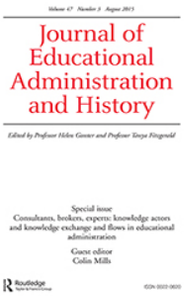
Governing methods

Citation for published version:
Williamson, B 2015, 'Governing methods: policy innovation labs, design and data science in the digital governance of education', *Journal of Educational Administration and History*, vol. 47, no. 3, pp. 251-271. https://doi.org/10.1080/00220620.2015.1038693

Digital Object Identifier (DOI):
10.1080/00220620.2015.1038693

Published In:
Journal of Educational Administration and History



Journal of Educational Administration and History

ISSN: 0022-0620 (Print) 1478-7431 (Online) Journal homepage: http://www.tandfonline.com/loi/cjeh20

Governing methods: policy innovation labs, design and data science in the digital governance of education

Ben Williamson

To cite this article: Ben Williamson (2015) Governing methods: policy innovation labs, design and data science in the digital governance of education, Journal of Educational Administration and History, 47:3, 251-271, DOI: 10.1080/00220620.2015.1038693

To link to this article: https://doi.org/10.1080/00220620.2015.1038693

Journal of Educational Administration and History, 2015
Vol. 47, No. 3, 251–271, http://dx.doi.org/10.1080/00220620.2015.1038693

Governing methods: policy innovation labs, design and data science in the digital governance of education

Ben Williamson*

School of Education, University of Stirling, Stirling, UK

Policy innovation labs are emerging knowledge actors and technical experts in the governing of education. The article offers a historical and conceptual account of the organisational form of the policy innovation lab. Policy innovation labs are characterised by specific methods and techniques of design, data science, and digitisation in public services such as education. The second half of the article details how labs promote the use of digital data analysis, evidence-based evaluation and 'design-for-policy' techniques as methods for the governing of education. In particular, they promote the 'computational thinking' associated with computer programming as a capacity required by a 'reluctant state' that is increasingly concerned to delegate its responsibilities to digitally enabled citizens with the 'designerly' capacities and technical expertise to 'code' solutions to public and social problems. Policy innovation labs are experimental laboratories trialling new methods within education for administering and governing the future of the state itself.

Keywords: data; design; digital; governance; innovation; methods; policy innovation labs; technical expertise

The involvement of non-state actors in the governance of education has a long history, though the organisational nature of such actors and the ways they locate and promote their own expertise are not stable or transhistorical. Recent research has begun to trace the work of, for example, think tanks, philanthropies, businesses, consultants, and international organisations as experts in the governing of education (e.g. Saltman 2010, Grek 2014, Gunter *et al*. 2014, Williamson 2014). In this article, I identify the current emergence of 'public and social innovation labs' ('psilabs') in educational governance. These organisations go by a number of related terms, such as 'policy innovation labs', 'social labs', 'innovation teams' ('i-teams'), 'policy labs', and 'government innovation labs'. On the social media platform Twitter, where many of these

*Email: ben.williamson@stir.ac.uk

organisations have a strong presence, they trend under the hashtag '#psilabs'. Policy innovation labs are important emerging knowledge actors in public service redesign. Although 'social labs' have existed in some form for a century, as Price (2014, n.p.) points out, the 'labification' of the policy field has rapidly accelerated since 2010, with policy innovation labs 'applying the principles of scientific labs – experiment, testing and measurement – to social issues'. The 'labification' of public and social policy is significant, then, in bringing particular scientific forms of methodological and technical expertise into the policy process, while ostensibly avoiding the politics, values, and ideology of conventional policy-making (Kieboom 2014). Despite the global proliferation of labs, their aspirations and methods to govern education are as yet little documented, conceptualised, or understood, an omission this article is intended to address.

Specifically, the article historicises and conceptualises the role of policy innovation labs in educational governance, focusing on labs in the UK. These organisations work through networks, partnerships, alliances, and collaborations, straddling sectoral borderlines and hybridising resources from across political, academic, and media fields. At the core of their activities is technical expertise in data science, design-based research and digital R&D methods. Policy innovation labs act through data analysis, design methodologies, and digital resources to promote their ideas, advice, and agendas. In particular, they produce new 'governing methods' – methods of experimentation, data science, evidence gathering, and analysis and evaluation – that are intended to 'know' and manage educational institutions and individuals, while distantiating themselves from existing political contests.

The central argument throughout is that policy innovation labs represent a distinctive approach to the use of emerging techniques, instruments, and methods of educational governance. They are redefining the nature of the problems that policy should address, and simultaneously specifying the kinds of solutions appropriate to remedying them. As such, policy innovation labs provide evidence of how educational governance is increasingly being displaced to powerful new knowledge actors from outside of the educational sector. Despite the significant growth in the field of policy innovation labs, however, little research has so far probed their products or interrogated the inner workings of the 'laboratory life' where their insights are produced.

Policy network analysis

Methodologically, the research comprises a 'policy network analysis'. This consists of mapping the relations between specific policy actors and emphasising the contents, interactions, and shared meanings emerging between them (Ball and Junemann 2012). The analysis is bounded around a tight network of policy innovation labs mainly located in the UK, and in particular, the key connective node Nesta (the UK's National Endowment for Science,

Technology and the Arts), though the actors in this network are each linked with one another in different ways, through different individual relationships, and also traverse a variety of other networks, partnerships, and associations. Analytically, these network relations are interpreted in terms of 'network governance', characterised by decentralisation, mobility, fluidity, looseness, complexity, and instability (Ozga *et al*. 2011), as well as by the 'anti-political' criss-crossing of sectoral borderlines and the hybridisation of ideas, discourses, and materials from bureaucratic, academic, and media fields (Williamson 2014). This shift is symptomatic of what Ball (2012, p. 102) terms the 'reluctant state' that is 'both shuffling off old responsibilities and defining and distributing new ones' to a messy patchwork of outsourced providers, commercial actors, entrepreneurs, philanthropic groups, and a range of other non-state actors. The contribution of this article is to follow and specify the work of policy innovation labs in such a reluctant state, focusing on the structure of this network of policy innovation labs, and tracking some aspects of its evolution and social relationships. Practically, this has involved identifying the actors in the network; tracing interorganisational connections and relationships between them; and tracking the development of their particular ideas and methods through texts, documents, events, and online materials.

One particular methodological technique adopted to accomplish this form of policy network analysis is that of 'following the hashtag'. Researchers in science and technology studies have long emphasised the importance of 'following the actors' in empirical research, including following the work of 'non-humans' such as specific technologies, artefacts, and objects (Latour and Woolgar 1986). Such a methodological sensibility is acknowledged as all the more significant in the context of social media research, with the proliferation of technical devices promising a 'redistribution of methods' between humans and non-humans (Marres 2012). For my own purposes, I have sought to follow the hashtag '#psilabs' in the social media platform Twitter. The hashtag performs the function of gathering a variety of voices, texts, artefacts, and relations together under a coherent classification, which I have then explored in order to identify policy ideas, interorganisational connections and relationships, and to identify documents for closer analysis. While Twitter is used here mainly as a method for identifying actors and locating documents, it also allows a social event to be traced in its ongoing 'happening' (Lury and Wakeford 2012).

As such, an advanced search on Twitter reveals that the hashtag #psilabs was first used on 15 February 2014, by Philip Colligan of Nesta, in a Tweet reading 'wonder whether we don't need a hashtag for tweets on public and social innovations labs #psilabs' (Colligan 2014a). It was rapidly tweeted and retweeted in the days immediately following, especially with the publication of a Nesta report on policy labs just days later (Mulgan 2014). At the time of writing, a year later in February 2015, #psilabs remains a highly active hashtag. A search of activity using the social media analytics site Topsy, for example,

reveals 409 tweets containing the hashtag #psilab in the 30 days to 19 February 2015 (excluding retweets and replies). Such analytics provide some sense of psilabs as a 'happening' event, and enable us to identify key actors and connections between them, but do not capture the content of such relations. The substantive analysis provided in the rest of this article identifies a tight cluster of organisations and actors associated with the #psilabs hashtag, a set of relationships then further explored and thickened through documentary analysis on these labs' discursive outputs.

Locating policy innovation labs

This section provides a historical and conceptual location for policy innovation labs in educational governance, first examining their historical formation and then their particular methods, with a particular focus on UK labs.

Lab networks

One of the first indications of what a public policy and social innovation lab might look like was signalled in 2008 by the Innovation Unit. The Innovation Unit is a social enterprise first formed within the Department for Education and Skills in 2002 and spun-out as an independent not-for-profit organisation in 2006 to innovate in public services. The Innovation Unit is an important actor in the genealogy of policy innovation labs. It originally located the idea of such a lab explicitly in the field of education. The Innovation Unit pamphlet *Honest Brokers: brokering innovation in public services* (Horne 2008, p. 3) describes 'innovation intermediaries' that 'have existed in other sectors for years – such as innovation and science parks, incubators, accelerators, exchanges, labs and studios' – and asks 'Where is the Silicon Valley for public services in Britain?' It focuses on emerging 'brokering organisations that have succeeded in fostering innovation in education' whose work is characterised as affecting the culture of the system to make it more conducive to the development and spread of innovation (Horne 2008, p. 4). The Innovation Unit is itself accurately captured in the idea of the 'innovation intermediary' with a capacity for brokering relationships, experimental R&D, and 'system influence' in the educational sector.

Another Innovation Unit pamphlet, *A D&R system for education*, similarly draws on ideas about 'agile methods' from digital R&D. It proposes 'an education R&D system and strategy which is more open and flexible', involves 'open communities of collaboration', 'opportunities for innovation that is both multi-disciplinary and inter-disciplinary', and 'makes the most of user-driven innovation and demand to shape new methods and create knowledge' (Bentley and Gillinson 2007, p. 19). Examples of such practices given in the report include networked 'hubs and clusters' of cross-sectoral relationships between commercial ICT, university research labs, independent research

institutes and think tanks, and policy-makers. Its authors advocate the creation of a 'National Evidence Centre' which would 'synthesize, test and validate evidence of effectiveness for new research findings and methods, and develop and diffuse this knowledge base in direct collaboration with users of that knowledge' (Bentley and Gillinson 2007, p. 32).

The Innovation Unit's *Honest Brokers* also describes a 'Public Services Innovation Laboratory', to be 'run by Nesta, in partnership with many existing innovation intermediaries':

> The Laboratory will trial new methods of supporting innovation, search for innovation in public services around the world, disseminate lessons to delivery organizations, develop training, tools and services for practitioners . . . , create an evidence base for what works in social innovation . . . [and] become a 'system influencer' campaigning for changes in policy. (Horne 2008, pp. 33–34)

The Public Services Innovation Lab proposed in the report is now a permanent department within Nesta, and it is Nesta in particular that has mobilised the idea of the public and social innovation lab, both in the UK and through global networks.

Formerly a public body established in 1998 by the UK's New Labour government as the National Endowment for Science, Technology and the Arts, Nesta became an independent not-for-profit organisation in 2012 to promote innovation in public services. In 2001, Nesta launched Futurelab, an 'incubator' for the design of educational technologies, and perhaps the prototypical policy innovation lab in the UK (Puttick *et al*. 2014). Following Futurelab's closure in 2010, Nesta developed its own innovation lab (known under different names, including Public Services Innovation Lab, Public Innovation Lab, and more recently just the Nesta Innovation Lab):

> Nesta Innovation Lab works with individuals and organisations to generate, develop and test radical new ideas to address social problems. Through developing and applying leading edge innovation practices and methods, it supports innovators in the public, private and social sectors, and links innovative projects to advocacy and policy change to transform whole systems. (i-teams 2014)

Nesta Innovation Lab's cross-cutting topics include 'data and technology', 'open innovation', 'digital disruption', 'civic engagement', 'creative economy', 'social good', 'Web 2.0', and 'transformation'. It has been involved in establishing the national network of 'What Works Centres' to collect evidence on 'what works' in innovation across sectors, primarily through randomised control trials, founded the 'Alliance for Useful Evidence' and designed a 'Standards of Evidence Framework' – a common language for talking about data and evaluation (Mulgan and Puttick 2013).

As well as establishing its own lab, Nesta has become a significant advocate for the 'labification' of social and public policy, including a monthly digest of

'Lab Notes' and a special labs-themed issue of its regular in-house magazine (Price 2014). Recent Nesta documentation describes its own Innovation Lab as a prototype for the wider development of 'social science parks' and the 'public policy lab': 'not so much a think tank but an experimental workshop that prototypes new forms of public service delivery' by working across 'the public, private and social enterprise sectors to create socially useful and usable ideas' (Nesta 2013a). Policy labs, it claims, are the XEROX PARC of innovation in social and public policy, while social science parks are its Silicon Valley. The public policy lab extends the role of the think tank into the domain of R&D, with a particular emphasis on innovative experimental development, design-based approaches, and the production of evidence and data of what works in public service reform.

In sum, policy innovation labs such as Nesta perform as 'boundary organizations' (Grek 2014) that straddle sectoral borders and combine elements of activities from different domains and fields. The lab is an organisational hybrid combining elements of the political think tank, media production, disciplinary expertise in social and political science, and digital R&D. It works by gathering, balancing, and assembling various institutionalised resources from across the academic, political, and commercial domains, and assembling those resources into unique packages. In this sense, it is paradigmatic of more 'mobile' and emerging forms of 'network governance' that are enacted by policy networks: 'social mechanisms that can work across social, governmental and geographical boundaries' and 'build bridges that bring together a diverse range of actors, including governments, businesses and civil society' (McGann and Sabatini 2011, p. 67). Ultimately, the policy innovation lab is perhaps best defined as an experimental R&D lab for social and public problems, located in the interstitial borderlands between sectors, fields, and disciplinary methodologies.

Lab methods

During 2014, the use of the #psilabs hashtag on Twitter became a consistent way of classifying and organising sources related to policy innovation labs, having been suggested by Nesta's Philip Colligan in February 2014 (Colligan 2014b). As advanced search functionality on Twitter itself reveals, messages containing the hashtag #psilabs were rapidly tweeted and retweeted throughout 2014 as Nesta itself published a number of reports fully establishing the idea of the public and social innovation lab and detailing its methodologies. Employed methodologically, following the #psilabs hashtag has revealed Nesta to be a consistent connective hub in this emerging network, both bringing organisational ties together and circulating particular methodological commitments. For example, in a report on emerging labs around the world circulated widely through the #psilabs hashtag in February 2014, Nesta chief executive Mulgan (2014) wrote that 'social and public labs' can be characterised

particularly by their distinctive methods. These include design methods, such as design ethnography, citizen input, rapid prototyping, and visualisation; tests and evaluations including randomised control trials, such as those proposed by Nesta's Really Useful Evidence Alliance; psychological and behavioural experimentations, such as those developed by the Behavioural Insights Team (known as the government's 'Nudge Unit' it was spun-out in January 2014 as a joint venture between Nesta and the Cabinet Office); and digital tools and data science methods, such as data mining, data analytics, and predictive 'machine learning' methods. Just as Nesta has supported the 'what works' agenda for policy-making, it has equally supported a post-disciplinary 'what works' approach to methods by adopting techniques from across the qualitative/quantitative divide and by hybridising digital, data science, and design-oriented methodologies such as user ethnography and user-centred design (Mulgan and Leadbeater 2013).

Design, data science, and digital R&D methods have become increasingly central to the techniques of government as the work of policy innovation labs has grown. In the last few years, policy labs have been emerging around the world, as demonstrated in a major report produced by Nesta in collaboration with Bloomberg Philanthropies (the charitable organisation established by former New York mayor Michael Bloomberg). The report, entitled *i-teams* (Puttick *et al*. 2014), documents the activities of 20 'innovation teams' from around the world, and is accompanied by a website intended as a global map of such organisations (i-teams 2014). Upon its launch, Nesta's Colligan (2014c) again sought to mobilise social media support through a Tweet phrased 'seriously impressed with how #psilabs has taken off as a hashtag – can we do the same with #iteams?' Some of the labs described in the report are close to government, or even government-led; others are more independent but at least government-enabled. Many combine technological techniques with government services, building on assumptions about growing public interest in collaboration and social engagement and increasing public-sector interest in harnessing digital, data science, and design technologies to public services.

Again, the *i-teams* report emphasises policy innovation labs' methodological expertise. Indicatively, one policy lab profiled in the report, MindLab was set up within the Danish government to mobilise methods of experimentation, rapid prototyping, and design methods in public services. Early in 2014, MindLab became an institutional member along with Nesta in the UK and the Governance Lab (GovLab) in New York on a major global programme entitled *Opening Governance* (funded by the MacArthur Foundation). Mindlab, GovLab, and Nesta Innovation Lab are all prominent case studies in the *i-teams* report. Primarily designed as an initiative to develop innovative methods for government reform, the ambition of *Opening Governance* is:

> built around agile and empirical experiments with institutional partners such as governments and NGOs. Experiments are designed to apply and test the

> latest advances in technology as well as new scientific insights on collaboration and decision-making to improve real world decision-making in the public interest. (Opening Governance 2015)

Much of the programme is being developed through a network of 'living labs' to 'model' and 'test' new ways of governing. Its aspirations are described in terms of 'smarter governance' that mobilises 'crowdsourcing', 'open data', and technology to 'target' opportunities for greater 'public participation'. The *Opening Governance* initiative demonstrates how policy labs are taking an increasingly significant role in the design of governance techniques, methods, and activities, locally, nationally, and globally too. Their governing methods are a hybrid product of data science, design-based research, and digital R&D, taking in laboratory experiments, RCTs, ethnography and, in particular, new digital forms of data collection, mining, and analytics.

In the UK, the policy innovation lab methodology gained political traction in 2014 when the UK Government Cabinet Office launched 'Policy Lab UK' as part of its 'Open Policy Making' team, a lab at the centre of government. Its ambition is to put digital software and digital data to work deep within the activities of government, particularly in the redesign of public services such as education, health, and social services. Its Twitter profile claims that Policy Lab UK is 'bringing new policy techniques to the UK Government, helping design services around people's experience, using data analytics and new digital tools'. Its work is all anchored in the trio of 'digital, data and design', and enacted through mixed methods of quantitative/computational 'big data' and qualitative/ethnographic 'thick data' analysis (Siodmok 2014). According to its profile on the Nesta i-teams website, Policy Lab UK deploys 'ethnographic research, service blueprinting, data science and digital tools' as 'a range of tools and techniques to gain new insights into policy issues' (i-teams 2014). An 'Open Policy Week' (organised by the Cabinet Office Open Policy Making team) took place in early 2015 to share best practice in open policy-making across government departments, and included the launch of an 'open policy making toolkit' based on design, data science, and digital methods devised by Policy Lab UK (Nyberg 2015).

As a key actor in the open policy-making agenda, Policy Lab UK has collaborated with both the Innovation Unit and the Nesta Innovation Lab. Its director, a former design entrepreneur, has previously produced materials promoting 'people-powered public services' and 'sociable services' by combining a variety of design and technology-mediated methods of co-design, rapid prototyping, design ethnography, and citizen entrepreneurship. She has also contributed to a book on 'design-for-policy' edited by the founder of MindLab. The book advocates a design-based policy approach. It provides research tools for the 'policy designer', from ethnographic, qualitative, user-centred methods to rapid prototyping and digital data analysis and visualisation; encourages the 'co-design' of policy options between actors in the governance system and

its end-users; and argues that design also creates tangible artefacts and deliberate user experiences that make services and products desirable (Bason 2014). Following the design-for-policy template, Policy Lab UK aims to combine user experience and digital techniques in the redesign of public services.

Lab notes

Perhaps the main technique through which these laboratories circulate their ideas and messages is in fact through the device of the Twitter hashtag #psilabs. While the hashtag clearly performs the simple function of enabling Twitter users to search for and follow debates related to policy labs, it also has a more active function. As social media analytics using Topsy indicate, the hashtag #psilabs featured in approximately 100 Tweets per week (not counting retweets or replies) through much of 2014 and the first two months of 2015. It acts as a mediating device through which the various activities, products, relationships, and conversations of policy innovation labs all flow. Indeed, through the #psilabs hashtag, a vast network of organisations, actors, documents, and resources is brought into alignment and association.

In this sense, the hashtag #psilabs performs as an 'inscription device', in Latour's (1986) terms. As Latour (1986, pp. 27–28) has argued, the power of any technique of inscription – processes that transform reality into texts, figures, visualisations, graphics, images, or diagrams – is to stabilise complex 'realms of reality' in one place, 'just inches apart, once flattened on to the same surface', so as to measure and modify what is 'out there'. As such a device, the #psilabs hashtag performs the function of juxtaposing inter-organisational relationships, policy ideas, publications and events and freezing a history of processes and network relations into a (temporarily) stable form in order to exert material effects and consequences in the world. In this regard, the inscription device #psilabs has itself become an important actor in the stabilisation and growth of a network of policy innovation labs and methods, acting as a 'mediator' to translate and fix a complex network of associations in one place (Fenwick and Edwards 2010). Through the hashtag, the histories and methods of various different organisations and actors (only a tiny sample of which are mapped in the above) are hooked up, interwoven with one another, and stabilised as a coherent body of knowledge and practices.

Conceptualising policy innovation labs

Various methods of knowledge production and circulation are essential to the functioning and influence of policy innovation labs. Their methodological commitments are to digital R&D, data science, and design-based research methods for diagnosing policy problems and generating policy insights and solutions. Labs deploy a variety of methods of 'sociable governance', such as design-based research, co-production, citizen engagement, user ethnography and

co-design, alongside forms of evidence-based evaluation, experimentation, and more digital methods of data science and analysis. Writing on their experimental methods in a special labs-themed issue of Nesta's in-house magazine, Leadbeater (2014, n.p.) claims that:

> Labs are places where people conduct experiments to test out theories. The new labs proliferating outside the hard sciences are a symptom of the spread of experimentalism as an ideology for how we should shape the future . . . it holds that knowledge should develop by being testable and therefore provisional; and that the best theories should be designed to be examined by both data and open debate.

Lab methods are positioned by this statement unambiguously as part of an ideological project of designing the future. In fact, the entire 'design-for-policy' approach adopted by many labs is based on the assumption that design can envision desirable futures and develop ways to makes those futures realities (Bason 2014). Through these 'designerly' methods, policy innovation labs seek to produce the knowledge about citizens that is required by those who seek to design the services and interventions to govern them. Such techniques produce 'governing knowledge', as educational policy sociologists have termed it, a research-based 'nervous system' that allows decisions to be made regarding appropriate governing practices (e.g. Ozga *et al.* 2011).

Indeed, the work of policy innovation labs suggests that their concern is not so much with the production of governing knowledge, but with the production, testing, and refinement of *governing methods*. The authority of policy innovation labs resides in their claims to methodological and technical expertise in digital R&D, data science, and design-for-policy. Many labs are at the forefront of the use of new digital R&D, data science, and design methods such as randomised control trials, design thinking, agile methods, user ethnography, and data mining. The forms of technical expertise behind these methods are challenging the authority of social scientists, whose own expertise is increasingly questioned as being ideologically entrenched and theoretically biased, rather than objective, impartial, and evidence-based (Burrows and Savage 2014). In this context, methods have taken on a renewed significance as techniques for making the social world visible, knowable, and thus amenable to intervention. Evidence and data, newly defined through such terms and practices as 'big data', 'data science', 'what works', and 'design-for-policy', have become particularly important governing resources. Those organisations with the technical expertise and methods to generate these data and evidence are thus well positioned as new experts of the social world that can help to shape and structure public policy.

Policy innovation labs emphasise the perceived neutrality, objectivity, rigour, and effectiveness of methods and downplay the political values that underpin the work that labs do. As Kieboom (2014, p. 26) notes, the methods used by policy innovation labs are presented as 'a-political' forms

of expertise, and thus that by 'denying their own political character, they depoliticize their own roles as political players'. But the way in which labs define the problems they focus on, and the solutions they design, are fundamentally political acts. Through policy innovation labs such as Nesta, and the networks it connects, digital R&D, data science, and design methods are being governmentalised as a means of knowing and managing individuals and the masses.

Policy innovation labs in education

Policy innovation labs are important new actors in contemporary governance, but their ideas and aspirations around education are under-researched. This section provides concrete examples of how the governing methods of design-for-policy, digital R&D, and data science are being mobilised, particularly by Nesta, in educational settings. It draws critical attention to these actors and their activities as significant influences in the future governing of education.

Governing databases

In the Innovation Unit report *Honest Brokers*, Horne (2008, p. 11) articulates a 'hybrid model' of innovation in education that continues to inform later policy innovation labs:

> It is both top-down and bottom-up. This paradigm has been termed 'disciplined innovation' in which the effectiveness of innovation at school level is measured and can be taken to scale, not through central prescription and guidance, but through collaborative networks . . . . This approach is supported and facilitated through 'middle tier' organisations delivering programmes that effectively support, foster and discipline innovation at a local level.

A key approach of such 'middle tier' or intermediary organisations described in the text is the use of sources of digital data. As Horne (2008, p. 14) elaborates:

> The volume and quality of pupil level data expressing the needs, achievement, and progress of students has grown dramatically in recent years, made partly possible by the declining costs of computer memory and processing power. This is an important driver. Successful innovation depends upon clear identification of problems and the effectiveness of possible solutions . . . , neither possible nor visible without efficient measurements of baselines and outcomes.

The methods for governing innovation in education articulated in the text prefigure and anticipate the ways in which policy innovation labs act both through sociable methods, by mediating between all parties involved in designing the innovation, and through more digital methods of big data collection, mining, and analysis.

Nesta's Innovation Lab has likewise endorsed such methods in its approach to educational innovation. A concrete example is a 2013 report published by

Nesta advocating an approach to 'whole system educational reform' that combines the 'power of computer technologies' with evidence of 'what works' in pedagogy from the 'science and art of learning' and new theories and knowledge of 'system change' (Fullan and Donnelly 2013, pp. 9–10). A key aspect of the recommendations offered in the report is that teachers should be supported to become 'activators' and 'change agents', with 'students in charge of their own learning under the active guidance of teachers' (Fullan and Donnelly 2013, p. 11). The focus on relationships in this new pedagogic formulation, informed by rich sources of data and evidence, is clearly aligned with both the sociable design-based methods and data-centred approach of policy innovation labs. To this end, the report proposes 'a comprehensive index to be used as an evaluative tool to predict the transformative power of the emerging digital innovations. The index allows us to systematically evaluate new companies, products and school models' (Fullan and Donnelly 2013, p. 13). The proposed 'index' works by assigning an 'effectiveness rating' to individual digital innovations in education in each of the three areas of system change, pedagogy, and technology.

The measure of effectiveness in each of these areas is, in turn, informed by a particular set of presuppositions. For example, its measures of pedagogy are based on 'cutting edge research evidence' that emphasise 'enquiry, constructivism and real–world examples', as well as 'personalisation', 'problem-solving', and 'partnership' (Fullan and Donnelly 2013, pp. 15–16). As the report notes, 'innovations should have a theory of learning that is stated explicitly in the technology, model design, and training of teachers' (Fullan and Donnelly 2013, pp. 15–16). Such a theory is implicitly prefigured for the user of the index by its in-built assumptions about the pedagogic value of constructivism, problem-solving, and so on. Despite its rhetoric of objectivity and evidence the report is clearly built upon pre-existing theoretical perspectives that have shaped the way the index has itself been constructed and what it has been designed to measure.

As with the work of policy innovation labs more generally, Nesta promotes the use of 'big data' and global educational data sets to measure and monitor educational performances. In the Nesta report by Fullan and Donnelly (2013, p. 16), the emphasis on data is most clearly exemplified in relation to student assessment:

> Ideally, the system is completely adaptive, interactive and integrated seamlessly into the innovation. It must be rigorous and accurate and be integral to learner engagement. The assessment results should leverage the techniques of big data analysis, data visualisation and international benchmarking of standards.

Moreover, the report particularly promotes forms of assessment that are based on emerging real-time data analytics and feedback mechanisms:

> The next generation of assessments . . . should be able to identify features of student behaviour and make observations on it, . . . [and] should collect

> dramatically large and ubiquitous samples of data across users. This data collection should be built into daily activity and used to drive and inform improvements in the innovation. The analysis of the data into useable, actionable outputs is critical. Additionally, to ensure continuity at the level of the individual student, assessments should start with access to the learner's previous history and data. (Fullan and Donnelly 2013, p. 17)

The digital methods articulated in this example are characteristic of technological developments often now termed 'learning analytics'. Sometimes also known as 'educational data mining', learning analytics platforms capture data from learners' educational activities in order to track, monitor, and assess their development, their attainment, and their dispositions to learning, in order to then individually customise and optimise their further educational experience.

Beyond the report, Nesta Innovation Lab is an enthusiastic promoter of learning analytics and other automated 'adaptive learning' technologies:

> Adaptive learning technologies use student data to adapt the way information is delivered to a student on an individual level. This data can range from online test scores to session time (how long users spend on a single exercise) to records of where a user has clicked or touched while figuring out a problem. Based on this feedback, the programme will understand which content to point the user at next – planning a personalized learning journey. (Nesta 2013a)

According to Nesta (2013b), these adaptive technologies have potential to provide 'digital tutors' that are responsive to learners; and 'intelligent online platforms' that can use data gathered from learners to become smart enough to predict, and then appropriately assist and assess, their progression. The Innovation Unit likewise endorses learning analytics software that can algorithmically and automatically generate 'playlists' of personalised pedagogies for each individual learner (Hampson *et al.* 2012). Learning and assessment analytics platforms, such as those promoted by Nesta and the Innovation Unit, are programmed with the capacity to anticipate or predict pupils' probable future progress, and to automate the generation of personalised and pre-emptive pedagogic interventions.

For these advocates, data science appears to offer the possibility of a predictive, computational theory of education, on the basis of which new kinds of pedagogic and pastoral interventions can be made. There are risks associated with such techniques. The kind of predictive profiling afforded by learning analytics provides institutions with actionable intelligence that can be used for various statistical determinations and 'statistical discrimination' where 'individuals are reclassified in terms of their associations and linkages with others, and then including/excluding them on the basis of the attributes of the groups and data "segments" that they belong to' (Selwyn 2015, p. 74). The 'robotic algorithms' of learning analytics platforms are able to access spreadsheets of learner data, calculate odds, and make probabilistic predictions, and then automate decisions about pedagogical intervention in real-time, with 'the risk that our

predictions may, in the guise of tailoring education to individual learning, actually narrow a person's educational opportunities to those predetermined by some algorithm' (Mayer-Schönberger and Cukier 2014, n.p.).

As these examples indicate, policy innovation labs such as Nesta and the Innovation Unit are enthusiastic advocates of big data and emerging forms of 'digital governance' that embed digital technologies in the design, organisation, and governing of education. Digital governance puts 'human-computer interaction' and 'electronic delivery at the heart of the government business model', and includes activities such as 'digitizing interactions with citizens' and 'new forms of automation using "zero-touch technologies" that do not require human intervention', while also making 'citizens do more, developing isocratic administration – or do-it-yourself government' (Margetts and Dunleavy 2013, p. 6). In this sense, digital governance is both digitally enabled and data science-based, but also follows the design-for-policy logic of being people-centred, do-it-yourself (DIY), and sociable. Illustratively, Nesta has partnered with the Open Policy Making team in the UK government Cabinet Office to explore the idea of 'a new operating system for government', and to anticipate how emerging technologies such as 'data science, predictive analytics, artificial intelligence, sensors, applied programming interfaces, autonomous machines, and platforms' might in the next five years become 'ingrained into how government thinks of itself', 'redefine the role of government, and even create a different relationship between state and public' (Maltby 2015). Policy innovation labs like Nesta itself are archetypal of such an approach to governance, utilising instruments and techniques that are simultaneously digitised, data-driven, and design-based.

The range of digital tools and data analytics methods utilised by policy innovation labs in education constitute new forms of what the political sociologists Lascoumes and le Gales (2007) have termed 'public policy instruments'. Policy instruments are those technical devices and material techniques that allow particular policy ideas and agendas to be operationalised and realised. But policy instruments are not simply neutral devices. Instead, 'every instrument constitutes a condensed form of knowledge about social control and ways of exercising it' and produces 'specific effects' which structure public policy according to its own logic (Lascoumes and le Gales 2007, p. 3). Specific devices such as Nesta's evaluative index or the adaptive learning analytics platforms they support are digital policy instruments preloaded with assumptions and condensed knowledge about the social reality of education that they are designed to measure, and they exercise specific effects in shaping and structuring decisions about the modification of that reality.

Learning to code

The promise of digital governance that is data science-driven, design-based, and DIY depends on the skills and capacities of human actors to enact it. For policy

innovation labs such as Nesta, meeting this promise depends on educating a new generation of citizens as digital, data, and design experts. For this reason, it has enthusiastically endorsed a major agenda around 'learning to code' and actively lobbied for the introduction of new computing programmes of study in the National Curriculum in England. In short, through learning to code, young people are to become governable as the digital citizens required to participate in the digital governance of the state.

Nesta's endorsement of learning to code is exemplified in a major initiative launched in 2013. Make Things Do Stuff was established by Nesta Innovation Lab, in partnership with the not-for-profit 'social innovator' the Nominet Trust and the Internet company Mozilla, to promote various forms of learning to code, programming, and 'digital making'. These activities are justified through a combination of discourses about the powerful role of computer code in the contemporary world and the need of commercial computer companies, as detailed in a Nesta report on 'young digital makers' which argues that 'the movement around digital making is based on the belief that making gives us access to the powerful ideas that help us to understand the world we live in, and to shape it' (Quinlan 2015, p. 14). Likewise, the Make Things Do Stuff website states that: 'In a world where everything from fridges to cars, bank accounts to medical diagnoses are becoming powered by computing, understanding how digital technologies are made (and how to make your own) is vital to full participation in society' (Make Things Do Stuff 2013b).

Make Things Do Stuff is justified through a cultural argument about *producing* and not simply *consuming* technology:

> Make Things Do Stuff aims to mobilize the next generation of digital makers. We want to help people to make the shift from consuming digital technologies, to making and building their own. Because when all kinds of different people start hacking, re-mixing and making things with technology, the possibilities get really interesting. Make Things Do Stuff will enable people to . . . navigate a path that will take them from being a digital consumer, to being a digital maker. (Make Things Do Stuff 2013a)

In particular, Make Things Do Stuff is the product of a concern with citizen-centric forms of co-production, personalisation, and participation in emerging forms of digital governance. In this sense, learning to code and related 'digital making' activities are being governmentalised by Nesta and likeminded organisations as a way of seeking to shape citizen subjectivities and capacities. The subject of learning to code is positioned as a 'digital citizen' able to be governed as an active participant in a state increasingly oriented towards digital governance. Learning to code is concerned with the production of individuals who can write the code, design the algorithms, and program the analytics that are required by new forms of data-driven and DIY digital governance. It is underpinned by computational thinking, the expression of problems in the language that computers can understand, and it is such a mode of thinking

which is ultimately promoted by Nesta through Make Things Do Stuff. This is important because assumptions about the value and practices of computational thinking are themselves shaped by social networks of technical experts and the disciplinary and organisational contexts in which they act. As such, through learning to code initiatives, people are incited to reorient themselves 'practically and epistemologically to the demands . . . and the principles of computational thinking that underlie them' (Halford *et al*. 2013, p. 179). In short, learning to code embodies a set of methodological and epistemological commitments and knowledge practices that originate from technical expertise and its embeddedness in particular disciplinary and organisational contexts. Consequently, through learning to code, people are incited to participate in a system of thinking associated with the professional regime of computer programming that privileges computational problem-solving, and that emphasises the potential of computer code and algorithms as the solution to many social and public problems.

The emphasis on learning to code in Make Things Do Stuff is infused with both pedagogical and governing aspirations. As a pedagogy, learning to code seeks to produce skilled and literate citizen subjects with the computational thinking to participate in new strategies of digital governance. As a governing practice, computational thinking describes an emerging style of political thought that assumes many public and social problems can be solved through digital innovation. Indeed, these have been combined in learning to code campaigns such as Make Things Do Stuff, which assume governance is increasingly to be enacted by citizens themselves who have learned the requisite civic capacities and technical expertise to participate in the digitised state. This is an emerging form of governance which underpins the work of many policy innovation labs. Nesta documents on 'coding for civic service', for example, describe a 'code for *x* model' where computer code is positioned as the solution to complex government problems (Bell 2014). Such 'civic coding' initiatives bring together programmers and citizens to work with government 'open data' in order to design new digital services and 'civic apps' to improve social and public life or to solve particular government problems. It is a form of what Nesta terms 'people-powered public services' enabled by digital technologies (Colligan 2014b), merging 'what is (technically) possible and what is (politically) feasible' (Bell 2014). Technical expertise is combined in such initiatives with the everyday 'lay expertise' of service users and citizens. In 2014, Nesta even ran an 'Education Open Data Challenge' involving technical experts working with end-users of educational data to design new digital products. Organised as a weekend 'hackathon', one of the competition winners supported by Nesta is a 'smart school recommendation engine' that uses existing data on schools and combines it with individual learning analytics data to produce tailored school recommendations and thus support parents to make informed school choices (Weekes 2014). This simultaneously citizen-centric

and data-driven approach is paradigmatic of the aspirations of policy innovation labs towards the digital governance of the state.

In this sense, learning to code is itself a form of digital policy instrumentation – a technical means of operationalising a particular set of policy ideas and exercising specific effects in terms of the governance and control of the population. It is a channel through which young people are to be shaped and sculpted with both the civic capacities and technical expertise to become governable participants in emerging strategies, techniques, and methods of digital governance.

Policy innovation laboratory life

Policy innovation labs are working to produce new models of how the social world works, and to generate insights that might be addressed by new policy designs, experimental methods and policy instruments. The style of computational thinking they endorse may well have significant consequences for the future social organisation of education. Yet, to date, researchers have engaged little with the inner workings of such labs or sought to trace the complex work that goes into their projects. This is an important omission. When Latour and Woolgar (1986) produced their classic sociological account of the work of scientists in *Laboratory Life*, their conclusion was that scientific laboratories are deeply complex places where negotiations, arguments, disagreements, and compromises are constantly hammered out as scientists seek to construct 'scientific facts', or models of how the world works. While science appears from the outside to be well organised and coherent, Latour and Woolgar (1986, pp. 36–37) argued that on the inside of the laboratory, it is disordered and 'entails the confrontation and negotiation of utter confusion'. Such disorder and confusion needs to be controlled through the imposition of particular frameworks, methods, and interpretations. Within laboratories, methods are powerful devices that are designed to capture aspects of the world, or particular phenomena, and translate them into formats that are sufficiently intelligible for interpretations to be made and explanatory models to be constructed. Published scientific papers are merely the product or outcome of such methods, arguments, translations, and compromises. But these papers, as inscription devices that freeze such translations, debates, and disagreements into scientific facts, are important political acts because they construct reality in a particular way.

Policy innovation labs, too, are committed to the production of inscriptions that fix reality in particular ways. As my survey of some aspects of the work of policy innovation labs has shown, these labs have become powerful actors in the production of new methods for making sense of social phenomena. Utilising such techniques and methods as a form of digital policy instrumentation, they ultimately partake in a reconstruction of the social reality of education,

redefining the way the educational world works, designing methods to measure it, and producing policy products and recommendations to modify it. As such, these laboratories for experimenting on social and public life require much greater scrutiny as political actors as they gain influence in the definition of policy problems and the specification of policy solutions. What is 'laboratory life' like inside a policy innovation lab, or in a network of labs? What problems do they define, by what methods? What policy instruments do they design, and what are the effects of such instruments on the world out there beyond the lab, its methods, and its publications? How, in particular, are the lab methods of policy innovation labs influencing the ways in which educational institutions and individuals are known, understood, and made amenable to intervention and modification?

New models and methods of governing

This article has introduced policy innovation labs as emerging knowledge actors in UK educational governance. As Twitter analytics has revealed, policy innovation labs are a contemporary social 'happening': while the history of social labs may be a long one, the 'labification' of public and social policy has consolidated since 2010 and intensified, in part through the use of the Twitter classificatory device #psilabs, since 2014. In particular, policy innovation labs operate through building networks and deploying innovative methods and instruments to produce new knowledge about the social world and populations to be governed. Policy innovation labs operating in the field of education promote new methods of evidence and data collection and analysis, including design-based research combined with forms of data analytics which act as digital policy instruments and governing methods to exert material effects on the pedagogic routines of the classroom. Such methods are presented as neutral and anti-political, and yet as the analysis has shown they are deeply political acts that identify particular social and public problems and draw support for particular solutions to rectify them. In addition, by promoting learning to code, policy innovation labs support particular ideals about computational thinking as a kind of civic capacity of 'digital citizens' and a way of solving social and public problems. They are shaping young people as citizens who can participate in, and thus become governable through, emerging strategies of data-based and design-oriented digital governance.

As new knowledge actors operating in education, policy innovation labs such as Nesta, and others that cluster under the #psilabs hashtag, are indicative of shifting forms of political governance in the UK. They are laboratories testing and trialling new methods within education as prototypical approaches for administering and governing the state itself, using social media to share ideas, build alliances, and circulate resources. By combining elements of the work of think tanks, designers, political and social scientific research, and

digital R&D, policy innovation labs are ideally situated to take on some of the work of a 'reluctant state' (Ball 2012) that intends to deconcentrate and delegate its responsibilities to diverse non-state providers and experts 'as the primary locus of response to social problems rather than state intervention' (Lingard and Sellar 2012, p. 48). In this sense, policy innovation labs are mobilising their technical and methodological expertise to design experiments and generate data for shaping the digitised future of the state. Such a state requires individuals who possess the requisite technical skills, computational thinking, and designerly capacities to code solutions to contemporary public and social problems. The policy innovation labs traced in this article possess the digital R&D, data science, and design-for-policy 'governing methods' required for building the future and sculpting the citizens required of the reluctant state.

Disclosure statement

No potential conflict of interest was reported by the author.

Funding

The research for this article was supported by a grant from the ESRC (grant ref. ES/L001160/1): https://codeactsineducation.wordpress.com/

Notes on contributor

Ben Williamson is a lecturer in the School of Education at the University of Stirling. His research focuses on the influence of think tanks and policy innovation labs in education policy, and on digital data, software code and algorithms in the technologies and practices of education governance. His recent articles have been published in *Public Policy and Administration, Learning, Media and Technology*, and the *Journal of Education Policy*.

References

Ball, S.J., 2012. The reluctant state and the beginning of the end of state education. *Journal of educational administration and history*, 44 (2), 89–103.

Ball, S.J. and Junemann, C., 2012. *Networks, new governance and education*. Bristol: Policy Press.

Bason, C., 2014. Introduction: the design for policy nexus. *In*: C. Bason, ed. *Design for policy*. Farnham: Gower Publishing, 1–8.

Bell, H., 2014. *Coding for civic service: what we are learning? Nesta blogs*. Available from: http://www.nesta.org.uk/blog/coding-civic-service-what-we-are-learning [accessed 1 September 2014].

Bentley, T. and Gillinson, S., 2007. *A D&R system for education*. London: Innovation Unit.

Burrows, R. and Savage, M., 2014. After the crisis? Big Data and the methodological challenges of empirical sociology. *Big data & Society*, 1 (1), 1–6.

Colligan, P. (@philipcolligan) 2014a. *Wonder whether we don't need a hashtag for tweets on public and social innovations labs #psilabs*. 15 February, 21:40, Tweet.

Colligan, P., 2014b. *People powered public services in practice. Nesta blogs*. Available from: http://www.nesta.org.uk/blog/people-powered-public-services-practice [accessed 1 September 2014].
Colligan, P. (@philipcolligan) 2014c. *Also seriously impressed with how #psilabs has taken off as a hashtag – can we do the same with #iteams?* 5 June, 22:30, Tweet.
Fenwick, T. and Edwards, R., 2010. *Actor-network theory in education*. London: Routledge.
Fullan, M. and Donnelly, K., 2013. *Alive in the swamp: assessing digital innovations in education*. London: Nesta.
Grek, S., 2014. OECD as a site of co-production: European education governance and the new politics of 'policy mobilization'. *Critical policy studies*, 8 (3), 266–281.
Gunter, H., Hall, D., and Mills, C. 2014. Consultants, consultancy and consultocracy in education policymaking in England. *Journal of education policy*, doi:10.1080/02680939.2014.963163
Halford, S., Pope, C., and Weal, M. 2013. Digital futures? Sociological challenges and opportunities in the emergent semantic web. *Sociology*, 47 (1), 173–189.
Hampson, M., Patten, A., and Shanks, L. 2012. *10 ideas for 21st century education*. London: Innovation Unit.
Horne, M., 2008. *Honest brokers: brokering innovation in public services*. London: Innovation Unit.
i-teams. 2014. Case studies. *The i-teams*. Available from: http://www.theiteams.org/case-studies/map [Accessed 9 January 2015].
Kieboom, M., 2014. *Lab matters: challenging the practice of social innovation laboratories*. Amsterdam: Kennisland.
Lascoumes, P. and le Gales, P. 2007. Introduction: understanding public policy through its instruments – from the nature of instruments to the sociology of public policy instrumentation. *Governance*, 20 (1), 1–21.
Latour, B. 1986. Visualization and cognition: thinking with eyes and hands. *Knowledge and society*, 6, 1–40.
Latour, B. and Woolgar, S., 1986. *Laboratory life: the construction of scientific facts.* Princeton, NJ: Princeton University Press.
Leadbeater, C. 2014. Hooked on labs: the experimental life is being created all around us. *The Long & Short*, season 2, December. Available from: http://thelongandshort.org/issues/season-two/hooked-on-labs.html [Accessed 9 January 2015].
Lingard, B. and Sellar, S., 2012. A policy sociology reflection on school reform in England: from the 'third way' to the 'big society'. *Journal of educational administration and history*, 44 (1), 43–63.
Lury, C. and Wakeford, L., eds., 2012. *Inventive methods: the happening of the social*. London: Routledge.
Make Things Do Stuff. 2013a. About make things do stuff. *Make Things Do Stuff.* Available from: http://makethingsdostuff.co.uk/about [Accessed 13 September 2013].
Make Things Do Stuff. 2013b. What is make things do stuff? *Make Things Do Stuff.* Available from: http://makethingsdostuff.co.uk/blog/2013/03/12/what-make-things-do-stuff [Accessed 13 September 2013].
Maltby, P., 2015. A new operating model for government. *Open Policy Making*, 17 March. Available from: https://openpolicy.blog.gov.uk/2015/03/17/a-new-operating-model-for-government/ [Accessed 18 March 2015].
Margetts, H. and Dunleavy, P., 2013. The second wave of digital-era governance: a quasi-paradigm for government on the Web. *Philosophical transactions of the Royal Society A*, 371 20120382. doi:10.1098/rsta.2012.0382.

Marres, N., 2012. The redistribution of methods: on intervention in digital social research, broadly conceived. *Sociological review*, 60 (S1), 139–165.

Mayer-Schönberger, V. and Cukier, K., 2014. *Learning from big data: The future of education*. New York: Houghton Mifflin Harcourt.

McGann, J.G. and Sabatini, R., 2011. *Global think tanks: policy networks and governance*. London: Routledge.

Mulgan, G., 2014. The radical's dilemma: an overview of the practice and prospects of Social and Public Labs – version 1. *Nesta website.* Available from: http://www.nesta.org.uk/sites/default/files/social_and_public_labs_-_and_the_radicals_dilemma.pdf [Accessed 26 February 2014].

Mulgan, G. and Leadbeater, C., 2013. *Systems innovation: discussion paper*. London: Nesta.

Mulgan, G. and Puttick, R., 2013. *Making evidence useful: the case for new institutions*. London: Nesta.

Nesta. 2013a. 13 predictions for 2013. *Nesta website.* Available from: http://www.NESTA.org.uk/news_and_features/13for2013 [Accessed 28 May 2013].

Nesta. 2013b. Decoding Learning. *Nesta website*. Available from: http://www.nesta.org.uk/areas_of_work/public_services_lab/digital_education/assets/features/more_and_better_learning_using_technology [Accessed 28 May 2013].

Nyberg, M., 2015. Open Policy 2015. *Open Policy Making.* Available from: https://openpolicy.blog.gov.uk/2015/02/20/open-policy-2015/ [Accessed 19 February 2015].

Opening Governance. 2015. The opportunity. *Opening Governance.* Available from: http://www.opening-governance.org/#the-opportunity [Accessed 19 February 2015].

Ozga, J., Segerholm, C., and Simola, H. 2011. The governance turn. *In*: J. Ozga, P. Dahler-Larsen, C. Segerholm, and H. Simola, eds. *Fabricating quality in education: data and governance in Europe*. London: Routledge, 85–95.

Price, A., 2014. The long walk to the agile sprint: theories, thoughts and tests. *The Long & Short*, season 2, December. Available from: http://thelongandshort.org/issues/season-two/age-of-social-public-labs-.html [Accessed 9 January 2015].

Puttick, R., Baeck, P., and Colligan, P. 2014. *i-teams: the teams and funds making innovation happen in governments around the world*. London: Nesta.

Quinlan, O., 2015. *Young digital makers surveying attitudes and opportunities for digital creativity across the UK.* London: Nesta.

Saltman, K., 2010. *The gift of education: public education and venture philanthropy*. New York: Palgrave Macmillan.

Selwyn, N., 2015. Data entry: towards the critical study of digital data and education. *Learning, media & technology*, 40 (1), 64–82.

Siodmok, A., 2014. Policy lab gathers thoughts on the future. *Open Policy Making*, 18 December. Available from: https://openpolicy.blog.gov.uk/2014/12/18/future-present/ [Accessed 9 January 2015].

Weekes, A., 2014. Get to know the finalists in the education open data challenge. *Nesta blogs.* Available from: http://www.nesta.org.uk/blog/get-know-finalists-education-open-data-challenge [Accessed 9 January 2015].

Williamson, B., 2014. Mediating education policy: making up the 'anti-politics' of third sector participation in public education. *British journal of education studies*, 62 (1), 37–55.