

Regardless of the merits of the Framework, the Australian Government has begun to declare the parameters to which Generative AI in Australian Education should be discussed. Yet, as this document analysis reveals, the nature and ethics of Generative AI are complex and contested. Participants themselves contest the Framework's principles and their meaning, something I will return to later in this discussion.

So too, the Framework arguably positions technologies such as Chat GPT as a given or reality in Australian Education. What makes this technology more pervasive or harmful compared to other technologies in Australian education remains a debate within the discourse. As one participant noted:

> *"I'd be interested to see how many people are actually using it. It's not, it's possibly not really to have that kind of direct effect on what goes on in schools, it's more just to allow, maybe school leaders, school governing councils, policy may allow people to at least have a a kind of frame or a lens to which they can have this discussion about this thing.*"

Even if the national debate on Generative AI in education is yet to reach consensus, the boundaries of the Framework constrain other meanings and interpretations.

Accordingly, the Framework builds on current literature, that by putting into circulation an acceptance that AI is the future of education, it has at the very least suggested that policy must consider technologies like Chat GPT (Nemorin et al., 2022). Standards not only embed valuations of technologies and appreciations of their risks or benefits, but influence and shape what a technology can do and how (Bello y Villarino, 2023). Assumptions about bias and AI automatically improving teaching and learning complicate the Framework's principles of 'transparency', 'fairness', 'accountability' and 'privacy, security and safety' (McKnight and Furze, 2023b). These findings support the literature that political process that produces discourse also participate in conceptualizing and steering by drawing the boundaries for acceptable and unacceptable use (Esko and Koulu, 2023).

4.3 Whose meanings? Which actors?

Moreover, actors involved in the Framework shape and mould their interests through direct and indirect ways. I hope this discussion illuminates some of these vital entanglements; how narratives, people and positions are linked; and what this says about investigating the relationship

amongst actors within education and technology in Australia. This is important for developing the conversation about policy actors within Australia.

4.3.1 Inside the Taskforce

My findings indicate that actors held different and uneven positions in relation to the Framework. In fact, membership of the Framework's Taskforce only made up an element of the network. For example, looking to the Framework, policy actors referenced included the 10 "academic community" members and 15 governmental bodies. Some of the academic community connected through university affiliations and previous research collaboration. Others were associated with state and federal policy work. These networks of collaboration revealed a deep cross over of interests between actors, due to grant and funding opportunities, research collaboration and relationships with Australian education departments, agencies, and research institutes.

However, as outlined by the House of Representatives Standing Committee on Employment, Education and Training ('the Standing Committee'), many additional voices were considered. Announced to explore "the risks AI poses to academic integrity, and the potential it offers to personalise learning and address educational disadvantage", the Standing Committee's Inquiry received 102 written (Parliament of Australia, 2023a, 2023b; Department of the House Representatives, 2023). Culminating in a total of 15 public hearings, 54 witnesses across 9 hearings gave evidence between September and November 2023 before the release of the Framework (Parliament of Australia, 2023b). These public hearings revealed that there were at least 5 companies, 16 organisations (non- and for-profit, advocacy groups, research centres), 20 people (academics, researchers, entrepreneurs and so on) and 12 universities who gave evidence on Generative AI in Australian education before publication of the Framework (see Figure 6). The array of actors in Figure 6 emphasise the diversity of views considered by the Standing Committee.

Figure 6: Table 1 Overview of witnesses by inferred source type (September and November 2023)

Witness Type	No. of witnesses
Individual	1
Universities	12
University or higher education network	8

University centre	7
Government	2
Inter-governmental organisation	6
Company	5
Non-profit	4
Union	3
Advocacy group or representative body	5
Peak body	3

Whilst the inclusion of universities and academics in the process was not surprising, their involvement suggested a unique aspect of the Framework. That not only was an explicit effort made to show a diversity of views towards a consensus on ethical considerations raised by AI, but that these were validated by the expertise of Australian educationalists. As participants noted, they were not ratifiers nor did the taskforce operate as a ratification body. Participants were not a decision-making part of the network, nor privy to vetoing elements within the Framework, but their presence and acknowledgment was nonetheless critical. This highlights that knowledge 'experts' for education or AI were seemingly used as authoritative nodes in the policy network.

Such findings build upon the literature, affirming that certain ideas are circulated and promoted by actors (Peck and Theodore, 2015; Smuha, 2021). That participants in policy can act as both receives and agents, acting at times as knowledge producers and 'legitimisers' of policy documents (Trowler, 2003; Gellai, 2023). These mobile dynamics are essential when considering that not all actors in the policy process are equal and their complex roles and objectives may be obscured or distorted. So too, that the identities of various actors, located in (shifting) organisational and political fields, are bound up with the positions and fixes that they espouse (Ball, 2023).

4.3.2 Outside the Taskforce

However, as document analysis demonstrates, policy debate around the proper governance of AI technologies remains subject to the negotiations of actors outside the Framework's Taskforce. Ideas around Generative AI were not limited to politicians and governmental bodies, but seemed to include technology developers, private companies, academics, civil society, public or governmental and political entities. Specifically, it remains unclear how much of the Framework was influenced by the likes of big tech firms, yet they were hardly passive and provided written submission and testimony to the Standing Committee.

Australia has also previously endorsed the OECD's AI Principles (see Figure 4), and since the release of the Framework signed the Bletchley and Seoul Declarations on AI (see Figure 5). How and with what effect the OECD's Principles shaped the Frameworks narrative and construction, and trade-offs remains opaque. How the Declarations have subsequently come to impact the Framework's significance also remains to be seen.

Regardless, as this literature has highlighted, international organisations can reshape what constitutes quality and effective policy (Savage and Lewis, 2018; Hardy, 2024). These findings build on the research, suggesting that policy actors and networks move quickly, and that how global actors envision AI technologies to be, can have some impact on the way local policy forms (Tuomi, 2018; Pedro et al., 2019). The dynamics amongst actors and their power positions influence regulatory processes (Kokshagina et al., 2023). In this case, the shifting interactions between governments and technology companies indicated some redistribution of power and influence, and an impact on the forms of evidence and expertise that shaped the education policy (Hogan, 2016; Ball, 2016; Savage, 2016a).

4.3.3 Local and Global actors

Furthermore, policy borrowing and referencing within the Framework, evidences the traveling, translation and mutation of external policies in the Australian local policy space. For example, participants evidenced the impact and leadership provided by the New South Wales (NSW) government in technology governance. The Framework's referenced academic community presents a dominance from NSW Universities, bar two representatives from Queensland and Victoria respectively, and in fact the NSW Department of Education Secretariat had organised the two-day workshop in March 2023 for the Taskforce. Findings also suggest that the NSW Government and its development of the 2023 AI Assurance Framework was critical in developing a principles-based approach and in pushing for national consistency and consensus.

As one participant said:

> *"You know, it's a question of timing and also people usually that makes things happen, and this in this particular case you had the timing and the people that managed to develop some really quiet, some really quiet forward-thinking policies and frameworks that have then been influential throughout."*

And:

> *"... NSW separate, apart from Education, has uh really led Australia in thinking about an assurance framework and process for AI in government."*

These questions of timing and people not only help map the influential actors within the network, but how NSW ideas about AI governance mutated across and amongst Australian states. Although, such movement was not only unique to local policy, but extends to how members of the Taskforce deliberated and weighed global policy. For example, participants consistently highlighted how the EU and UK's Generative AI policy had been a source of reference for Australia.

As one participant noted:

> "*So, on the one hand, they needed a framework because it was clear that there had been other jurisdictions who had at least started to think about AI and AI in Human Services like education. So, like the the academic advisory group, we were constantly referring to like the EU, they must have got completely bored of hearing us talk about the EU."*

Another participant said:

> *"The EU and the US have the economic and trade council for technology where they are talking these things. The UK is out. So, I think Australia that was looking at the UK 'well they are fine, we are fine because they are fine', found itself like ohh no we need to do something and look at the group that is ongoing now"*

Australia's endorsement of the OECD's Principles on AI and its membership in the Global Partnership on Artificial Intelligence (GPAI), reiterates its interest in global policy (see Figure 4). Whilst this is not revelatory, its importance is twofold. On the one hand, reference to aligning with international standards and a NSW desire to use existing policy to help other states and create models of guidelines and standards, presents and reflects Government's interest for unity and consensus. On the other hand, such findings also affirm that researchers and policymakers within Australia consider broader education policy literature and AI governance. That actors conceptualise successful policy of Generative AI as one requiring federal implementation and shared standards, whether nationally or globally, and provide frameworks for local action. The potential role both play in shaping the Framework reflects the structure of policy networks in Australian education policy, in which local and global networks are deeply considered by government.

Even more so, that the 'norms' of governing AI in the Governments production of the Framework guidance, were indicative of a both a local and global influence. Critically, this seemed

to recognise the literature, that the global north, its initiatives and actors have implications on the interpretation of and the weight given to the AI principles that are used as fundamental guidelines for policies and regulations (Feldstein, 2023). This also poses questions for what such norms developing from NSW, the EU and the UK mean in the broader Australian context, particularly when considering the varying contexts, communities and vulnerabilities of each Australian state and territory.

4.4 The ‘problem’

Finally, problematising certain ideas can restrict choice and carry with it a preferred politics. Therefore, by looking at the problems being presented through the Framework, this research can examine what is being silenced or left out from the policy network. For these findings, the kinds of issues surrounding ethics and government power within AI and Education policy offer key insights.

4.4.1 How to pinpoint ethical issues?

In discussing questions of ethics, the Framework and broader discourse positioned this as one of mitigating risks. Yet, as participants highlighted this meant turning ethics into a seemingly solvable issue, and one requiring intervention. For example, analysis supports that the sort of questions attempting to be addressed in the framework included: where does responsibility lie for what an algorithm does? And should this be the responsibility of the user or developer or is it at the procurer? If the ethics of Generative AI evolve around issues of transparency of such technologies, creating the space and parameters for people to use it, disclose when and where it was being used, and how, proves practical. This supports the idea that the problem of such technologies is where systems and guidance for its appropriate use are absent. Whilst the merits of these ideas were and are not the focus of this paper, it highlights an approach and conceptualisation of ethics within Australian Generative AI and Education policy. That is, the risks of Generative AI in education are therefore greater where no guidance exists, and use of the technology is hidden. Although, as noted by one participant:

> *“…but it doesn't quite deal with how we are deciding whether and how AI should be coming into a system.”*

This underscored a more ambitious discussion about ethics and justice within education and technology studies. For example, the relationship between people and technology infrastructures,

the dependency of public institutions on technology providers and the facilitation of education by technologies.

However, as the findings suggest these debates were often too complex to discuss within a Framework structure. Yet, a narrow focus on the ethics of one type of technology like Generative AI can neglect broader structures of oppression and marginalisation that technologies help solidify. Specifically, questions of the environmental sustainability of AI technologies, human rights, and exploitative labour environments. They also avoid the ethical grey of how data corporations and education technologies position themselves as intermediates and neutral actors, where instead vested and pointed interests may lie.

This reflects the literature, that Technology infrastructures are not separable from the power, knowledge and expert assumptions of their planners or producers; the labour required for their functioning, repair, and maintenance; their relations with other systems and infrastructures; and the ideological work involved in imagining, assembling, and maintaining them (Plantin and Punathambekar, 2019; Williamson, 2023). So too, these findings recognise the literature, that there is an increasing dependence of public institutions on technology infrastructure providers, in particular big tech, who provide analytic affordances, clouds, storage capabilities, and artificial intelligence. The imbedding of such technologies within education has implications for the type of learning and logics that shape students and teachers, drawing attention to the pedagogical dynamics and practices of future learners (Perrotta et al., 2020). These vast implications for learning facilitate technical and social functions, but are also reshape the institutions, practices, purposes and values of education (Biesta, 2010; Piattoeva and Boden, 2020).

4.4.2 Government power and responsibility

Questions of ethics lead to another issue presented, that of the role and responsibility of Government. Participants and content analysis demonstrate consensus and support for the Australian government's duty and role in the regulating AI technologies. The problem presented was how this could best be done. For example, discussions on procurement power indicated ideas that the Government had great purchasing power and control over data. This positioned Australian states and territories within the AI supply chain. Therefore, debate orientated around how government could empower public education systems to leverage existing procurement powers to discuss broader issues like educational quality of AI design and standards for tools.

However, discussions of procurement, as valuable as they are, negate broader questions of Australian government power to regulate. Specifically, whether Australian regulatory bodies and statutes have the infrastructure, expertise, to enforce and protect. As emphasised by one participant:

> *"I am critical of where Australia has got to on all of those schools because effectively over the last 5-6 years we've had a lot of work reviews, you know, proposals, that have really made very clear a number of substantive changes we need to the law. Privacy is a key area, we, you know, our privacy laws are pathetic, really underpowered, really, like you know, we lack some really basic rules that have been in place in other countries for years now."*

Assessing questions of misuse and identifying safety, privacy, security, and discrimination challenges that AI technologies and industries pose, prove serious where trust in systems lack. Substantive protections are important and necessary when considering AI technologies not only in reassuring Australia's stakeholders that there are adequate regulatory frameworks, but for imbedding standards. Hence, findings suggest that such reassurance has not taken place amongst actors and that concerns over empowered and effective laws remain.

Government's ability and power to regulate big tech is a conceptual point. Governance of technologies within education has become increasingly harder to understand as separate. Technologies operate in various domains simultaneously and sometimes the same technology products used in education operate at the social or personal. Therefore, in regulating Generative AI and exercising power and responsibility, the government must also be able to recognise these interwoven and hidden networks. Or build structures capable of doing so.

As the literature supports, Generative AI technologies include the preferences, knowledges, values and practices of those who built and programmed the infrastructure and which shape how it can be used and to what purposes (Perrotta et al., 2020). Software and algorithms also exercise decision making and can shift responsibility within education, across teachers, school leaders and governing bodies (Souto-Otero and Beneito-Montagut, 2016; Gulson and Witzenberger, 2021). Critically, the boundaries of formal education systems to include education companies, software firms, consultancies, foundations, and research centres, as well as formal education agencies, make it harder for government and policy to identify clean lines of responsibility (Lingard and Sellar, 2013).

4.5 Overall takeaways and next steps

This dissertation has sought to disentangle the actors and discourse that sat behind the development of the Framework. Whilst this dissertation has been unable to conduct interviews with all Taskforce members or expand the net of documents in its analysis, this research has critically considered its research questions.

In asking ‘who is active in the space that has led to the development of the Framework?’, this dissertation has revealed an entangled web of private, corporate, intergovernmental and governmental actors. The Framework’s Taskforce was active in its development, but so were international organisations and standards. It remains unclear to what extent each actor played, but the Government weighed *both* global and local policy in creating the Framework.

These entangled webs of actors helped answer this dissertation’s second question: ‘what spaces and networks do such policies travel through?’. Not only did actors within the Framework suggest a deep crossover of interests, but findings highlighted the Framework itself developed out of policy. That viewing Australian policy of education and technology as linear would be too simplistic. The Framework travelled through public and private spaces and networks before its release.

Likewise, in asking ‘what does this problematise for addressing Generative AI within Australian education?’, this dissertation has indicated that ideas of ethics within AI and Education policy can neglect broader structures of oppression and marginalisation. That conceptions of government power to regulate also require consensus and confidence. Narrowing the ‘problem’ can provide clarity in constructing policy but also led to the exclusion of other important issues.

Yet, these networks remain active, with policy processes shaping and modifying as they move. The relationships investigated in this dissertation remain entangled and dynamic. Therefore, next steps should include mapping more policy documents over a longer period, their networks, discourse and actors to consider broader trends.

Overall, these findings provide some important accounts of the Framework’s policy, its network and actors at a particular point of its travel. These complex findings shed light on how the Framework has mutated over time in Australia and across contexts.

5. CONCLUSION

By exploring the Framework this dissertation has offered an important case study for considering some of the roles that local and global actors have within Australian education, the layers between discourse and actors, and the 'problematising' of ideas. Specifically, in balancing ideas of technological progress, conceptions of ethics and responsibility.

Yet, the Framework must also be viewed within the broader context. Governments around the world are trying to adapt to the social, economic, legal and political implications of new technologies. Generative AI is one part of that story, asking private actors and public institutions alike to consider: if and what role technologies should have in matters of health, security, finance and learning? whose responsibility it is to monitor these technologies? whether regulation is necessary and what this looks like?

The findings of this dissertation highlight that the direction these complex questions take, impact the field of education, the experiences, relationships, roles and lives of teachers, schools, principals, and students. Australian education finds itself considering global policy, interacting with global actors and standards whilst balancing its own narratives.

These entangled narratives include the dynamics between Australian state and federal governments, the influence of international organisations and the power of commercial technologies within Australian education.

The dissertation also hopes to have demonstrated the need for future research to combine a focus on education, technology and socio-legal studies. To reflect on the broader networks of education and respond to the research gaps linking policy networks, AI technologies and Australian education. There remains a necessity in further considering a multidisciplinary approach to research.

As reflected by the findings, the boundaries for acceptable and unacceptable use of Generative AI technologies like Chat GPT, have the potential to be shaped by the networks and actors they move between. Therefore, as AI technologies continue to advance, it remains necessary that future research understand not only the regulations and guidelines that seek to monitor their responsible use, but the actors and networks that determine what these should be.

Ultimately, research still has a way to go in comprehensibly understanding the extent of influence actors have on each other and on government. However, the research has demonstrated some of the spaces and networks in which challenges and concerns related to Generative AI in Australian education travel. I too hope that it has pushed the field to consider the

diversity of private and public actors and the problematisation of such technologies has become clearer. Evaluating Australian policy and how it considers technologies within education remain essential to ensuring governments, policy and actors serve the best interests of society.

REFERENCES

ABC News. (2023a, January 23). *Queensland to join NSW in banning access to ChatGPT in state schools*. https://www.abc.net.au/news/2023-01-23/queensland-to-join-nsw-in-banning-access-to/101884288

ABC News. (2023b, October 6). *Artificial intelligence to be allowed in Australians schools from 2024*. https://www.abc.net.au/news/2023-10-06/artificial-intelligence-to-be-allowed-in/102946020

Acemoglu, D., & Restrepo, P. (2020). The wrong kind of AI? Artificial intelligence and the future of labour demand. *Cambridge Journal of Regions, Economy and Society*, *13*(1), 25-35. https://doi.org/10.1093/cjres/rsz022

Addey, C., & Sellar, S. (2018). Why do countries participate in PISA? Understanding the Role of International Large-Scale Assessments in Global Education Policy. In A. Verger, M. Novelli, & H. K. Altinyelken (Eds.), *Global Education Policy and International Development: New agendas, issues and policies* (2nd ed., pp. 97-118). Bloomsbury Academic. DOI: 10.5040/9781474296052.ch-005

Adeoye-Olatunde, O. A., & Olenik, N. L. (2021). Research and scholarly methods: Semi-structured interviews. *Journal of the American College of Clinical Pharmacy*, *4*(10), 1358-1367. https://doi.org/10.1002/jac5.1441

Adhikary, R. W., & Lingard, B. (2018). A Critical Policy Analysis of 'Teach for Bangladesh': A Travelling Policy Touches Down. *Comparative Education, 54*(2), 181-202. https://doi.org/10.1080/03050068.2017.1360567

Alier, M., García-Peñalvo, F., & Camba, J. D. (2024). Generative Artificial Intelligence in Education: From Deceptive to Disruptive. *International Journal of Interactive Multimedia and Artificial Intelligence*, *8*(5), 5-14. https://doi.org/10.9781/ijimai.2024.02.011

Allen, K., & Bull, A. (2018). Following Policy: A Network Ethnography of the UK Character Education Policy Community. *Sociological Research Online*, *23*(2), 438-458. https://doi.org/10.1177/1360780418769678

Andrews, K. (2019, April 5). *Seeking feedback on ethics of artificial intelligence* [Press release]. Australian Government. https://www.minister.industry.gov.au/ministers/karenandrews/media-releases/seeking-feedback-ethics-artificial-intelligence

Arthur, J. (2017). *Policy Entrepreneurship in Education: Engagement, Influence and Impact* (1st ed.). Routledge. https://doi.org/10.4324/9781315445649

Attard Frost, B., Brandusescu, A., & Lyons, K. (2024). The governance of artificial intelligence in Canada: Findings and opportunities from a review of 84 AI governance initiatives. *Government Information Quarterly*, *41*(2), 1-24. https://doi.org/10.1016/j.giq.2024.101929

Attorney-General's Department (2023, February 16). *Review of the Privacy Act 1988*. Australian Government. https://www.ag.gov.au/integrity/consultations/review-privacy-act-1988

Au, W., & Ferrare, J. (2015). Mapping Corporate Education Reform: Power and Policy Networks in the Neoliberal State (1st ed.). Routledge. https://doi.org/10.4324/9781315762401

Australian Bureau of Statistics. (2023, February 15). *Schools: Data on government and non-government students, staff and schools*. https://www.abs.gov.au/statistics/people/education/schools/latest-release

Australian Human Rights Commission. (2021, March 1). *Final Report: Human Rights and Technology*. https://humanrights.gov.au/our-work/technology-and-human-rights/publications/final-report-human-rights-and-technology

Avelar M., Nikita D. P., & Ball S. J. (2018). Education policy networks and spaces of ‘meetingness’: A network ethnography of a Brazilian seminar. In A. Verger, M. Novelli, & H. K. Altinyelken (Eds.), *Global Education Policy and International Development: New agendas, issues and policies* (2nd ed., pp. 55–74). Bloomsbury Academic. http://dx.doi.org/10.5040/9781474296052.ch-003

Avelar, M., & Ball, S. J. (2019). Mapping new philanthropy and the heterarchical state: The Mobilization for the National Learning Standards in Brazil. *International Journal of Educational Development*, *64*, 65-73. https://doi.org/10.1016/j.ijedudev.2017.09.007

Avelar, M., Hogan, A., Junemann, C., & Nikita, D. P. (2021). A balancing act: The untold practice of network ethnography. In C. Addey, & N. Piattoeva (Eds.), *Intimate Accounts of Education Policy Research: The Practice of Methods* (1st Ed. pp. 107-122). Routledge. https://doi.org/10.4324/9781003123613

Avelar, M., & Ball, S. J. (2023). Network ethnography: shifting perspectives and approaches to make sense of education governance. *Práxis Educativa* (*Ponta Grossa, Paraná, Brazil)*, *18*, 1-14. https://doi.org/10.5212/PraxEduc.v.18.22640.084

Baidoo-Anu, D., & Owusu Ansah, L. (2023). Education in the Era of Generative Artificial Intelligence (AI): Understanding the Potential Benefits of ChatGPT in Promoting Teaching and Learning. *Journal of AI*, *7*(1), 52-62. https://doi.org/10.61969/jai.1337500

Ball, S. J. (1994). *Education Reform: A Critical and Post-Structural Approach*. Open University Press. https://doi.org/10.2307/3121942

Ball, S. J. (2008). New Philanthropy, New Networks and New Governance in Education. *Political Studies*, *56*(4), 747-765. https://doi.org/10.1111/j.1467-9248.2008.00722.x

Ball, S. J. (2009). Privatising Education, Privatising Education Policy, Privatising Educational Research: Network Governance and the 'Competition State'. *Journal of Education Policy, 24*(1), 83-99. https://doi.org/10.1080/02680930802419474

Ball, S. J., & Olmedo, A. (2011). Global Social Capitalism: Using Enterprise to Solve the Problems of the World. *Citizenship, Social and Economics Education*, *10*(2-3), 83-90. https://doi.org/10.2304/csee.2011.10.2.83

Ball, S. J., & Junemann, C. (2012). *Networks, New Governance and Education* (1st ed.). Policy Press Scholarship. https://doi.org/10.1332/policypress/9781847429803.001.0001

Ball, S. J. (2012). *Global Education Inc.: New Policy Networks and the Neo-Liberal Imaginary* (1st ed.). Routledge. https://doi.org/10.4324/9780203803301

Ball, S. J., Maguire, M., & Braun, A. (2012). *How Schools Do Policy: Policy Enactments in Secondary Schools*. Routledge. https://doi.org/10.4324/9780203153185

Ball, S. J. (2013a). *The Education Debate (*2nd ed.). Policy Press Scholarship. https://doi.org/10.1332/policypress/9781861349200.001.0001

Ball, S. J. (2013b). *Foucault, Power, and Education* (1st ed.). Routledge. https://doi.org/10.4324/9780203078662

Ball, S. J. (2015). Education, governance and the tyranny of numbers. *Journal of Education Policy*, *30*(3), 299-301. https://doi.org/10.1080/02680939.2015.1013271

Ball, S. J. (2016). Following policy: networks, network ethnography and education policy mobilities. *Journal of Education Policy*, *31*(5), 549-566. https://doi.org/10.1080/02680939.2015.1122232

Ball S. J., Junemann, C., & Santori, D. (2017). *Edu.net: Globalization and Education Policy Mobility* (1st ed.). Routledge. https://doi.org/10.4324/9781315630717

Ball, S. J. (2023). Education policy network analysis: The state of the art. *International Journal of Educational Research*, *117*, 1-2. https://doi.org/10.1016/j.ijer.2022.102096

Balayn, A., & Gürses, S. (2021). *Beyond Debiasing: Regulating AI and its inequalities* (Report). European Digital Rights (EDRi). https://edri.org/wp-content/uploads/2021/09/EDRi_Beyond-Debiasing-Report_Online.pdf

Bagloee, S. A., Tavana, M., Asadi, M., & Oliver, T. (2016). Autonomous vehicles: Challenges, opportunities, and future implications for transportation policies. *Journal of Modern Transportation*, *24*(4), 284-303. https://doi.org/10.1007/s40534-016-0117-3

Bello y Villarino, J. (2023). A Tale of Two Automated States: Why one-size-fits-all approach to administrative law reform to accommodate AI will fail. In Z. Bednarz & M. Zalnieriute (Eds.), *Money, Power and AI: From Automated Banks to Automated States*, (pp. 136-151). Cambridge University Press. https://www.cambridge.org/core/books/money-power-and-ai/tale-of-two-automated-states/841B0FFEABAF129648286FD31F2F7CF6

Bello y Villarino, J., Hua, D., Wang, B., & Trezise, M. (2023). *Standardisation, trust and democratic principles: the global race to regulate Artificial Intelligence* (Report). United States Studies Centre. https://www.ussc.edu.au/standardisation-trust-and-democratic-principles-the-global-race-to-regulate-artificial-intelligence

Bello y Villarino, J. (2024, February 27). *Digital (t)winning: the potential for AI as a public policy design tool*. The Policy Maker. https://thepolicymaker.jmi.org.au/digital-twinning-the-potential-for-ai-as-a-public-policy-design-tool/

Ben-Israel, I., Cerdio, J., Ema, A., Friedman, L., Ienca, M., Mantelero, A., Matania, E., Muller, C., Shiroyama, H., & Vayena, E. (2020). *Towards Regulation of AI Systems: Global perspectives on the development of a legal framework on Artificial Intelligence systems based on the Council of Europe's standards on human rights, democracy and the rule of law* (Study DGI (2020) 16). Council of Europe. https://rm.coe.int/prems-107320-gbr-2018-compli-cahai-couv-texte-a4-bat-web/1680a0c17a

Berendt, B., Littlejohn, A., & Blakemore, M. (2020). AI in education: learner choice and fundamental rights. *Learning, Media and Technology*, *45*(3), 312-324. https://doi.org/10.1080/17439884.2020.1786399

Biesta, G. J. J. (2010). *Good Education in an Age of Measurement: Ethics, Politics, Democracy* (1st ed.). Routledge. https://doi.org/10.4324/9781315634319

Bishop, M., & Green, M. (2010). *Philanthrocapitalism: How giving Can save the world*. Bloomsbury Publishing.

Blum, D., & Ullman, C. (2012). The globalization and corporatization of education: The limits and liminality of the marketmantra. *International Journal of Qualitative Studies in Education*, *25*(4), 367–373. https://doi.org/10.1080/09518398.2012.673031

Brakman Reiser D. (2020). For-profit philanthropy: The implications for educational development. In M. Avelar & P. Lara (Eds.), *New philanthropy and the Disruption of Global Education* (4th ed., pp. 58–61). NORRAG. https://resources.norrag.org/resource/592/new-philanthropy-and-the-disruption-of-global-education

Breen, P. (2023, January 29). *Don't fear ChatGPT: education will always trump technology*. Times Higher Education. https://www.timeshighereducation.com/blog/dont-fear-chatgpt-education-will-always-trump-technology

Brenner, M. E. (2006). Interviewing in Educational Research. In J. L. Green, J. Green, G. Camilli, G. Camilli, P. B. Elmore, & P. Elmore (Eds.), *Handbook of Complementary Methods in Education Research* (3rd ed.). Routledge. https://doi.org/10.4324/9780203874769

Brinkmann, S. (2013). *Qualitative interviewing: Understanding Qualitative Research*. Oxford University Press. https://doi.org/10.1093/acprof:osobl/9780199861392.001.0001

Brown, A. J., & Bellamy, J. A. (2007). *Federalism and Regionalism in Australia: New Approaches, New Institutions?* ANU Press. http://www.jstor.org/stable/j.ctt24hdnw

Bonner, C., & Shepherd, B. (2016). *Uneven playing field: The state of Australia's schools* (Effective Government program Report). Centre for Policy Development. http://cpd.org.au/wp-content/uploads/2016/05/The-State-of-Australias-Schools.pdf

Bowman, R. (2023, December 5). *Federal government releases first AI framework for schools.* Educationmatters. https://www.educationmattersmag.com.au/federal-government-releases-first-ai-framework-for-schools/

Bürgi, R. (2016). Systemic management of schools: the OECD's professionalisation and dissemination of output governance in the 1960s . *Paedagogica Historica*, *52*(4), 408-422. https://doi.org/10.1080/00309230.2016.1178780

Caliskan, A., Bryson, J. J., & Narayanan, A. (2017). Semantics derived automatically from language corpora contain human-like biases. *Science*, *356*(6334), 183-186. DOI:10.1126/science.aal4230

Cardona, M. A., Rodríguez, R. J., & Ishmael, K. (2023). *Artificial intelligence and the future of teaching and learning: Insights and recommendations* (Report). U.S. Department of Education, Office of Educational Technology. https://www2.ed.gov/documents/ai-report/ai-report.pdf

Cassidy, C. (2023, January 17). *Lecturer detects bot use in one-fifth of assessments as concerns mount over AI in exams*. The Guardian. https://www.theguardian.com/australia-news/2023/jan/17/lecturer-detects-bot-use-in-one-fifth-of-assessments-as-concerns-mount-over-ai-in-exams

Cath, C., Wachter, S., Mittelstadt, B., Taddeo, M., & Floridi, L. (2018). Artificial Intelligence and the 'Good Society': The US, EU, and UK approach. *Science and Engineering Ethics*, *24*(2), 505–528. https://doi.org/10.1007/s11948-017-9901-7

Chae, Y. (2020). U.S. AI regulation guide: Legislative overview and practical considerations. *The Journal of Robotics, Artificial Intelligence and Law, 3*(1), 17–40. https://www.bakermckenzie.com/-/media/files/people/chae-yoon/rail-us-ai-regulation-guide.pdf

Chatterjee, J., & Dethlefs, N. (2023). This new conversational AI model can be your friend, philosopher, and guide ... and even your worst enemy. *Patterns*, *4*(1), 1-3. https://doi.org/10.1016/j.patter.2022.100676

Chen, L., Chen, P., Lin, Z. (2020). Artificial Intelligence in Education: A Review. *IEEE Access*, *8*, 75264-75278. https://doi.org/10.1109/ACCESS.2020.2988510

Cihon, P., Maas, M. M., & Kemp, L. (2020). Fragmentation and the Future: Investigating Architectures for International AI Governance. *Global Policy*, *11*(5), 545-56. https://doi.org/10.1111/1758-5899.12890

Cihon, P., Schuett, J., & Baum S. D. (2021). Corporate Governance of Artificial Intelligence in the Public Interest. *Information*, *12*(7), 275-305. https://doi.org/10.3390/info12070275

Cohen, J. (2019). *Between Truth and Power: The Legal Constructions of Informational Capitalism*. Oxford Academic. https://doi.org/10.1093/oso/9780190246693.001.0001

Clare, J. (2023, December 1). *AI framework for schools released*. Ministers' Media Centre: Ministers of the Education Portfolio. https://ministers.education.gov.au/clare/ai-framework-schools-released

Col, L. D., & Stahl, G. (2023). *Working in a Survival School: Exploring Policy Tensions, Marketisation and Performativities* (1st ed.). Routledge. https://doi.org/10.4324/9781003326984

Cominos, C., & Coe, A. (2023, July 5). *ChatGPT-style AI app to be trialled in eight South Australian high schools*. ABC News. https://www.abc.net.au/news/2023-07-05/chatgpt-style-ai-bot-trial-in-sa-high-schools/102563974

Cook, I. R., & Ward, K. (2012). Conferences, informational infrastructures and mobile policies: the process of getting sweden 'BID Ready'. *European Urban and Regional Studies*, *19*(2), 137-152. https://doi.org/10.1177/0969776411420029

Crick, T. (2021). Covid-19 and Digital Education: A Catalyst for Change? *ITNOW*, *63*(1), 16-17, https://doi.org/10.1093/itnow/bwab005

Davis, A. (2023, January 25). *ChatGPT sparks cheating, ethical concerns as students try realistic essay writing technology.* ABC News. https://www.abc.net.au/news/2023-01-26/chatgpt-sparks-cheating-ethical-concerns-in-schools-universities/101888440

deMarrais, K. B., & Lapan, S. D. (2003). *Foundations for Research Methods of Inquiry in Education and the Social Sciences* (1st Ed.). Routledge. https://doi.org/10.4324/9781410609373

Dencik, L. (2021). Towards Data Justice Unionism? A Labour Perspective on AI Governance. In P. Verdegem (Eds.), *AI for Everyone?: Critical Perspectives* (pp. 267-284). University of Westminster Press. https://doi.org/10.16997/book55.o

Department of Customer Service Circular. (2024). *Use of Artificial Intelligence by NSW Government Agencies* (DCS-2024-04). New South Wales Government. https://arp.nsw.gov.au/dcs-2024-04-use-of-artificial-intelligence-by-nsw-government-agencies/

Department of Education. (2023). *Australian Framework for Generative Artificial Intelligence (AI) in Schools* (File reference D23/4881821 & D23/4881810 D24/158848 & D24/158861). Australian Government Department of Education. https://www.education.gov.au/schooling/resources/australian-framework-generative-artificial-intelligence-ai-schools

Department of Finance. (2021, May 11). *2021-22 Federal Budget.* Australian Government. https://www.finance.gov.au/about-us/news/2021/2021-22-federal-budget

Department of Finance. (2023, May 10). *2023-24 Federal Budget.* Australian Government. https://archive.budget.gov.au/2023-24/index.htm

Department of Industry, Science and Resource. (2019, November 7). Australia's Artificial Intelligence Ethics Framework. Australian Government. https://www.industry.gov.au/publications/australias-artificial-intelligence-ethics-framework

Department of Industry, Science and Resource (2024). *Developing the AI Ethics Framework and principles.* Australian Government. https://www.industry.gov.au/publications/australias-artificial-intelligence-ethics-framework/developing-ai-ethics-framework-and-principles

Department of the House Representatives (2023, September 5). *Experts to discuss AI in Australian education* [Press Release]. Parliament of Australia. https://www.aph.gov.au/About_Parliament/House_of_Representatives/About_the_House_News/Media_Releases/Experts_to_discuss_AI_in_Australian_education

Ding, J. (2018). Deciphering China's AI Dream (Future of Humanity Institute Technical Report). University of Oxford. https://www.fhi.ox.ac.uk/deciphering-chinas-ai-dream/

Dixon, R. B. L. (2023). A principled governance for emerging AI regimes: lessons from China, the European Union, and the United States. *AI Ethics 3*, 793-810. https://doi.org/10.1007/s43681-022-00205-0

Durkheim, E. (1982). What is a Social Fact? In S. Lukes (Eds.), *The Rules of Sociological Method*. *Contemporary Social Theory.* Palgrave. https://doi.org/10.1007/978-1-349-16939-9_2

Edwards, L. (2021). *The EU AI Act: a summary of its significance and scope.* Ada Lovelace Institute. https://www.adalovelaceinstitute.org/ resource/eu-ai-act-explainer/

Esko, T., & Koulu, R. (2023). Imaginaries of better administration: Renegotiating the relationship between citizens and digital public power. *Big Data & Society*, *10*(1), 1-14. https://doi.org/10.1177/20539517231164113

Esper T. (2020). Public-Private Partnerships and New Philanthropy in Education: The Case of the Varkey Foundation in Argentina. In M. Avelar & P. Lara (Eds.), *New philanthropy and the Disruption of Global Education* (4th ed., pp. 84-87). NORRAG. https://resources.norrag.org/resource/592/new-philanthropy-and-the-disruption-of-global-education

Feldstein, S. (2023). Evaluating Europe's push to enact AI regulations: how will this influence global norms? *Democratization*, *31*(5), 1049-1066. https://doi.org/10.1080/13510347.2023.2196068

Ferrari, F., van Dijck, J., & van den Bosch, A. (2023). Observe, inspect, modify: Three conditions for generative AI governance. *New Media & Society*, *0*(0), 1-19. https://doi.org/10.1177/14614448231214811

Findlay, M., & Ford, J. (2022). Chapter 1: Regulatory insights on artificial intelligence: research for policy". In M. Findlay, J. Ford, J. Seah, & D. Thampapillai (Eds.), *Regulatory Insights on Artificial Intelligence* (pp. 1-15). Edward Elgar Publishing. https://doi.org/10.4337/9781800880788.00006

Fjeld, J., Achten, N., Hilligoss, H., Nagy, A., & Srikumar, M. (2020). *Principled Artificial Intelligence: Mapping consensus in ethical and rights-based approaches to principles for AI* (Research Publication No. 2020-1). Berkman Klein Center for Internet & Society. https://cyber.harvard.edu/publication/2020/principled-ai

Forsey, M., Proctor, H., & Stacey, M. (2017). A most poisonous debate: Legitimizing support for Australian private schools. In T. Koinzer, R. Nikolai, & F. Waldow (Eds.), *Private schools and school choice in compulsory education: Global change and national challenge* (pp. 49-66). Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-17104-9_4

Geist, M. A. (2021). AI and International Regulation. In F. Martin-Bariteau & T. Scassa (Eds.), *Artificial Intelligence and the Law in Canada* (pp. 1-24). LexisNexis Canada. https://ssrn.com/abstract=3734671

Gellai D. B. (2023). Enterprising academics: Heterarchical policy networks for artificial intelligence in British higher education. *ECNU Review of Education*, *6*(4), 568-596. https://doi.org/10.1177/20965311221143798

Ghimire, A., Prather, J., & Edwards, J. (2024). Generative AI in Education: A Study of Educators' Awareness, Sentiments, and Influencing Factors, *ArXiv*, abs/2403.15586. https://doi.org/10.48550/arXiv.2403.15586

Gray, J., Gerlitz, C., & Bounegru, L. (2018). Data infrastructure literacy. *Big Data & Society*, *5*(2), 1-13. https://doi.org/10.1177/2053951718786316

Grek, S. (2009). Governing by numbers: The PISA ‘effect’ in Europe. *Journal of Education Policy*, *24*(1), 23-37. https://doi.org/10.1080/02680930802412669

Grek, S., & Ozga, J. (2010). Re-inventing Public Education: The New Role of Knowledge in Education Policy Making. *Public Policy and Administration*, *25*(3), 271-288. https://doi.org/10.1177/0952076709356870

Grek, S. (2013). Expert Moves: International Comparative Testing and the Rise of Expertocracy. *Journal of Education Policy*, *28*(5), 695-709. https://doi.org/10.1080/02680939.2012.758825

Groth, S., & Southgate, E. (2024). A policy document analysis of student digital rights in the Australian schooling context. *The Australian Education Researcher*. https://doi.org/10.1007/s13384-023-00683-z

Gulson, K. N., & Witzenberger, K. (2020). Repackaging authority: artificial intelligence, automated governance and education trade shows. *Journal of Education Policy*, *37*(1), 145-160. https://doi.org/10.1080/02680939.2020.1785552

Gulson, K. N., Murphie, A., & Witzenberger, K. (2021). Amazon Go for Education? Artificial Intelligence, Disruption, and Intensification. In C. Wyatt-Smith, B. Lingard, & E. Heck (Eds.), *Digital Disruption in Teaching and Testing: Assessments, Big Data, and the Transformation of Schooling* (pp. 90-106). Routledge. https://doi.org/10.4324/9781003045793

Gulson, K. N., Sellar, S., & Webb, P. T. (2022). *Algorithms of education: How datafication and artificial intelligence shape policy*. University of Minnesota Press. https://www.jstor.org/stable/10.5749/j.ctv2fzkpxp

Gurr, D. (2020). Australia: The Australian Education System. In H. Ärlestig, & O. Johansson (Eds.), *Educational Authorities and the Schools: organization and impact in 20 states* (pp. 311-331). Springer. https://doi.org/10.1007/978-3-030-38759-4_17

Gutierrez, C. I., Marchant, G. E., & Michael, K. (2021). Effective and Trustworthy Implementation of AI Soft Law Governance. *IEEE Transactions on Technology and Society*, *2*(4), 168-170. https://ieeexplore.ieee.org/document/9598168

Habuka, H. (2023). *Japan's Approach to AI Regulation and Its Impact on the 2023 G7 Presidency* (Discussion Paper). Center for Strategic and International Studies (CSIS). https://www.csis.org/analysis/japans-approach-ai-regulation-and-its-impact-2023-g7-presidency

Halim, N. L., & Gasser, U. (2023). *Vectors of AI Governance - Juxtaposing the U.S. Algorithmic Accountability Act of 2022 with The EU Artificial Intelligence Act* (Research Report #2023-2). Berkman Klein Center for Internet & Society. http://dx.doi.org/10.2139/ssrn.4476167

Hardy, I. (2024). Australian schooling policy: A risky proposition. *The Australian Education Researcher,* 1-22. https://doi.org/10.1007/s13384-024-00711-6

Han, S., & Ye, F. (2017). China's Education policy-making: A Policy Network Perspective. *Journal of Education Policy*, *32*(4), 389-413. https://doi.org/10.1080/02680939.2017.1291998

Hoffmann-Riem, W. (2020). Artificial Intelligence as a Challenge for Law and Regulation. In T. Wischmeyer, & T. Rademacher (Eds.), *Regulating Artificial Intelligence* (pp. 1-29). Springer. https://doi.org/10.1007/978-3-030-32361-5_1

Hogan, A. (2014). NAPLAN and the Role of Edu-business: New Governance, New Privatisations and New Partnerships in Australian Education Policy. *The Australian Educational Researcher*, *43*, 93-110. https://doi.org/10.1007/s13384-014-0162-z

Hogan, A., Sellar, S., & Lingard, B. (2015a). Network Restructuring of Global Edu-Business: The Case of Pearson's Efficacy Framework. In W. Au & J. J. Ferrare (Eds.), *Mapping Corporate Education Reform: Power and Policy Networks in the Neoliberal State* (1st ed., pp. 43-64). Routledge. https://doi.org/10.4324/9781315762401

Hogan, A., Lingard, B., & Sellar, S. (2015b). Edu-businesses and education policy: The case of Pearson. *Professional Voice*, *10*(2), 24-30. https://www.unionsystems.com.au/application/files/1114/2620/7938/pv_10_2_complete_web.pdf#page=24

Hogan, A. (2016). Network ethnography and the cyberflâneur: Evolving policy sociology in education. *International Journal of Qualitative Studies in Education*, *29*(3), 381-398. https://doi.org/10.1080/09518398.2015.1053159

Hogan, A., Sellar, S., & Lingard, B. (2016). Commercialising comparison: Pearson puts the TLC in soft capitalism. *Journal of Education Policy*, *31*(3), 243-258. https://doi.org/10.1080/02680939.2015.1112922

Hogan, A., & Williamson, A. (2022). Mapping categories of philanthropy in Australian public schooling. *Discourse: Studies in the Cultural Politics of Education*, *44*(5), 651-666. https://doi.org/10.1080/01596306.2022.2071841

Holmes, W., Porayska-Pomsta, K., Holstein, K., Sutherland, E., Baker, T., Buckingham Shum, S., Santos, O. C., Rodrigo, M. T., Cukurova, M., Bittencourt, I. I., & Koedinger, K. R. (2022). Ethics of AI in Education: Towards a Community-Wide Framework. *International Journal of Artificial Intelligence in Education*, *32*, 504-526. https://doi.org/10.1007/s40593-021-00239-1

Holon IQ. (2020, February 20). *50 National AI Strategies - The 2020 AI Strategy Landscape: 50 National Artificial Intelligence strategies shaping the future of humanity*. https://www.holoniq.com/notes/50-national-ai-strategies-the-2020-ai-strategy-landscape

Husic, E. (2024, February 14). *New artificial intelligence expert group* [Press release]. Australian Government. https://www.minister.industry.gov.au/ministers/husic/media-releases/new-artificial-intelligence-expert-group

Irons, A., & Crick, T. (2022). Cybersecurity in the Digital Classroom: Implications for Emerging Policy, Pedagogy and Practice. In B. A. Brown, & A. Irons (Eds.), T*he Emerald Handbook of Higher Education in a Post-Covid World: New Approaches and Technologies for Teaching and Learning* (pp. 231-244). Emerald Publishing Limited. https://doi.org/10.1108/978-1-80382-193-120221011

Jin, J. (2022). Ambivalent governance and the changing role of the state: Understanding the rise of international schools in Shanghai through the lens of policy networks. *International Journal of Educational Research*, *114*, 1-11. https://doi.org/10.1016/j.ijer.2022.102004

Jin (金津), J., & Chen (陈佳颖), J. (2023). Experimenting With International Curricula in Shanghai: Policies, Practice, and a Network Ethnography Analysis. *ECNU Review of Education*, *6*(4), 623-645. https://doi.org/10.1177/20965311231201429

Jobin, A., Ienca, M., & Vayena, E. (2019). The global landscape of ai ethics guidelines. *Nature Machine Intelligence*, *1*(9), 389-399. https://doi.org/10.1038/s42256-019-0088-2

Junemann, C., Ball, S. J., & Santori, D. (2016). Joined-up Policy: Network Connectivity and Global Education Governance. In K. Mundy, A. Green, B. Lingard & A. Verger (Eds.), *The Handbook of Global Education Policy* (pp. 535-553). Wiley-Blackwell. https://doi.org/10.1002/9781118468005.ch30

Kadaruddin, K. (2023). Empowering Education through Generative AI: Innovative Instructional Strategies for Tomorrow's Learners. *International Journal of Business, Law, and Education*, *4*(2), 618-625. https://doi.org/10.56442/ijble.v4i2.215

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., ... Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, *103*(102274), 1-9. https://doi.org/10.1016/j.lindif.2023.102274

Knight, S., Dickson-Deane, C., Heggart, K., Kitto, K., Cetindamar Kozanoğlu, D., Bhuva Narayan, D. M., & Zarrabi, F. (2023). Generative AI in the Australian education system: An open data set of stakeholder recommendations and emerging analysis from a public inquiry. *Australasian Journal of Educational Technology*, *39*(5), 101-124. https://doi.org/10.14742/ajet.8922

Kokshagina, O., Reinecke, P. C., & Karanasios, S. (2023). To regulate or not to regulate: unravelling institutional tussles around the regulation of algorithmic control of digital platforms. *Journal of Information Technology*, *38*(2), 160-179. https://doi.org/10.1177/02683962221114408

Kozuka, S. (2019). A governance framework for the development and use of artificial intelligence: lessons from the comparison of Japanese and European initiatives. *Uniform Law Review*, *24*(2), 315-329, https://doi.org/10.1093/ulr/unz014

Kung, J., Boskovic, G., & Stix, C. (2020). *Building an AI world: Report on National and Regional AI Strategies* (Second edition Report). CIFAR. https://cifar.ca/wp-content/uploads/2020/10/building-an-ai-world-second-edition.pdf

Lewis, S., & Lingard, B. (2015). The multiple effects of international large-scale assessment on education policy and research. *Discourse: Studies in the Cultural Politics of Education*, *36*(5), 621-637. https://doi.org/10.1080/01596306.2015.1039765

Lewis, S., & Hogan, A. (2016). Reform first and ask questions later? The implications of (fast) schooling policy and 'silver bullet' solutions. *Critical Studies in Education*, *60*(1), 1-18. https://doi.org/10.1080/17508487.2016.1219961

Lewis, S. (2022). An Apple for teacher (education)? Reconstituting teacher professional learning and expertise via the Apple Teacher digital platform. *International Journal of Educational Research*, *115*, 1-14. https://doi.org/10.1016/j.ijer.2022.102034

Lewis, S. (2023). (Re)drawing Lines in Our Research: Using Policy Mobilities and Network Ethnography to Research Global Policy Networks in Education. *ECNU Review of Education*, *6*(4), 646-653. https://doi.org/10.1177/20965311231200908

Lim, W. M., Gunasekara, A., Pallant, J. L., Pallant, J. I., & Pechenkina, E. (2023). Generative AI and the future of education: Ragnarök or reformation? A paradoxical perspective from management educators. *The International Journal of Management Education*, *21*(2), 1-13. https://doi.org/10.1016/j.ijme.2023.100790

Lingard, B., & Sellar, S. (2013). Globalization, Edu-business and Network Governance: The Policy Sociology of Stephen J. Ball and Rethinking Education Policy Analysis. *London Review of Education*, *11*(3), 265-280. https://doi.org/10.1080/14748460.2013.840986

Lingard, B., & Sellar, S. (2014). Representing Your Country: Scotland, PISA and New Spatialities of Educational Governance. *Scottish Educational Review*, *46*(1), 1-5. https://doi.org/10.1163/27730840-04601002

Lingard, B. (2015). Think Tanks, 'Policy Expert' and 'Ideas For' Education Policy Making in Australia. *The Australian Educational Researcher*, *43*(1), 15-33. https://doi.org/10.1007/s13384-015-0193-0

Lingard, B., & Sellar, S. (2016). The Changing Organizational and Global Significance of the OECD's Education Work. In K. Mundy, A. Green, B. Lingard, & A. Verger (Eds.), *The Handbook of*

Global Education Policy (pp. 357-373). Wiley Blackwell. https://doi.org/10.1002/9781118468005.ch19

Lin, X., Chan, R. Y., Sharma, S., & Bista, K. (2024). The Impact of Artificial Intelligence (AI) on Global Higher Education: Opportunities and Challenges of Using ChatGPT and Generative AI. In X. Lin, R. Y. Chan, S. Sharma, & K Bista (Eds.), *ChatGPT and Global Higher Education: Using Artificial Intelligence in Teaching and Learning* (pp. 1-17). STAR Scholars Press. https://scholar.harvard.edu/sites/scholar.harvard.edu/files/roychan/files/ebook_chatgpt_and_global_higher_education-26-42.pdf

Lindsay, L., & Hogan, J. (2019). An Australian Perspective on AI, Ethics and Its Regulatory Challenges. *Journal of Law & Economic Regulation*, *11*(2), 116-127. https://www.dbpia.co.kr/Journal/articleDetail?nodeId=NODE09302703

Loble, L. (2022). *How Australia can lead the way in shaping educational technology for the social good: A brief introduction to a complex topic* (November 2022 Research Report). University of Technology Sydney and Paul Ramsay Foundation. https://www.uts.edu.au/sites/default/files/2022-12/PRF-UTS-Shaping-AI-EdTech-LOBLE-intro.pdf

Loble, L., & Hawcroft, A. (2022). *Shaping AI and Edtech to Tackle Australia's Learning Divide* (December 2022 Final Report). University of Technology Sydney. https://www.uts.edu.au/sites/default/files/2022-12/PRF-UTS-Shaping-AI-EdTech-LOBLE-report.pdf

Lodge, J. M., Thompson, K., & Corrin, L. (2023). Mapping out a research agenda for generative artificial intelligence in tertiary education. *Australasian Journal of Educational Technology*, *39*(1), 1-8. https://doi.org/10.14742/ajet.8695

Luan, H., Geczy, P., Lai, H., Gobert, J., Yang, S. J. H., Ogata, H., Baltes, J., Guerra, R., Li, P., & Tsai, C. -C. (2020). Challenges and Future Directions of Big Data and Artificial Intelligence in Education. *Frontiers in Psychology*, *11*, 1-11. https://doi.org/10.3389/fpsyg.2020.580820

Lubienski, C. (2018). The Critical Challenge: Policy Networks and Market Models for Education. *Policy Futures in Education*, *16*(2), 156-168. https://doi.org/10.1177/1478210317751275

Lukpat, A. (2023, January 6). *ChatGPT Banned in New York City Public Schools Over Concerns About Cheating, Learning Development*. The Wall Street Journal.

https://www.wsj.com/articles/chatgpt-banned-in-new-york-city-public-schools-over-concerns-about-cheating-learning-development-11673024059

MacKenzie, R., & Lucio, M. M. (2005). The Realities of Regulatory Change: Beyond the Fetish of Deregulation. *Sociology*, *39*(3), 499-517. https://doi.org/10.1177/0038038505052491

Madiega, A. T. (2024). *Artificial Intelligence Act - Briefing* (PE 698.792). European Parliament Think Tank. https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2021)698792

Malik, T., Dwivedi, Y., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., ... Wright, R. (2023). “So what if ChatGPT wrote it?” Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management*, *71*, 1-63. https://doi.org/10.1016/j.ijinfomgt.2023.102642

Marzal, M. -Á., & Vivarelli, M. (2024). The Convergence of Artificial Intelligence and Digital Skills: A Necessary Space for Digital Education and Education 4.0. *JLIS.It*, *15*(1), 1-15. https://doi.org/10.36253/jlis.it-566.

Manheim, K. M., & Kaplan, L. (2019). Artificial intelligence: Risks to privacy and democracy. *Yale Journal of Law and Technology*, *21*, 106-188. https://yjolt.org/artificial-intelligence-risks-privacy-and-democracy

Matovich, I., & Cardini, A. (2019). New philanthropy and global policy networks in education: The case of Argentina. In N. Ridge, & A. Terway (Eds.), *Philanthropy in education: Diverse perspectives and global trends* (pp. 172–197). Edward Elgar Publishing. https://www.e-elgar.com/shop/usd/philanthropy-in-education-9781789904116.html

Matovich, I., & Esper, T. (2023). Following new philanthropy by network ethnography: How did the Varkey Foundation land and expand in Latin America? *ECNU Review of Education*, *6*(4), 541-567. https://doi.org/10.1177/20965311231168422

McCann, E. (2011). Urban policy mobilities and global circuits of knowledge: Toward a research agenda. *Annals of the Association of American Geographers*, *101*(1), 107-130. https://doi.org/10.1080/00045608.2010.520219

McCann, E., & Ward, K. (2012). Policy assemblages, mobilities and mutations: Toward a multidisciplinary conversation. *Political Studies Review*, *10*(3), 325-332. https://doi.org/10.1111/j.1478-9302.2012.00276.x

McCann, E. (2013). Policy boosterism, policy mobilities, and the extrospective city. *Urban Geography*, *34*(1), 5-29. https://doi.org/10.1080/02723638.2013.778627

McKenzie, M., Bieler, A., & McNeil, R. (2015). Education policy mobility: Reimagining sustainability in neoliberal times. *Environmental Education Research*, *21*(3), 319-337. https://doi.org/10.1080/13504622.2014.993934

McKenzie, M. (2017). Affect theory and policy mobility: Challenges and possibilities for critical policy research. *Critical Studies in Education*, *58*(2), 187-204. https://doi.org/10.1080/17508487.2017.1308875

McKenzie, M., Lewis, S., & Gulson, K. N. (2021). Response: Matters of (im) mobility: Beyond fast conceptual and methodological readings in policy sociology. *Critical Studies in Education*, *62*(3), 394-410. https://doi.org/10.1080/17508487.2021.1942942

McKnight, L., & Furze, L. (2023a, December 3). *Australia has its first framework for AI use in schools – but we need to proceed with caution.* The Conversation. https://theconversation.com/australia-has-its-first-framework-for-ai-use-in-schools-but-we-need-to-proceed-with-caution-219094

McKnight, L., & Furze, L. (2023b, December 5). *Does the new AI Framework serve schools or edtech?* EduResearch Matters. https://blog.aare.edu.au/does-the-new-ai-framework-serve-schools-or-edtech/

Means, A. J. (2019). Hypermodernity, automated uncertainty, and education policy trajectories. *Critical Studies in Education*, *62*(3), 371–386. https://doi.org/10.1080/17508487.2019.1632912

Merriman, P. (2020). *Mobility, Space and Culture* (1st ed.). Routledge. https://doi.org/10.4324/9780203842102

Morgan, H. (2022). Conducting a Qualitative Document Analysis. *The Qualitative Report*, *27*(1), 64-77. https://doi.org/10.46743/2160-3715/2022.5044

Mundy, K., & Murphy, L. (2001). Transnational Advocacy, Global Civil Society? Emerging Evidence from the Field of Education. *Comparative Education Review*, *45*(1), 85-126. https://doi.org/10.1086/447646

Murphie, A. K., Gulson, K., Taylor, S., & Sellar, S. (2018). *Education, work and Australian society in an AI world: A review of research literature and policy recommendations* (Research Report). Gonski Institute for Education. https://doi.org/10.26190/unsworks/27446

Miao, F., Holmes, W., Huang, R., & Zhang, H. (2021). *AI and education: Guidance for policymakers* (Report and Recommendations). UNESCO Publishing. https://doi.org/10.54675/PCSP7350

Nature. (2023, January 24). *Tools such as ChatGPT threaten transparent science; here are our ground rules for their use*. Nature. https://www.nature.com/articles/d41586-023-00191-1

Nemorin, S., Vlachidis, A., Ayerakwa, H. M., & Andriotis, P. (2022). AI hyped? A horizon scan of discourse on artificial intelligence in education (AIED) and development. *Learning, Media and Technology*, *48*(1), 38-51. https://doi.org/10.1080/17439884.2022.2095568

Nevill, T., & Savage, G. C. (2023). The changing rationalities of Australian federal and national inclusive education policies. *The Australian Education Researcher, 50*, 1343-1361. https://doi.org/10.1007/s13384-022-00555-y

New South Wales Government. (2022, October 24). *A world-first AI assurance framework.* https://www.haveyoursay.nsw.gov.au/artificial-intelligence/a-world-first-ai-assurance-framework

New South Wales Government. (2024). *NSW Artificial Intelligence Assessment Framework.* https://www.digital.nsw.gov.au/policy/artificial-intelligence/nsw-artificial-intelligence-assessment-framework

NVivo. (2024). *Nodes*. QSR International. https://help-nv.qsrinternational.com/12/win/v12.1.115-d3ea61/Content/nodes/create-theme-node-manually.htm

Oancea, A. (2018). The Practice of Educational Research. In P. Smeyers (Eds.), *International Handbook of Philosophy of Education* (pp. 1045-1057). Springer International Handbooks of Education. https://doi.org/10.1007/978-3-319-72761-5_73

OECD. (2021). *Digital Education Outlook 2021: Pushing the Frontiers with Artificial Intelligence, Blockchain and Robots*. OECD Publishing. https://read.oecd-ilibrary.org/education/oecd-digital-education-outlook-2021_589b283f-en#page1.

OECD. (2022). *National strategies, agendas and plans. OECD AI policy observatory*. OECD Publishing. https://oecd.ai/en/dashboards/policy-instruments/National_strategies_agendas_and_plans

Oliver, K., & Acuto, M. (2015). (2015, 1-4 July) *Policy networks: what are they and what are they good for?* International Public Policy Association, Milan, Italy. https://researchonline.lshtm.ac.uk/id/eprint/4650232

Olmedo A., Bailey P., & Ball S. J. (2013). To infinity and beyond …: Heterarchical governance, the teach for all network in Europe and the making of profits and minds. *European Educational Research Journal, 12*(4), 492-512. https://doi.org/10.2304/eerj.2013.12.4.492

Olmedo, A. (2014). From England with love… ARK, heterarchies and global 'philanthropic governance'. *Journal of Education Policy, 29*(5), 575-597. https://doi.org/10.1080/02680939.2013.859302

Olmedo, A., & Ball, S. J. (2015). Competition, Governance and Global Education Policy. In M. Souto-Otero (Eds.), *Evaluating European Education Policy-Making* (pp. 25-52). Palgrave Macmillan. https://doi.org/10.1057/9781137287984_2

Olmedo, A. (2017). Something old, not much new, and a lot borrowed: philanthropy, business, and the changing roles of government in global education policy networks. *Oxford Review of Education*, *43*(1), 69-87. https://doi.org/10.1080/03054985.2016.1259104

OpenAI. (2023). *OpenAI*. https://openai.com/

Paltieli, G. (2022). Visions of innovation and politics: Israel's AI initiatives. *Discover Artificial Intelligence*, *2*(8), 1-11. https://doi.org/10.1007/s44163-022-00024-6

Pande, D., & Taeihagh, A. (2023). Navigating the governance challenges of disruptive technologies: insights from regulation of autonomous systems in Singapore. *Journal of Economic Policy Reform*, *26*(3), 298-319. https://doi.org/10.1080/17487870.2023.2197599

Parliament of Australia. (2023a). *Inquiry into the use of Generative Artificial Intelligence in the Australian Education System: Submissions Received* (Standing Committee on Employment, Education and Training). https://www.aph.gov.au/Parliamentary_Business/Committees/House/Employment_Education_and_Training/AIineducation/Submissions

Parliament of Australia. (2023b). *Inquiry into the use of Generative Artificial Intelligence in the Australian Education System: Public Hearings* (Standing Committee on Employment, Education and Training). https://www.aph.gov.au/Parliamentary_Business/Committees/House/Employment_Education_and_Training/AIineducation/Public_Hearings

Patil, L., & Brakman Reiser, D. (2021). *Emerging roles and risks of philanthropy and other private sector engagement in global education* (Non-State Actors in Education. Global Education Monitoring Report). UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000380091

Pavlik, J. V. (2023). Collaborating With ChatGPT: Considering the Implications of Generative Artificial Intelligence for Journalism and Media Education. *Journalism & Mass Communication Educator*, *78*(1), 84-93. https://doi.org/10.1177/10776958221149577

Peck, J., & Theodore, N. (2010). Mobilizing policy: Models, methods, and mutations. *Geoforum; Journal of Physical, Human, and Regional Geosciences*, *41*(2), 169-174. https://doi.org/10.1016/j.geoforum.2010.01.002

Peck J., & Theodore, N. (2015). *Fast policy: Experimental statecraft at the thresholds of neoliberalism*. University of Minnesota Press. https://www.jstor.org/stable/10.5749/j.ctt155jmqz

Pechenkina, E. (2023). Artificial intelligence for good? Challenges and possibilities of AI in higher education from a data justice perspective. In L. Czerniewicz & C. Cronin (Eds.), *Higher Education for Good: Teaching and Learning Futures* (pp. 239-266). Open Book Publishers. https://doi.org/10.11647/OBP.0363

Pedro, F., Subosa, M., Rivas, A., & Valverde, P. (2019). *Artificial intelligence in education: Challenges and opportunities for sustainable development* (Working papers on education policy 07). UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000366994

Perrotta, C., Gulson, K. N., Williamson, B., & Witzenberger, K. (2020). Automation, APIs and the distributed labour of platform pedagogies in Google Classroom. *Critical Studies in Education*, *62*(1), 97–113. https://doi.org/10.1080/17508487.2020.1855597

Perry, B., & Uuk, R. (2019). AI Governance and the Policymaking Process: Key Considerations for Reducing AI Risk. *Big Data and Cognitive Computing*, *3*(2), 1-17. https://doi.org/10.3390/bdcc3020026

Piattoeva, N., & Boden, R. (2020). Escaping numbers? The ambiguities of the governance of education through data. *International Studies in Sociology of Education*, *29*(1–2), 1-18. https://doi.org/10.1080/09620214.2020.1725590

Pham, B. -C., & Davies, S. R. (2023). Policy as infrastructure: Enacting artificial intelligence and making Europe. In N. Klimburg-Witjes & P. Trauttmansdorff (Eds.), *Technopolitics and the Making of Europe* (pp. 125-140). Routledge. https://doi.org/10.4324/9781003267409

Plantin, J. -C., & Punathambekar, A. (2019). Digital media infrastructures: pipes, platforms, and politics. *Media, Culture & Society*, *41*(2), 163-174. https://doi.org/10.1177/0163443718818376

Radu, R. (2021). Steering the governance of artificial intelligence: National strategies in perspective. *Policy and Society*, *40*(2), 178-193. https://doi.org/10.1080/14494035.2021.1929728

Ramiel, H. (2021). Edtech disruption logic and policy work: the case of an Israeli edtech unit. *Learning, Media and Technology*, *46*(1), 20-32. https://doi.org/10.1080/17439884.2020.1737110

Rapley, T. J. (2001). The art(fulness) of open-ended interviewing: some considerations on analysing interviews. *Qualitative Research*, *1*(3), 303-323. https://doi.org/10.1177/146879410100100303

Reckhow, S., & Snyder J.W. (2014). The expanding role of philanthropy in education politics. *Educational Researcher*, *43*(4), 186-195. https://doi.org/10.3102/0013189X14536607

Reid, A. (2019). National curriculum: an Australian perspective. *Curriculum Perspective*, *39*, 199-203. https://doi.org/10.1007/s41297-019-00077-1

Remolina, N., & Seah, J. (2019). *How to Address the AI Governance Discussion? What Can We Learn From Singapore's AI Strategy?* (Research Paper No. 2019/03). SMU Centre for AI & Data Governance. http://dx.doi.org/10.2139/ssrn.3444024

Rhodes, R. A. W. (1994). The Hollowing Out of the State: the changing nature of the public service in Britain. *Political Quarterly*, *65*(2), 138-51. https://doi.org/10.1111/j.1467-923X.1994.tb00441.x

Rhodes, R. A. W. (1996). The New Governance: Governing without Government. *Political Studies, 44*(4), 652-667. https://doi.org/10.1111/j.1467-9248.1996.tb01747.x

Rhodes, R. A. W. (1997). *Understanding Governance: Policy Networks, Governance, Reflexivity, and Accountability.* Open University Press. https://archive.org/details/understandinggov0000rhod/page/n259/mode/2up

Rhodes, R. A. W. (2007). Policy Networks. In B. Galligan & W. Roberts (Eds.), *The Oxford Companion to Australian Politics* (pp. 425-447). Oxford University Press. 10.1093/acref/9780195555431.001.0001

Rhodes, R. A. W. (2009). Policy Network Analysis. In R. E. Goodin, M. Moran, & M. Rein (Eds.), *The Oxford Handbook of Public Policy* (pp. 423–445). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199548453.003.0020

Robinson, O. C. (2023). Probing in qualitative research interviews: Theory and practice. *Qualitative Research in Psychology*, *20*(3), 382-397. https://doi.org/10.1080/14780887.2023.2238625

Roose, K. (2023, January 12). *Don’t Ban ChatGPT in Schools. Teach With It*. The New York Times. https://www.nytimes.com/2023/01/12/technology/chatgpt-schools-teachers.html

Rowe, E. (2019). Counting national school enrolment shares in Australia: The political arithmetic of declining public school enrolment. *The Australian Educational Researcher*, *47*, 517-535. https://doi.org/10.1007/s13384-019-00365-9

Rowe, E., & Perry, L. B. (2020a). Inequalities in the private funding of public schools: Parent financial contributions and school socioeconomic status. *Journal of Educational Administration & History*, *52*(1), 42-59. https://doi.org/10.1080/00220620.2019.1689234

Rowe, E., & Perry, L. B. (2020b). Private financing in urban public schools: Inequalities in a stratified education marketplace. *The Australian Educational Researcher*, *47*, 19-37. https://doi.org/10.1007/s13384-019-00328-0

Rowe, E. (2021). Venture philanthropy in public schools in Australia: Tracing policy mobility and policy networks. *Journal of Education Policy*, *38*(1), 1-22. https://doi.org/10.1080/02680939.2021.1973569

Rowe, E. (2022a). The assemblage of inanimate objects in educational research: Mapping venture philanthropy, policy networks and evidence brokers. *International Journal of Educational Research*, *114*, 1-13. https://doi.org/10.1016/j.ijer.2022.102005

Rowe, E. (2022b). Policy networks and venture philanthropy: A network ethnography of 'Teach for Australia'. *Journal of Education Policy*, *39*(1), 1-19. https://doi.org/10.1080/02680939.2022.2158373

Rowe, E. (2023). Philanthrocapitalism and the state: Mapping the rise of venture philanthropy in public education in Australia. *ECNU Review of Education*, *6*(4), 518-540. https://doi.org/10.1177/20965311221128840

Rowe, E. (2024). Network Ethnography in Education: A literature review of network ethnography as a methodology and how it has been applied in critical policy studies. In M. Stacey, & N. Mockler (Eds.), *Analysing Education Policy: Theory and Method* (pp. 136-156). Routledge. https://doi.org/10.4324/9781003353379

Rudolph, J., Ismail, M. F. B. M., & Popenici, S. (2024). Higher Education's Generative Artificial Intelligence Paradox: The Meaning of Chatbot Mania. *Journal of University Teaching and Learning Practice*, *21*(6), 1-35. https://doi.org/10.53761/54fs5e77

Safer Technologies 4 Schools. (n.d.). *A National Privacy and Security Initiative for Digital Products in K-12 Education*. https://st4s.edu.au/

Sahoo, S., Kumar, S., Abedin, M. Z., Lim, W. M., & Jakhar, S. K. (2023). Deep learning applications in manufacturing operations: a review of trends and ways forward. *Journal of Enterprise Information Management*, *36*(1), 221-251. https://doi.org/10.1108/JEIM-01-2022-0025

Santori, D., Ball S. J., & Junemann, C. (2015). mEducation as a site of network governance. In W. Au, & J. J. Ferrare (Eds.), *Mapping corporate education reform: Power and policy networks in the neoliberal state* (pp. 23-42). Routledge. https://doi.org/10.4324/9781315762401

Santori, D., & Jin (金津), J. (2023). Globalization, Policy Mobilities, and the Method of Network Ethnography. *ECNU Review of Education*, *6*(4), 507-517. https://doi.org/10.1177/20965311231198254

Savage, G. C. (2016a). Think Tanks, Education and Elite Policy Actors. *The Australian Educational Researcher, 43*(1)*,* 35-53. https://doi.org/10.1007/s13384-015-0185-0

Savage, G. C. (2016b). Who's steering the ship? National curriculum reform and the re-shaping of Australian federalism. *Journal of Education Policy*, *31*(6), 833-850. https://doi.org/10.1080/02680939.2016.1202452

Savage, G. C., & Lewis, S. (2018). The phantom national? Assembling national teaching standards in Australia's federal system. *Journal of Education Policy, 33*(1), 118-142. https://doi.org/10.1080/02680939.2017.1325518

Savage, G. C., Gerrard, J., Gale, T., & Molla, T. (2021). The politics of critical policy sociology: Mobilities, moorings and elite networks. *Critical Studies in Education*, *62*(3), 306-321. https://doi.org/10.1080/17508487.2021.1878467

SBS News. (2023, January 22). *Cheating with ChatGPT? Controversial AI tool banned in these schools in Australian first. https://www.sbs.com.au/news/article/cheating-with-chatgpt-controversial-ai-tool-banned-in-these-schools-in-australian-first/817odtv6e*

Schiff, D., Biddle, J., Borenstein, J., & Laas, K. (2020). What's next for AI ethics, policy, and governance? A global overview. In AIES '20, *Proceedings of the AAAI/ACM Conference on AI, Ethics, and Society* (pp. 153-58). Association for Computing Machinery. https://dl.acm.org/doi/abs/10.1145/3375627.3375804

Schiff, D., Borenstein, J., Laas, K., & Biddle, J. (2021). AI ethics in the public, private, and NGO sectors: A review of a global document collection. *IEEE Transactions on Technology and Society*, *2*(1), 31-42. https://ieeexplore.ieee.org/document/9327495

Schiff, D. (2022). Education for AI, *not* AI for Education: The Role of Education and Ethics in National AI Policy Strategies. *International Journal of Artificial Intelligence in Education*, *32*, 527-563. https://doi.org/10.1007/s40593-021-00270-2

Schiff, D. (2023). Looking through a policy window with tinted glasses: Setting the agenda for U.S. AI policy. *Review of Policy Research*, *40*(5), 729-756. https://doi.org/10.1111/ropr.12535

Sellar, S., & Lingard, B. (2013a). Looking East: Shanghai, PISA 2009 and the reconstitution of reference societies in the global education policy field. *Comparative Education*, *49*(4), 464-485. https://doi.org/10.1080/03050068.2013.770943

Sellar, S., & Lingard, B. (2013b). The OECD and global governance in education. *Journal of Education Policy*, *28*(5), 710-725. https://doi.org/10.1080/02680939.2013.779791

Sellar, S., & Lingard, B. (2014). The OECD and the expansion of PISA: new global modes of governance in education. *British Educational Research Journal*, *40*(6), 917-936. https://doi.org/10.1002/berj.3120

Selwyn, N. (2010). *Schools and Schooling in the Digital Age: A Critical Analysis* (1st ed.). Routledge. https://doi.org/10.4324/9780203840795

Selwyn, N. (2018). Technology as a Focus of Education Policy. In R. Papa, & S. W. J. Armfield (Eds.), *The Wiley Handbook of Educational Policy* (pp. 457-477). https://doi.org/10.1002/9781119218456.ch20

Selwyn, N. (2019). *Should robots replace teachers?: AI and the future of education* (1st ed.). Polity Press. https://research.monash.edu/en/publications/should-robots-replace-teachers-ai-and-the-future-of-education

Selwyn, N. (2022). The future of AI and education: Some cautionary notes. *European Journal of Education*, *57*(4), 620-631. https://doi.org/10.1111/ejed.12532

Sharma, G. D., Yadav, A., & Chopra, R. (2020). Artificial intelligence and effective governance: A review, critique and research agenda. *Sustainable Futures*, *2*(100004), 1-6. https://doi.org/10.1016/j.sftr.2019.100004

Shiroma, E. (2014). Networks in Action: New Actors and Practices in Education Policy in Brazil. *Journal of Education Policy, 29*(3), 323-348. https://doi.org/10.1080/02680939.2013.831949

Smith, M., & Urbas, G. (2021). *Technology law: Australian and international perspectives*. Cambridge University Press. https://assets.cambridge.org/97811088/16014/frontmatter/9781108816014_frontmatter.pdf

Smuha, N. A. (2021). From a 'race to AI' to a 'race to AI regulation': regulatory competition for artificial intelligence. *Law, Innovation and Technology*, *13*(1), 57-84. https://doi.org/10.1080/17579961.2021.1898300

Smuha, N. (2020). Pitfalls and Pathways for Trustworthy Artificial Intelligence in Education. In W. Holmes, & K. Porayska-Pomsta, *The Ethics of Artificial Intelligence in Education: Practices, Challenges, and Debates* (pp. 107-140). Routledge. https://doi.org/10.4324/9780429329067

Souto-Otero, M., & Beneito-Montagut, R. (2016). From governing through data to governmentality through data: artefacts, strategies and the digital turn. *European Educational Research Journal*, *15*(1), 14-33. https://doi.org/10.1177/1474904115617768

Sperka, L., & Enright, E. (2017). Network ethnography applied: understanding the evolving health and physical education knowledge landscape. *Sport, Education and Society*, *24*(2), 168-181. https://doi.org/10.1080/13573322.2017.1338564

Stahelin N., & McKenzie M. (2023). The impact of meetings on the network governance and mobility of UN policy programs on environment and education. *ECNU Review of Education*, *6*(4), 597-622. https://doi.org/10.1177/20965311231181404

Stambach, A. (2016). Ethnography and the Localization of Global Education Policy. In K. Mundy, A. Green, B. Lingard, & A. Verger (Eds.), *The Handbook of Global Education Policy* (pp. 490-503). Wiley-Blackwell. https://doi.org/10.1002/9781118468005.ch27

Stokel-Walker, C. (2022, December 22). *AI bot ChatGPT writes smart essays — should professors worry?* Nature. https://www.nature.com/articles/d41586-022-04397-7

Sullivan, M., Kelly, A., & McLaughlan, P. (2023). ChatGPT in higher education: Considerations for academic integrity and student learning. *Journal of Applied Learning & Teaching*, *6*(1), 1-10. http://journals.sfu.ca/jalt/index.php/jalt/index

Taeihagh, A. (2021). Governance of artificial intelligence. *Policy and Society*, *40*(2), 137-157. https://doi.org/10.1080/14494035.2021.1928377

Tallberg, J., Lundgren, M., & Geith, J. (2024). AI regulation in the European Union: examining non-state actor preferences. *Business and Politics*, *26*(2), 218-239. https://doi.org/10.1017/bap.2023.36

Taylor, L. (2023). Chapter 1: Can AI governance be progressive? Group interests, group privacy and abnormal justice. In A. Zwitter and O. Gstrein (Eds.), *Handbook on the Politics and Governance of Big Data and Artificial Intelligence* (pp. 19-40). https://doi.org/10.4337/9781800887374.00011

Thompson, G., Hogan, A. & Rahimi, M. (2019). Private funding in Australian public schools: a problem of equity. *The Australian Educational Researcher, 46*, 893-910. https://doi.org/10.1007/s13384-019-00319-1

Trowler, P. (2003). *Education policy* (2nd ed.). Routledge. https://archive.org/details/educationpolicy0000trow/page/n7/mode/2up

Tuomi, I. (2018). *The impact of artificial intelligence on learning, teaching, and education* (Joint Research Centre (JRC) for Policy Report EUR 29442 EN). Publications Office of the European Union. https://doi.org/10.2760/12297

Wang, Y. (2020). When artificial intelligence meets educational leaders' data-informed decision-making: A cautionary tale. *Studies in Educational Evaluation*, *69*(100872), 1-9. https://doi.org/10.1016/j.stueduc.2020.100872

Wang, N., Wang, X., & Su, Y. S. (2024). Critical analysis of the technological affordances, challenges and future directions of Generative AI in education: a systematic review. *Asia Pacific Journal of Education*, *44*(1), 139-155. https://doi.org/10.1080/02188791.2024.2305156

Williamson, B. (2016). Silicon startup schools: technocracy, algorithmic imaginaries and venture philanthropy in corporate education reform. *Critical Studies in Education*, *59*(2), 218-236. https://doi.org/10.1080/17508487.2016.1186710

Williamson, B., Bergviken Rensfeldt, A., Player-Koro, C., & Selwyn, N. (2018). Education recoded: policy mobilities in the international 'learning to code' agenda. *Journal of Education Policy*, *34*(5), 705-725. https://doi.org/10.1080/02680939.2018.1476735

Williamson B. (2019). New power networks in educational technology. *Learning, Media and Technology*, *44*(4), 395-398. https://doi.org/10.1080/17439884.2019.1672724

Williamson, B., Bayne, S., & Shay, S. (2020). The datafication of teaching in Higher Education: critical issues and perspectives. *Teaching in Higher Education*, *25*(4), 351-365. https://doi.org/10.1080/13562517.2020.1748811

Williamson, B., & Eynon, R. (2020). Historical threads, missing links, and future directions in AI in education. *Learning, Media and Technology*, *45*(3), 223-235. https://doi.org/10.1080/17439884.2020.1798995

Williamson, B. (2023). Governing through infrastructural control: artificial intelligence and cloud computing in the data-intensive state. In W. Housley, A. Edwards, R. Beneito-Montagut, & R. Fitzgerald (Eds.), *The SAGE Handbook of Digital Society* (pp. 521-540). SAGE Publications Ltd. https://doi.org/10.4135/9781529783193

World Bank. (2018). *Learning to Realize Education's Promise* (The World Development Report 2018 (WDR 2018). World Bank Group. https://www.worldbank.org/en/publication/wdr2018.

Wu, Y. (2023). Integrating generative AI in education: how ChatGPT brings challenges for future learning and teaching. *Journal of Advanced Research in Education*, *2*(4), 6-10. https://www.pioneerpublisher.com/jare/article/view/324

Valle-Cruz, D., Criado, J. I., Sandoval-Almazán, R., & Ruvalcaba-Gomez, E. A. (2020). Assessing the public policy-cycle framework in the age of artificial intelligence: From agenda-setting to policy evaluation. *Government Information Quarterly*, *37*(4), 1-12. https://doi.org/10.1016/j.giq.2020.101509

van Berkel, N., Papachristos, E., Giachanou, A., Hosio, S., & Skov, M. B. (2020). A systematic assessment of national artificial intelligence policies: perspectives from the nordics and beyond. *Proceedings of the 11th Nordic Conference on Human-Computer Interaction: Shaping Experiences, Shaping Society, 10*, 1-12. https://doi.org/10.1145/3419249.3420106

Veale, M., & Zuiderveen Borgesius, F. (2021). Demystifying the Draft EU Artificial Intelligence Act - Analysing the good, the bad, and the unclear elements of the proposed approach. *Computer Law Review International*, *22*(4), 97-112. https://doi.org/10.9785/cri-2021-220402

Ventayen, R. J. M. (2024). OpenAI ChatGPT, Google Bard, and Microsoft Bing: Similarity Index and Analysis of Artificial Intelligence-Based Contents. *International Journal of Multidisciplinary: Applied Business and Education Research*, *5*(3), 917-924. https://doi.org/10.11594/ijmaber.05.03.15

Vivitsou, M. (2019). Digitalisation in Education, Allusions. *Center for Educational Policy Studies Journal*, *9*(3), 117-136. https://doi.org/10.26529/cepsj.706

Watson, L., & Ryan, C. (2010). Choosers and Losers: The Impact of Government Subsidies on Australian Secondary Schools. *Australian Journal of Education*, *54*(1), 86-107. https://doi.org/10.1177/000494411005400107

Yu, H., & Guo, Y. (2023). Generative artificial intelligence empowers educational reform: current status, issues, and prospects. *Frontiers in Education, 8*, 1-10. https://doi.org/10.3389/feduc.2023.1183162

Yu, H. (2023). Reflection on whether Chat GPT should be banned by academia from the perspective of education and teaching. *Frontiers in Psychology*, *4*, 1-12. https://doi.org/10.3389/fpsyg.2023.1181712

Zhai, X. (2022). ChatGPT User Experience: Implications for Education. *Social Science Research Network*, 1-18. http://dx.doi.org/10.2139/ssrn.4312418

Zhang, D., Saurabh, M., Brynjolfsson, E., Etchemendy, J., Ganguli, D., Grosz, B., Lyons, T., Manyika, J., Niebles, J. C., Sellitto, M., Shoham, Y., Clark, J., & Perrault, R. (2021). *Artificial Intelligence: Index annual Report 2021.* Human-Centered AI Institute, Stanford University. https://doi.org/10.48550/arXiv.2103.06312

Appendices

Appendix 1: Participant Information sheet

Australia's Generative AI Framework. Technologies, Stakeholders, and the case for Regulation.

PARTICIPANT INFORMATION SHEET

Central University Research Ethics Committee Approval Reference: C1B-24HT-Educ-005

1. Introductory paragraph

You are being invited to take part in a research project. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether you wish to take part.

2. Why is this research being conducted?

Released in December 2023, the Australian Framework for Generative Artificial Intelligence in Schools proposes a guide for the "responsible and ethical use of generative AI tools" in schools, that "benefit students, schools and society". It defines a 'Purpose and Audience', outlines a 'Design of the Framework' and discusses 'Opportunities and Risks'. The purpose of this research is to explore the relationship between new and emerging technologies and regulation within Australia. The aim of the research is to better understand if and how such documents come to reflect different perspectives, like that of government and academia, whether they align or conflict, what it included or left out and whether it matters.

3. Why have I been invited to take part?

You have been identified as a potential participant as this research seeks to engage various stakeholders, which may have an interest, agenda or interpretation of Generative Artificial Intelligence; technologies in

education; and/or regulation of technologies within Australia. This research hopes to recruit 15-30 other participants.

4. Do I have to take part?

No. It is up to you to decide whether to take part. You can withdraw yourself from the research, without giving a reason, by advising me or Dr Lulu Shi of this decision. The deadline by which you can withdraw any information you have contributed to the research is 1st June 2024. Any data already collected will be removed from the study and deleted should you decide to withdraw.

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

• A written consent form will be provided to the you the participant by email prior to interview. This will need to be signed and emailed back before interview can take place.
• Once your written consent and participation have been confirmed, time and place of interview with be organised over email at your earliest convenience. Interview will then take place either in person or on online.
• Consent will again be confirmed orally with you prior to any recording of the interview.
• You, the participant, will only be required for one interview unless another session is mutually agreed and felt to be necessary, or clarification regarding any information collected is required.
• The interview style will be guided by questions on the role and purpose of framework; the purpose of reviewing Generative Artificial Intelligence in Australian Schools; and omissions/gaps of the Framework. The interview style will endeavour to be casual and guided by your answers/expertise.
• With your consent, I would like to audio and video record you so I can ensure I have an accurate transcription of our conversation.
• Interview will aim to be between 30 and 90 minutes long. You can ask to pause or stop the research activities at any time.

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

As the research considers flaws/gaps of the current Australian Framework for Generative Artificial Intelligence in Schools, we acknowledge there may be reasonably foreseeable discomfort in sharing your thoughts, especially if you have consulted or worked on the document. Such risks will be addressed by pseudonymising any direct quotes that are used in the research. Whilst the research will pseudonymise any identifiers of the participant's interview used, the research cannot assure complete anonymity from the research outputs.

7. Are there any benefits in taking part?

While there are no immediate benefits for those people participating in the research, it is hoped that this research will lead to better insights on how such frameworks approach new and emerging technologies; their conceptual limits; and overall better Australian regulation.

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

It is important that you understand what information will be collected and why, and how this information will be used. I am interested in your experiences within education and technology, including in developing and advising on regulatory frameworks. I am also interested in your views on how such frameworks inform ideas of privacy, safety, and learning and how they affect schools; students; and overall approaches to new and emerging technologies. Specifically, what such frameworks prioritise, if and how these address the impacts of new technologies and whether this matter. The information you provide will help me better understand how Australian Frameworks address of neglect relevant issues within education and technology studies. These may include lifelong learning, inclusivity, and technology neutrality.

The researcher and supervisor will have access to the research data.

Some interview material may be discussed with the supervisor, with anonymity and confidentiality strictly maintained. I will collect contact information and audio record in person interview (interview via MS Teams will be both audio and video recorded), which will be deleted after transcription. Quotes from the interview may be used in the final report. Your name and role/job will be identified unless consent is not given, in which case all data will be pseudonymised. All your data will be secured in the OneDrive for Business server. These devices will be owned by the researcher and not shared with anyone. The data collected will be stored in adhere to Oxford university policy and adhere to UK GDPR and Data Protection regulations. All audio and video recording will be deleted after transcription. Transcription data will be stored for 3 years after publication, after which it will be destroyed.

The findings from the research will be written up in a dissertation. *I would like your permission to use direct quotations and use your name and role/job. You may choose not to be identified or directly quoted, in which case your information provided will be pseudonymised. However, it may be possible for participants to be identifiable from the outputs.*

A copy of my thesis/ dissertation will be deposited both in print and online in the Oxford University Research Archive where it will be publicly available to facilitate its use in future research.

9. Data Protection

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data is used in the research. The University will process your personal data for the purpose of the research outlined above. Research is a task that is performed in the public interest. Further information about your rights with respect to your personal data is available from the University's Information Compliance web site at https://compliance.admin.ox.ac.uk/individual-rights

10. Who has reviewed this research?

The application was reviewed and approved by my supervisor on behalf of the Departments of Education's Research Ethics Committee.

11. Who do I contact if I have a concern about the research or I wish to complain?

If you have a concern about any aspect of this research, please contact Tali Borowick (MSc Student), tali.borowick@st-hughs.ox.ac.uk or alternatively, Dr Lulu Shi, lulu.shi@education.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, Education Departmental Research Ethics Committee

Email: student.curec@education.ox.ac.uk Address: 15 Norham Gardens, Oxford, OX2 6PY

Appendix 2: Consent form

Consent to take part in Interview – Australia's 2023 Generative AI Framework.

Central University Research Ethics Committee (CUREC) approval reference: C1B-24HT-Educ-005

Purpose of Study: To interview Stakeholders within the Australian Education and Technology space, including academics and policy makers who provided insights on how to develop and improve the 2023 Australian Framework for Generative Artificial Intelligence in Schools document.

	Please initial each box if you agree with the statement
I confirm that I have read and understand the information sheet 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 until **01/June/2024**, 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 consent to my name and job/position being identifiable.	
I consent to being audio and video recorded.	
I understand that information provided will result in identifiable data and quotes from the interview may be used in the final report.	
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. ☐

_____	dd / mm / yyyy	_____
Name of participant	Date	Signature

_____	dd / mm / yyyy	_____
Name of person taking consent	Date[1]	Signature

Appendix 3: Interview Questions

1. How did you become involved with the 'Australian Framework for Generative Artificial Intelligence in Schools'?
2. Why was it important for you to be involved?
3. The framework sets out 6 Principles and 25 Guiding statements. How were these decided? Who was at the table, steering the process? What does the consulting process look like?
4. Did you recommend others for the framework? Do you know why you and others were acknowledged?
5. Where did the Framework go when it was then produced?
6. What was the Government's focus and purpose in creating this document?
7. What was left out from the framework? What should be included?
8. What do you think such documents can achieve? Will achieve? Should achieve?
9. Is there a double risk with such frameworks? (i.e., more teacher responsibility, less on corporate actors?)
10. The framework singles out Generative AI, why?
11. Is there enough information accessible to make informed decision about Generative AI?
12. Do you need to be an AI expert to understand Generative AI?
13. Is there evidence to support generative AI as enhancing learning? If so, what kind?
14. Generative AI technologies are operated by private entities, who control and monitor the data and terms of engagement. What relationship does the government, schools, students, teachers really have with such platforms?
15. Framework speaks of 'inequality' but not 'inequity', was that something discussed?

16. The Framework mentions the Australian Artificial Intelligence Ethics Framework, goals of The Alice Springs (Mparntwe) Education Declaration, UN sustainable development goal and Safer Technologies for Schools (ST4S). Why were these documents mentioned?
17. Who bears the responsibility in monitoring the new power asymmetries between AI technologies and schools?
18. Power, authority and control of new actors in education – who has the power right now? Should government be the authority/power/control?
19. Hailed as often a 'disruption' or 'transformation' of Education, what do you think such narratives are trying to put forward? About their ability to be regulated? What can we learn from them?
20. The document mentions a 'Review by Education Ministers within 12 months of publication'. Will there be a review? Will you be involved?
21. The purpose defines the framework as "aspirational in nature, defining what safe, ethical and responsible use of generative AI should look like to support better school outcomes". How should 'safe, ethical and responsible' be defined?
22. What is important for the safe, ethical and responsible use of Generative AI?
23. Does big tech have a role, and/or a right to transform education spaces? Is this a fair characterisation? Does it even matter if they do or do not?
24. Is the public role of government and regulation transforming?
25. What connection is being made between technologies and teaching quality?
26. What should lifelong learning entail?
27. The framework includes guiding statements on privacy, security and safety, as well as accountability – what is the important when considering government action with new and emerging technologies?
28. Why is it important to conceptualise corporate interests and technological advances in how new AI technologies are adopted?
29. What is not currently being captured by Australian regulation?
30. What discussions should Australian legal frameworks be having?
31. How do we deal with risks derived from the operation of AI systems?
32. Was there a reason for the NSW government's involvement in the Framework?
33. How dominate is big tech in discussions of policy with government?
34. How much procurement power do schools have in the process?
35. Any final thoughts?

Appendix 4: CUREC 1B approval confirmation

Date: 02 March 2024 19:49

Subject: CUREC 1B - Australia's Generative AI Framework. Technologies, Stakeholders and the case for Regulation

Dear Tali Borowick,

I am writing to acknowledge receipt of your CUREC 1B application entitled '*Australia's Generative AI Framework. Technologies, Stakeholders and the case for Regulation'*. The application was reviewed and approved by Dr Lulu Shi, your supervisor. No further approval from the Education DREC is required for applications reviewed under the CUREC 1B process. As such, the project will not receive a formal letter of ethical approval from the SSH IDREC.

The ethics reference for your application is C1B-24HT-Educ-005. Please add this reference to your CUREC 1B form and include it on documents for the research participants such as the participant information sheet.

Please note that this is contingent on the research project adhering to the criteria set out in the CUREC 1B guidance. Please ensure, therefore, that you comply with the conditions of this process and, should anything change in the course of the project, you should discuss this with your supervisor to determine whether this requires further review and approval by the Education DREC.

Please see below a few comments, which I would appreciate if you could take into account before starting any work. Please send us any revised documents, for our records:

- In the consent form, rather than saying "I understand that my name and job/position will be identifiable, however I may revoke this consent in which case my data will be pseudonymised."might be less confusing to say: "I consent to my name and job/position being identifiable" and if they don't tick /initial the box you pseudonymise their data
- "I understand how audio and video recordings will be used in research outputs." There is no information regarding this in the participant information sheet so I'd assume you will not use that data in any research outputs. Please clarify or remove.
- The consent form mentions retaining their contact details for future studies. Please add some information in the participant information sheet regarding that (who will have access to that, for how long will you store that information, where will it be stored, etc.) or remove.
- Please delete this from "Who has reviewed this research?" in the participant information sheet: "research has received ethics approval from a subcommittee of the University of Oxford Central University Research Ethics Committee."
- Please clarify if you will video record the interviews both when conducted in person and online (I'm assuming there's no need for that when done in person).

Please don't hesitate to get in touch if you have any questions.

All the best for your research – we hope it goes well.

Irina

Appendix 5: Documents Analysed

1. Attorney-General's Department. (2023). *Privacy Act Review* (Report 2022). Australian Government. https://www.ag.gov.au/rights-and-protections/publications/privacy-act-review-report

2. Australian Competition and Consumer Commission. (2019). *Digital platforms inquiry - final report* (parts 1–3). https://www.accc.gov.au/about-us/publications/digital-platforms-inquiry-final-report

3. Department of Education. (2023). *The Australian Framework for Generative Artificial Intelligence (AI) in Schools*. Australian Government. https://www.education.gov.au/schooling/announcements/australian-framework-generative-artificial-intelligence-ai-schools

4. Department of Finance. (2024). *National framework for the assurance of artificial intelligence in government: A joint approach to safe and responsible AI by the Australian,*

state and territory governments. Australian Government. https://www.finance.gov.au/government/public-data/data-and-digital-ministers-meeting/national-framework-assurance-artificial-intelligence-government

5. Department of Home Affairs. (2021). *Critical Technology Supply Chain Principles*. Australian Government. https://www.homeaffairs.gov.au/reports-and-publications/submissions-and-discussion-papers/critical-technology-supply-chain-principles

6. Department of Industry, Science and Resources. (2019). *Australia's AI Ethics Principles*. Australian Government. https://www.industry.gov.au/publications/australias-artificial-intelligence-ethics-framework/australias-ai-ethics-principles

7. Department of Industry, Science and Resources. (2019). *Artificial Intelligence: Australia's Ethics Framework* (A Discussion Paper). Australian Government. https://www.industry.gov.au/publications/australias-artificial-intelligence-ethics-framework

8. Department of Industry Science and Resources. (2023). *Safe and responsible AI in Australia* (Discussion paper). Australian Government. https://consult.industry.gov.au/supporting-responsible-ai

9. Department of Industry Science and Resources. (2024). *Safe and responsible AI in Australia consultation: Australian Government's release interim response*. Australian Government. https://consult.industry.gov.au/supporting-responsible-ai

10. Farthing, S., Howell, J., Lecchi, K., Paleologos, Z., Saintilan, P., & Santow, E. (2021). *Human Rights and Technology* (Final Report). Australian Human Rights Commission. https://humanrights.gov.au/our-work/technology-and-human-rights/publications/final-report-human-rights-and-technology

11. Hajkowicz S. A., Karimi, S., Wark, T., Chen, C., Evans, M., Rens, N., Dawson, D., Charlton, A., Brennan, T., Moffatt, C., Srikumar, S., & Tong, K. J. (2019). *Artificial intelligence: Solving problems, growing the economy and improving our quality of life* (CSIRO and Data61 report). Australian Government. https://www.csiro.au/en/research/technology-space/ai/Artificial-Intelligence-Roadmap

12. NSW Government. (2021). *NSW Artificial Intelligence Assurance Approach.* https://www.digital.nsw.gov.au/policy/artificial-intelligence/nsw-artificial-intelligence-assessment-framework#anchor-nsw-artificial-intelligence-assurance-approach

13. NSW Government. (2022). *Artificial Intelligence Ethics Policy.* https://www.digital.nsw.gov.au/policy/artificial-intelligence/artificial-intelligence-ethics-policy

14. NSW Government. (2024). *NSW Artificial Intelligence Assessment Framework* (Circular DCS-2024-04). https://www.digital.nsw.gov.au/policy/artificial-intelligence/nsw-artificial-intelligence-assessment-framework

15. Standards Australia. (2020). *Making Australia's Voice Heard: An Artificial Intelligence Standards Roadmap* (Final Report). https://www.standards.org.au/documents/r-1515-an-artificial-intelligence-standards-roadmap-soft-2

16. Standards Australia (2020). *Standards Australia sets priorities for Artificial Intelligence*. https://www.standards.org.au/news/standards-australia-sets-priorities-for-artificial-intelligence

17. House of Representatives Standing Committee on Employment, Education and Training. (2023, September 6). Inquiry into the use of generative artificial intelligence in the Australian education system. Parliament of Australia. https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22committees%2Fcommrep%2F27331%2F0000%22

18. House of Representatives Standing Committee on Employment, Education and Training. (2023, September 13). *Inquiry into the use of generative artificial intelligence in the Australian education system*. Parliament of Australia. https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22committees%2Fcommrep%2F27363%2F0000%22

19. House of Representatives Standing Committee on Employment, Education and Training. (2023, September 20). *Inquiry into the use of generative artificial intelligence in the Australian education system*. Parliament of Australia. https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22committees%2Fcommrep%2F27348%2F0000%22

20. House of Representatives Standing Committee on Employment, Education and Training. (2023, October 4). *Inquiry into the use of generative artificial intelligence in the Australian education system*. Parliament of Australia. https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22committees%2Fcommrep%2F27349%2F0000%22

21. House of Representatives Standing Committee on Employment, Education and Training. (2023, October 11). *Inquiry into the use of generative artificial intelligence in the Australian education system*. Parliament of Australia. https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22committees%2Fcommrep%2F27350%2F0000%22

22. House of Representatives Standing Committee on Employment, Education and Training. (2023, November 2). *Inquiry into the use of generative artificial intelligence in the Australian education system*. Parliament of Australia. https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22committees%2Fcommrep%2F27469%2F0000%22

23. House of Representatives Standing Committee on Employment, Education and Training. (2023, November 9). *Inquiry into the use of generative artificial intelligence in the Australian education system*. Parliament of Australia. https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22committees%2Fcommrep%2F27461%2F0000%22

24. House of Representatives Standing Committee on Employment, Education and Training. (2023, November 15). *Inquiry into the use of generative artificial intelligence in the Australian education system*. Parliament of Australia. https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22committees%2Fcommrep%2F27512%2F0000%22

25. House of Representatives Standing Committee on Employment, Education and Training. (2023, November 29). *Inquiry into the use of generative artificial intelligence in the Australian education system*. Parliament of Australia. https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22committees%2Fcommrep%2F27470%2F0000%22

Appendix 6: Coding Themes

Code	Files	References
Actor	7	22
EduChat	2	2
Ethics	6	8
Framework	9	29
Government responsibility	4	6
Involvement	5	23
Leader	2	3
Networks connecting	8	23
Next Steps	2	6
Policy	3	11
Procurement	4	11
Purpose	8	16
Regulation	6	15
Response	4	9
State or Federal	4	5

List of Abbreviations

ACARA Australian Curriculum, Assessment and Reporting Authority

AITSL Australian Institute for Teaching and School Leadership

AI Artificial Intelligence

EU European Union

FOMO Fear of Missing Out

‘Framework’ Australian Framework for Generative Artificial Intelligence in Schools

GPAI Global Partnership on Artificial Intelligence

IEA International Association for the Evaluation of Educational Achievement

NSW New South Wales

OECD Organisation for Economic Co-operation and Development

CUREC Oxford's Central Research Ethics Committee

UNESCO United Nations Educational, Scientific and Cultural Organization

List of Figures

Figure 1: Global AI Strategy Landscape 2020



Figure 2: A Map of Ethical and Rights-Based Approaches to Principles for AI

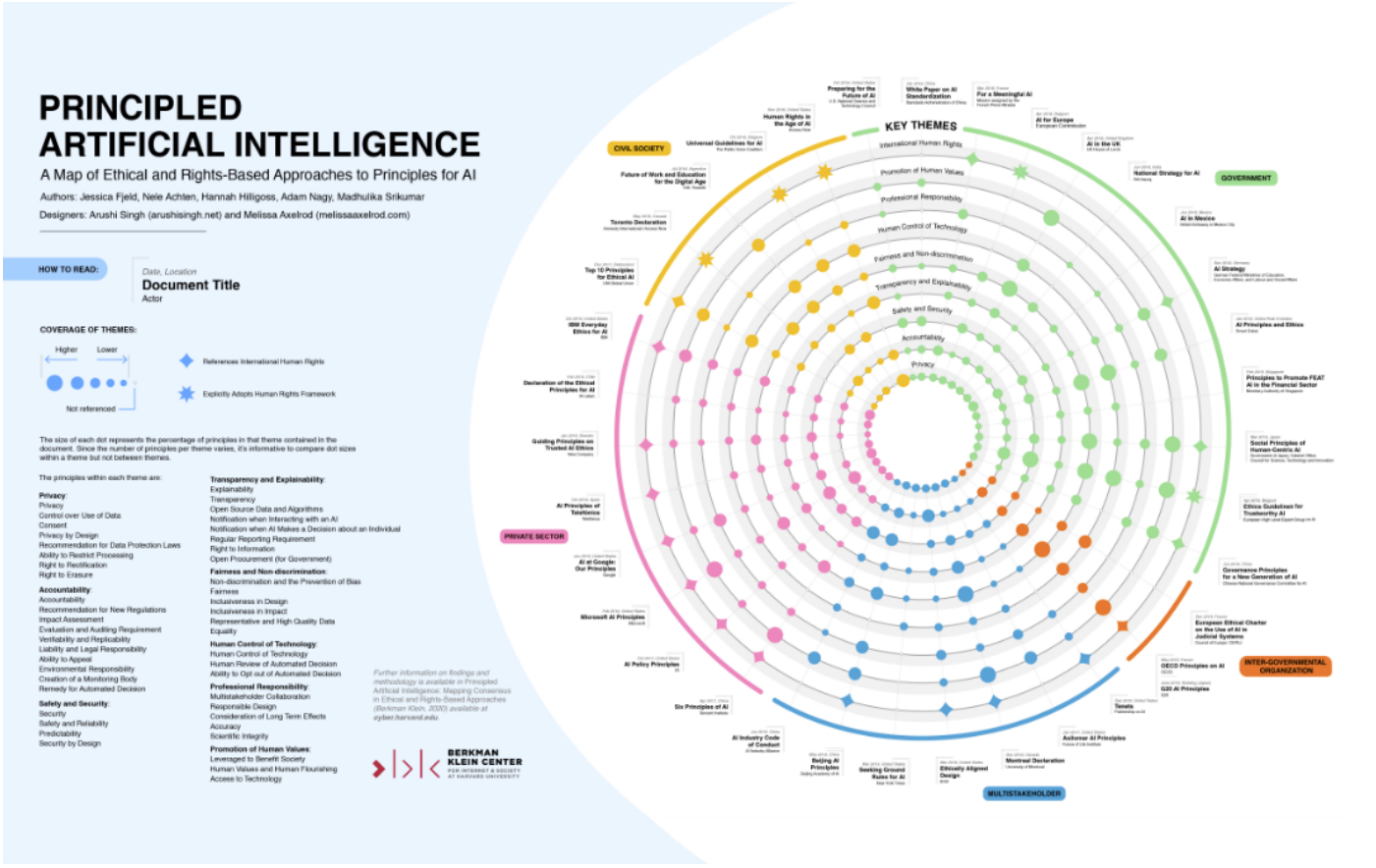


Figure 3: Document Timeline of Ethical and Rights-Based Approaches to Principles for AI

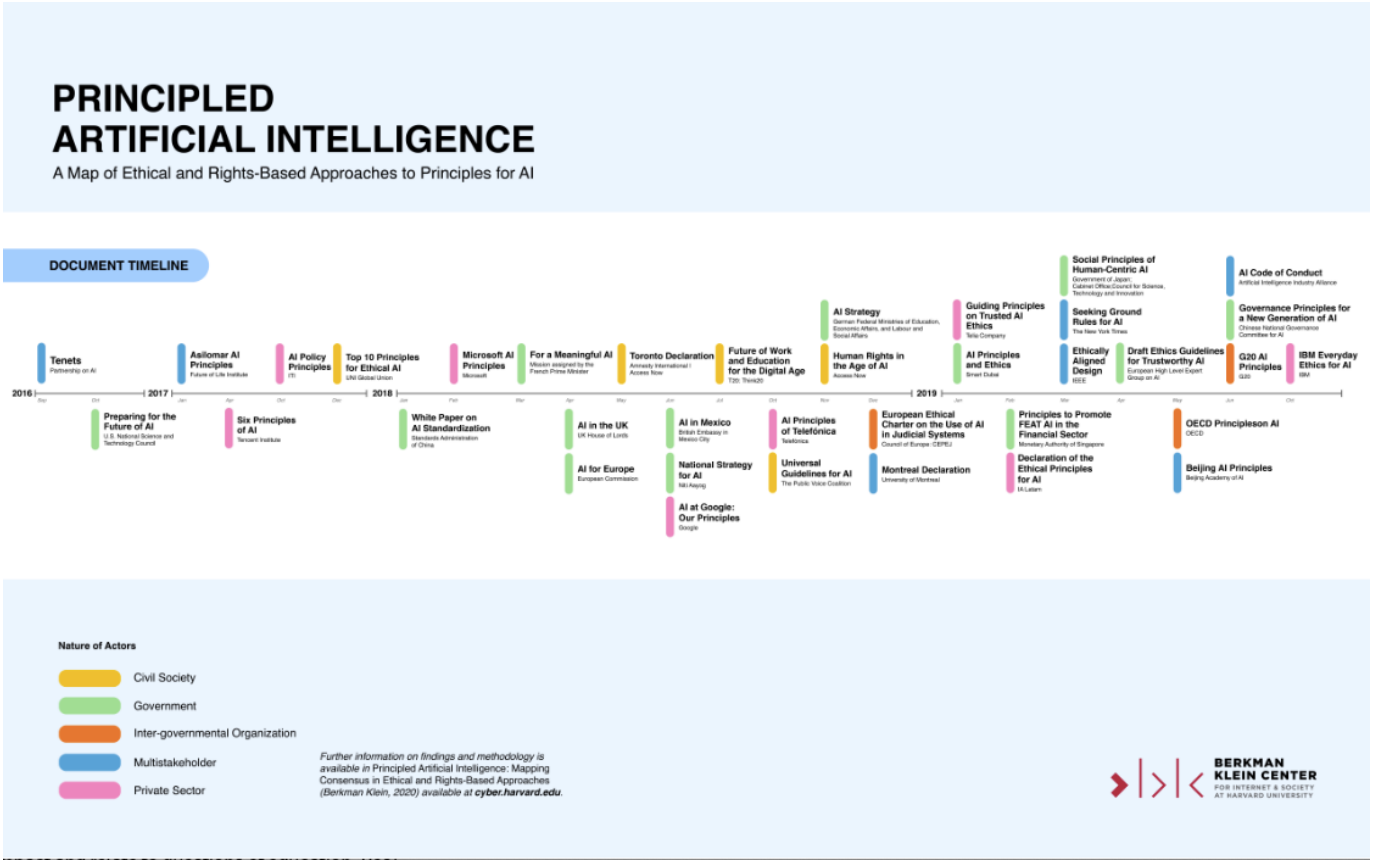


Figure 4: Timeline 2016 to 2022

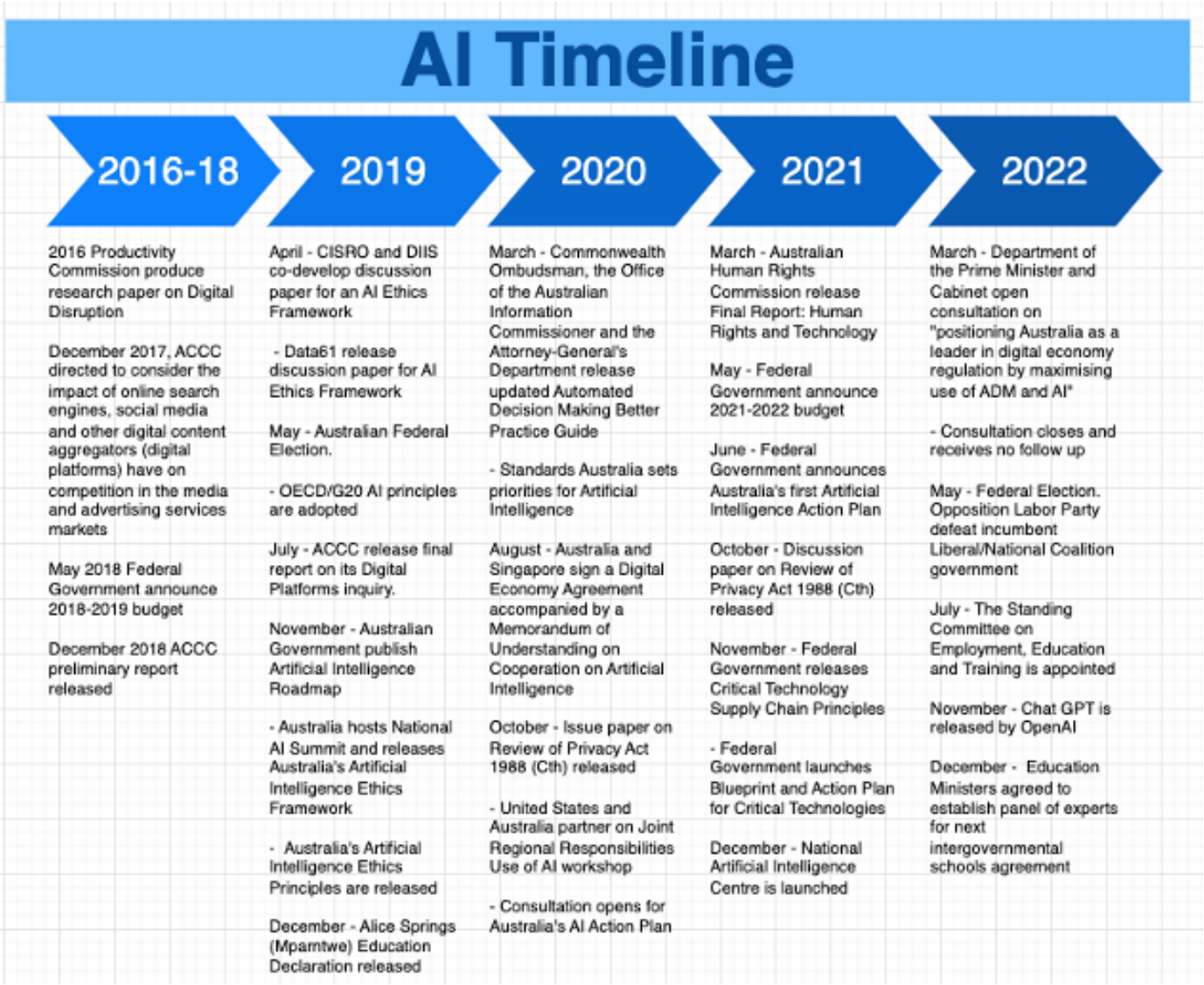


Figure 5: Timeline 2023 to 2024



Figure 6: Table 1 Overview of witnesses by inferred source type (September and November 2023)

Witness Type	No. of witnesses
Individual	1
Universities	12
University or higher education network	8
University centre	7
Government	2
Inter-governmental organisation	6
Company	5
Non-profit	4
Union	3

Advocacy group or representative body	5
Peak body	3