



UWS Academic Portal

Scottish Government educational research policy

Holligan, Christopher

Published in:
Forum- For Promoting 3-19 Comprehensive Education

Accepted/In press: 24/08/2022

Document Version
Peer reviewed version

[Link to publication on the UWS Academic Portal](#)

Citation for published version (APA):

Holligan, C. (Accepted/In press). Scottish Government educational research policy: co-opting school-based research and de-skilling teachers. *Forum- For Promoting 3-19 Comprehensive Education*.

General rights

Copyright and moral rights for the publications made accessible in the UWS Academic Portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

If you believe that this document breaches copyright please contact pure@uws.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.

Journal name:

“FORUM: For Promoting 3-19 Education”

SPRING 2023

ACCEPTED

Scottish Government Educational Research Policy: Co-opting School-Based Research and De-Skilling Teachers

By Chris Holligan

There is a need for a more co-ordinated approach to knowledge creation through the synthesis of existing knowledge, which is then translated into a form that would be easily digestible for use by those on the front line.¹

Abstract

A common idea of research lies in association with virtues of open-mindedness, pursuit of truth and the liberation of humanity from burdens of prejudice. Aside from this *blue skies* picture of scientific research we have *practitioner research* designed by teachers to improve the quality of the education they provide in classrooms. And thirdly, there is *policy research* by government which is designed to monitor and implement political values into schools and classrooms under its aegis. This article explores the educational research policy which the Scottish Government has recently published. It argues that its approach to education policy research will weaken the professional standing and autonomy of teachers. That policy agenda will result in the proletarianization of classroom educators. A dimension of this government's policy shifts research out of education into the hands of quasi-private companies. The outsourcing of research contracts to companies illustrates ideological values. Besides the government's general policy orientation to education research its sub-contracting model reinforces the assumption that valid and reliable research on education does not require the nuanced expertise of classroom practitioners. Government's politics also disfavour university education researchers. The outcome of marginalising these two elements of the education world ensures evidence informed policy-making incorporates neoliberal values, research companies operate in the capitalist free market and to survive must satisfy their customers. Management of schooling by means of abstract scientific data that monitors and judges teacher performance is an international norm. That destructive, ideologically driven trend undermines the local expertise of schools and reduces the autonomy of schoolteachers who are employed in schools. The policy culture described it is concluded, will re-model the profession, re-cast what counts as professionalism and in this process trash the accumulated wisdom of generations of committed and caring teachers.

Keywords: contracting, data, education, teachers, policy, discourse, governance, Scotland, strategy

Introduction

The voice of the technocratic British state is annexing education and re-defining professionalism by locating it within a chilling managerialist research-led audit. A

technological state is an authoritarian regime that harnesses the power of science and technology to govern.² Education as a good or product can be traded internationally, giving economic returns once it has been modified by the application of new technologies of research management.³

The research questions this study pursues are twofold: what is the Scottish Government's education research strategy, expressed in *A Research Strategy for Scottish Education 2017* attempting to do? And secondly, what does it tell us about the Scottish Government's ideological position regarding teachers? Humes⁴ proposes that education bureaucracy in Scotland is autocratic, reflecting Weberian structures of state power. It subverts worthwhile educational goals. Humes⁵ describes the management of Scottish education as limited in terms of transparency and accountability, and argues that a self-serving elite also exercise control by stifling alternative voices about schooling. The zeitgeist to be achieved is professional conformity and compliance, not the enabling of critical conversations about standards and practices within a policy that encourages flexibility. We suspect Humes's unravelling of a closed policy-making cosmos will re-emerge in research policy in line with his view that Scottish government educational research policy is designed to control and prescribe what and who counts. The monitoring presence inherent in the policy reflects a politically conservative pro-business commitment. The policy endorses free-market neoliberal values about the goals of education and expressions of professionalism required from the school workforce. In the 1970s neoliberalism emerged when there was an international turn to free markets, a trend reinforced by *New Labour* led by Tony Blair: its intellectual face is that the market is the source and arbiter of human freedoms; its bureaucratic face is expressed in state policy of de-regulation, privatisation, monetarism and depoliticization all of which combine to promote competition that privileges businesses.⁶ The public sector, school education, health care and universities are constructed as needy and dependent by the values of a for-profit neo-liberal zeitgeist.

The 2017 policy's research orientation supports the authoritarian, de-regulating nature of neo-liberalism by the adoption of (mainly) quantitative data measures and statistical analyses.⁷ That methodology collects numerical data: test scores, random controlled trials and surveys. At the core of qualitative methodologies, by contrast, the focus is on understanding difference, individual perspectives and exploring how the construction of a place or context is influenced by a person's status. Qualitative methods re-interpret assumptions and so shake the status quo.⁸ They pose Why? questions that unsettle neoliberal values. The material I examine is an official document written by Scottish government employees. Policy also operates implicitly, for example, in government contract funding decisions made to research companies and so I examine these too. The political ideology of each area, policy and contracting, enshrines neoliberal values. Companies aim to make a financial return on research contracts. Outsourcing of research contracts privatises research studies.

At the paper's core is a discourse analysis of the Scottish Government's 2017 educational research policy. It is a public document that stays, as I argue, predictably very distant from controversies over the purposes of education. Its production was likely the work of social researchers employed in the civil service under the direction of senior policy-makers. The paucity of academic citations in it tells us this policy is designed to command and not to explore or seek justification, let alone provoke debate. The analysis of policy presented in this article begins with an outline of the 2017 policy context. The analysis of the 2017 policy

document is set against a broad policy context where we see research outsourcing business-like entities compete with other providers in knowledge markets. That turn in policy to networking with the third and private sector business nexus indicates the continuation of Blairite *Third Way* politics. The turn to formalised research data generated from outside classrooms by market-based corporate actors illustrates neo-liberal values at work by means of outsourcing research to companies. Teachers' qualitative knowledge of schooling does not form part of this knowledge production network.⁹ Being compelled to be "neo-liberal" subjects the attendant cultural processes will affect teacher's identities and subjective life.¹⁰

Nor are other public-sector employees university-based education researchers significantly recognised in policy networks of neo-liberal governance.¹¹ The Third and the Private Sectors are instead privileged to deliver policy research evaluations. The preference for quantitative methods shown in the 2017 education policy is not unique to Scotland. International trends in this vein are found in the governance of education across Europe. The privileging of quantitative research designs and numerical type data is addressed later.¹² Policy-makers in Scotland jump to the conclusion that 'existing knowledge' can be 'translated' into an 'easily digestible' form for teachers. Policy knowledge development processes are being used to shut down fundamental debates about education, not open them up for examination. Similarly, its construction of teachers ('those on the front line') is not only demeaning to the profession; it casts them as akin to a warrior class facing a war of attrition with enemy combatants. Front lines are dangerous places. If that knowledge for 'front line' effort originates from literature reviews designed by contractors, then years of forms of classroom research are marginalised.

This outcome constitutes the proletarianization of educators as downwardly mobile, wage labour professionals.¹³ Proletarianization occurs when sections of a middle-class are absorbed into the working class by virtue of having their labour dehumanized or de-skilled.¹⁴ It will be clearer that a reduced status, likely to be accompanied by salary decline, has been implemented when curriculum and teaching guides are developed for teachers in buildings outside of schools. This vision will mean that, on a class by class basis, timetabled teachers will be monitored weekly through prescribed criteria and performance outcomes. Through the concept of a 'synthesis of existing knowledge', still-contested education values will be parked in the Old School parking bay. The selective filtering of knowledge in reviews will be 'contaminated' by the researchers' understanding of the politics of the contract they entered into with government, and the signals from official's steering contracts.

Dave Hill¹⁵ argues the British Conservative party expects state education to impose conformist thinking on students from the working-classes. On the other hand, the Party is triumphalist about the 'elite' public school system, seeing it as the appropriate source of a leadership cadre. By contrast, socialists working in the community schools and college movement **seek** to empower local communities **and** deliver a relevant curriculum by working in collaboration with families in local communities.¹⁶ This different model of democratically distributed power places emphasis on fostering a fairer society and tackling the roots of poverty and inequalities. Lawrence Stenhouse had an acute appreciation of how discerning teachers valued and nurtured the intellectual independence of their students.¹⁷ Educational research policy is an arm of the technology state, a managerialist adventure dismissing deeper, fundamental questions such as why social class differences in educational attainment persist.¹⁸

Policy governance - data use in education

‘What works’ refers to specific interventions that improve student learning. It is a discourse that is connected with evidence-based approaches to educational improvement.¹⁹ Data gathering and its use have an important presence in policy-making which includes regimes of accountability and audit. Education policymaking by government is acquiescing in the scientification of politics and the politicisation of science. That project is the attempt to place ‘education on a scientific foundation’.²⁰ The self-interest of government wins from this acquiescing in scientific ‘objectivity’. The co-option of a supposed scientific mindset downgrades the evidence available to practitioners, so the classroom teacher’s informal assessments and accumulated in-depth knowledge of individual students are overlooked. Power gained through data generation technology is enveloping education in all spheres. A teacher’s life will be governed by those holding that abstract research expertise is only gained in careers outside of the classroom. ‘What works’ is not a question that teachers will ever be expected to have a meaningful answer about.

Social anthropologists describe contemporary audit cultures as entities that control workplaces both public and private, including higher education; the calculative presence of audit cultures stifles individuality and creative thought whilst on the other hand enlarging managerial power.²¹ International educational policies illustrate the adoption of metrical (quantitative) research data to govern and direct school performance. Student performance data is a key source used to judge the effectiveness of schools and teaching staff.²² An acceptance of a research-led audit policy culture fosters the belief that the education system is amenable to policy treatments abstracted from particular school contexts. And yet, alternative types of value to student wellbeing exist that tests scores do not capture.

The narrow monitoring of schools through scores on tests is shallow. Positive and enduring outcomes in education are resistant to capture through imposed national and international testing regimes. The enemy lurking in the shadows of education is neo-liberalism, which holds schools can be subjected to the same type of appraisal as governs the quality monitoring of products from commercial service providers in the global market-place. Education is not a commercial supermarket amenable to treatment in terms of ‘what works’ customer score-cards. Olsten and Sexton²³, in an American policy context, describe schoolteachers who were not permitted to debate their government’s *No Child Left Behind* policy. This policy implantation led to a culture of routinised and simplified teaching and assessment, coupled with strong pressure on teachers to conform.

The concept of ‘data use’ refers to the administration of tests to students, and judgements about ‘added value’ through coercive league tables. The interpretation of raw data ‘cleaned’ in league tables is an opportunity to conceal debates about the ends of education and what being an effective teacher means.²⁴ Proitz et al argue student performance data for accountability brings tension into the school workplace. ‘Incorporating such data into school policy leads to prescribed professional development and performance review outcomes. The OECD PISA assessment programme is not a source of ‘neutral’ authoritative knowledge, and yet typically it is exploited to legitimate policies that result in debate being restricted to incremental changes in practice.²⁵ Simplification distorts. Data metrics may demotivate and alienate those subject to them.²⁶ Teachers exploit different knowledge sources through subject expertise, empathy, tacit models of learners and research data.²⁷ By contrast, policy-

makers utilise more abstracted knowledge sources.²⁸ Naturally occurring data gathered by teachers day-to-day lie outside the orbit of systematic research.²⁹ So how do we make sense of the outsourcing of research to bodies that are networked into the business sector?

Outsourcing research

Ball³⁰ argues research outsourcing by government entails 'destatisation'. It re-draws the public-private divide. Policy networks are increasingly a governance mechanism in public policy and new public management.³¹ By the co-option of actors from companies operating outside of schooling and higher education that exercise their influence across many sectors of society, the '2017 policy values imports' extend neo-liberal values into the fabric of schooling. Among the Scottish Government's contracts in 2018 was £50,000 paid to *Craigforth*, based in Castle Business Park, Stirling. On its website it describes itself as a 'leading social research and support company'.³²

On Craigforth's website there is the corporate business slogan: 'Quality Research, Genuine Insight'. Academic credentials are absent from its public identity. The Craigforth team are described as 'consultants' who are 'able to approach a subject from many different angles'. The Craigforth contract was to 'support the implementation of the government's commitment to provide 1140 hours of funded Early Learning and Childcare (ELC) by 2020, and as well the evaluation of the expansion of funded ELC'.³³ Other market research companies funded by the Scottish Government include IPSOS Mori, SYSTRA, ScotCen Social Research, EKOS Limited, Progressive, ICF Consulting Services Limited, Why Research, and NFER.³⁴

Critical discourse analysis (CDA) frames policymaking as a discursive entity aligned with the interpretivist tradition.³⁵ CDA is the prism now adopted to deconstruct the 2017 policy.

Discourse 1: Data frame

A discursive strand of the 2017 research policy conjures research as the 'sourcing' of data nationally and internationally. Under the Freedom of Information Act (Scotland) 2002, the author requested from Scottish Government data about the Education Endowment Foundation (EEF) partnership. EEF enabled the introduction of the Learning and Teaching Toolkit into the Scottish school system, and described this resource as presenting 'accessible summaries of global research on 35 different educational approaches'.³⁶ The FOI also revealed that the EEF was resourced by £68,000 in the years 2017/18 and 2019/20 for work with *Annual Attainment Scotland*. The EEF's leaning towards quantitative evidence base is echoed in the purposeful construction of education research's role, described in the 2017 strategy as follows:

We believe that each level of the education system in Scotland has a vital role in harnessing the power of evidence and data in order to deliver continuous improvement in the education system.³⁷

The education research strategy incorporates a model about the governance of education, prescribing how teachers work under the auspices of data superstructures of 'continuous improvement'. Data framing is accompanied by intensification in monitoring and *ceteribus paribus*, professional control.³⁸ Collegiality is folded in the envelope of teamwork whose agency is defined by the boundaries of a vision of medical practitioners engaged in delivering their clinical sessions, or working as applied machine learning engineers:

Teachers must collaborate with their Support staff, parents, children and young people to identify patterns and outcomes for individuals. In addition, they are expected to design and deploy appropriate interventions, and monitor impact to learn lessons for improvement.³⁹

Idioms of outcomes and monitoring circulate as ambiguous concepts. Discourses circulate in the document as a 'data driven approach'. It is a world of grey research governance from which human feeling, values and difference are missing. Yet schooling is inseparable from its connectedness to humanity and its flourishing. Michael Rosen, the Children's Poet Laureate, feels aliens have landed and stolen education, a disappointment reinforced by the assertive policy command:

Combining this coherent approach to data with research to effectively share the lessons of international evidence, to identify effective interventions, establish 'what works' in the Scottish context and continuously learn from the data that is gathered ... This data driven approach will be combined with a focus upon increasing the levels of collaboration and communication....⁴⁰

This 'data turn' in education conjures education into a mechanism whose engine oil is quantitative data. Governance in this policy context is abstracted, with its cultural bias concealed. The chilling anonymity of mechanistic evidential data by cadres of faceless researchers is exemplified on internet sites. Intellectual thinness typifies the representation of research expertise on the websites of the Government's private, and third sector research players. These are the strangers with an increasingly sturdy **footprint** ['presence?'] in our classrooms. Teachers will become the ventriloquist puppets of office-based research scientist's data mining 'findings'.

Discourse 2: Governance frame

Educational research policy is one dimension for the delivery of other national objectives, which research policy studies will still oversee and direct. The networking described here signals how much value is being put on private sector managerial techniques for the distribution of knowledge in state education systems. Governance is no longer through focussed conversational exchange or serious professional dialogue at the grass roots. Instead, the conduct of future education research will:

...incorporate the governance of this programme within the wider governance arrangements in place for education in Scotland, and in particular will ensure reporting lines to the National Improvement Framework Programme Board.⁴¹

Williamson⁴² describes these 'reporting lines' and the accountability hierarchy of policy instruments. Governance of the programme in the 2017 policy document is extended to 'stakeholders' whose identity is not shared with readers any more than is that of the anonymised 'wider group of researchers'. As a group researchers are rendered mere proletarian knowledge workers. The status of University academics emerges through their anonymised role as part of the 'Academic Reference Group', which sounds like a business-entity and whose role in education is left suspiciously vague:

an **Academic Reference Group**, containing a wider group of researchers and stakeholders, will be convened to offer advice and guidance on the future direction of the strategy.⁴³

The concept of “reference group” has been utilised in the past to emasculate social actors and stifle dissent.⁴⁴ Branding, in the commercial business world, relies upon reference groups as a source of brand meaning.⁴⁵ Referencing an academic group legitimates the policy brand. The classification of ‘academic’ expertise suggests a service role, not a role foundational to partnership around research question formulation and methodological development. The anonymity of the Academic Reference Group means it is ‘grey’ in the manner of the anonymised ideologies in research companies in this policy network. The marginal status of academics and universities symbolises a continuation of what A.H. Halsey⁴⁶ called a decline of ‘donnish tradition’ resulting from Thatcherite legal reforms which removed academic tenure. Neoliberal rationality instead privileges other types of expertise beyond the university, including the EEF’s work of building centres of excellence.⁴⁷ The policy document describes ‘a need to maintain accessible up-to-date summaries of the state of existing evidence on interventions’.⁴⁸ Governance through hierarchies is couched in a business world idiom of ‘delivering’, ‘secretariat’, ‘evolution’, ‘cost’ and ‘investments’. Accordingly, the National Advisory Group which evaluates performance and delivery:

...will be made up of organisations who have a direct role in evaluation and research. They will feed into the development and evolution of the strategy, but have a more direct role in delivering particular aspects and will be well informed about existing networks and investments in education research...⁴⁹

Williamson⁵⁰ argues educational institutions and governing practices depend on digital data-base technologies policy instruments. These data visualisations construct what counts as knowledge in education systems. Via learning analytics they track learner performance measured by successive test scores. One of the 2017 policy’s advisory group’s remits is to ‘Oversee an on-going engagement process with stakeholders’.⁵¹ Annex A in the 2017 document lists the ‘organisations contacted’. Edu-capitalism is underpinned by technocratic governance catering for the Government’s ambition to belong to a commodifying international knowledge economy. That ambition to partake in the neoliberal mentality of markets may eventually narrow down what remains of the humanity that teachers continue to introduce into teaching and learning classroom experience. The experience of that humanity is critical to the mental wellbeing of developing minds.

Discourse 3: Business frame

Businesses are ideological sites that struggle over the ‘right’ language to use for marketing. We see linguistic framings in the 2017 research policy expression. Discourses are site where agency and power intermingle.⁵² Workplace meetings display hierarchy; technical procedural steps respect it.⁵³ So how is this pertinent to the research strategy? The exploitation of a bullet point format for the 2017 policy document forecloses debate and impedes controversy. Business communication advocates visual toolkits to make messages ‘stick’.⁵⁴ Bullet point communication impedes alternative visions. It performs what Adam Smith calls the “invisible hand” of governance.⁵⁵ Accountability mechanisms are ways in which neo-liberal education policy retains its power.⁵⁶

The fifteen pages comprising the 2017 research policy are peppered by ninety-five bullet points signalling the state’s uncompromising approach to policy implementation.⁵⁷ Exemplar ‘can do’ action statements fall under the rubric ‘The research challenge’. A second cluster of

these directives lurk beneath the heading: ‘System characteristics and performance: what works and what has worked?’ which is elucidated:

- Deploying the best available international evidence through partnership with the Education Endowment Foundation.
- Translating international lessons into the Scottish context and developing new Scottish research evidence.
- Examining the capacity and structure of education professionals to receive and implement the lessons of research and recommend necessary changes.⁵⁸

DISCUSSION

This contribution to a critique of official education policy has highlighted methodological and political orientations to the conduct of educational research policy in Scotland. The article illustrates a sub-contracting trend that denies the value of the knowledge and wisdom of teachers. This trend is negative, it will extract the human factor that is the life blood of good schooling, professional camaraderie and willingness to go the extra mile. The ‘scientification’ of politics and research is keen to give the impression that objective causes are discoverable for achieving the most effective governance of education. The adoption of that fallacious scientifically driven perspective by a powerful policy elite denies that teachers have expert knowledge that can be shared and harnessed. Drawing on Steve Fuller’s⁵⁹ provocative subtitle, ‘the positive power of negative thinking’, this paper claims that the policy status quo forces audit culture into the everyday lives of teachers who didn’t bargain for it when they signed up.

In this paper it is argued that the 2017 research strategy is designed to reorientate professionalism, centralise power through metrics and make intellectual alternatives to the dominant ‘datafied’ policy mainstream invisible. The policy orientations described marginalise (also) the British university sector’s critical and theoretical insights developed over centuries in pursuit of truth. Goldstein⁶⁰ describes how US teachers were compelled by such a culture to police themselves into silence. Such self-censorship arose from fear of being sanctioned if they critiqued national policy. If the only research evidence worth attending to is mined by others beyond the classroom, then those who work in it will internalise the view that they are incapable of identifying ‘what works’.⁶¹ So concerned is Garland⁶² he recommends de-schooling society to extricate us from neo-liberal machination. Education’s contamination by ‘data’ requires cleansing through a return to respect for craft knowledge and authentic teacher autonomy. By networking with the EEF (also funded by the English Department of Education in London) the Scottish Government signals its tightening grip on classrooms and the attendant politicisation of curriculum control. The EEF provides:

Summaries of education evidence, offering teachers ‘best bets’ of what has worked most effectively to boost the attainment of disadvantaged pupils.⁶³

EEF ‘help’ is presented in terms of ‘Toolkits’ available to teachers, to ‘repair’ teaching and learning in classroom environments. This is a trend towards proletarianisation. Soon the state will be able to deploy less trained and cheaper teaching staff whose purpose is merely to

deliver classroom education by relying on these tools. The EEF describes its origin within the 'what works' pro-capitalist zeitgeist as follows:

The Education Endowment Foundation was established in 2011 by The Sutton Trust, as a lead charity in partnership with Impetus Trust (now part of Impetus - The Private Equity Foundation) with a £125m founding grant from the Department for Education. The EEF and Sutton Trust are, together, the government-designated What Works Centre for Education.

The Private Equity Foundation was set up by leaders from the private equity industry. Tony Blair, as Prime Minister, defended the private equity industry against critics and welcomed private healthcare providers that set their own pay and terms of conditions, into the NHS.⁶⁴ The EEF aims to build 'a global evidence ecosystem for teaching'. It has one funding stream connected with 'The Private Equity Foundation'.⁶⁵ The Scottish Government comments that the EEF will 'help develop the Scottish research infrastructure and resource'.⁶⁶ The EEF remarks that it has contributed to the existing evidence base 'by funding over one hundred randomised control trials (RCTs) in education'.⁶⁷

Finally, teachers' labour will be subject to the ideology of what Rose and Miller⁶⁸ refer to as 'technologies of government... imbued with aspirations for the shaping of conduct in the hope of producing certain desired effects...' Rose and Miller explain that political rationalities are linked to developments in knowledge.⁶⁹ We see this environment also in terms of the government's network preferences, and by implication a patronage giving rise to financial dependence.⁷⁰ The 2017 policy co-opts the concept of research. In its place we discover a school-house haunted by ghostly elites pushing the 'managerial turn' whose basis is an exploitative model of science.

The esteem in which science is held and, by implication, the global eminence of members the UK's Royal Society, are being weaponised to re-model the increasingly fragmented teaching profession in Britain.⁷¹ In his dystopian novel '1984', George Orwell describes a social class that forms the lowest level of society. He calls this class the Proles, a term deriving from Karl Marx's 'proletariat'. In the novel the Proles are natural inferiors that must be kept in subjection lest they recognise their plight and rebel. Proles are treated in a degrading manner, differently from other groups, as they are perceived as already defeated and controllable. Nevertheless, they still have feelings and minds of their own. Orwell's conceit takes us back to the heart of this paper's theme of education control through data management. In a book that begins with the words "Reimagining work" the authors argue it is the business leaders guide to surviving and end on the note that a flexible workforce is required in an economy that is on the cusp of a seismic shift.⁷² Although we can demur from taking on board this sentiment entirely it does seem, in the light of the anxieties described in this article, that education is also on the cusp of an identified evidence-based transformation.

Chris Holligan holds a Personal Chair in Education at the University of the West of Scotland. He was educated at the Universities of York, Edinburgh, Cambridge, St. Andrews and Aberdeen. He has published in a range of disciplines: education, sociology, criminology, history and psychology. Teaching posts include teaching English in many state secondary

comprehensive schools and later on teaching education research in the Middle East, Hong Kong and Beijing. He is a GTCS registered schoolteacher and FHEA. His early education was at a junior secondary school (12-15 years) in Edinburgh which he left at aged 15, without formal qualifications and after a couple of months found a job near home as an apprentice motor-mechanic, later taking GCSE 'A' levels by correspondence and Scottish Highers (PT) at an FE college in Edinburgh.

¹ Scottish Government, *A Research Strategy for Scottish Education*, Edinburgh, Scottish Government, 2017.

² S. Amir, *The technological state in Indonesia: the co-constitution of high technology and authoritarian politics*, Milton Park, Abingdon, Oxon, Routledge, 2013.

³ J. Niosi, *Technology and national competitiveness oligopoly, technological innovation and international competition*, Montreal, McGill-Queen's University Press, 1991.

⁴ W.Humes, 'The 'Iron Cage' of Educational Bureaucracy', *British Journal of Educational Studies*, 2021b, pp1-19.

⁵ W.M. Humes, 'Re-Shaping the Policy Landscape in Scottish Education, 2016-2020: The Limitations of Structural Reform', *Scottish Educational Review*, 52(2), 2020, pp1-22. See also W. .M. Humes, *The Leadership Class in Scottish Education*, Edinburgh, John Donald Publishers, 1986, and W. M. Humes, 'Power, policy and personality in Scottish education, 1885-1928', *Journal of Educational Administration and History*, 2021, pp233-248.

⁶ S. L. Mudge, 'What is neo-liberalism?', *Socio-economic review*, 6(4), 2008, pp703–731.

⁷ W.P. Vogt, *SAGE quantitative research methods*, Los Angeles, Calif, SAGE, 2011.

⁸ J. Crossman and S. Bordia, *Handbook of qualitative research methodologies in workplace contexts*, Edited by J. Crossman and S. Bordia, Cheltenham, UK , Edward Elgar Publishing, 2021.

⁹ G.J.J Biesta, *Good education in an age of measurement: Ethics, politics, democracy*. Boulder, CO, Paradigm, 2010; and G.J.J. Biesta, 'Education, Measurement and the Professions: Reclaiming a Space for Democratic Professionalism in Education', *Educational Philosophy and Theory*, 49(4), 2015, pp315-330.

¹⁰ C. Barnett, N. Clarke, P.Cloke and A. Malpass, 'THE ELUSIVE SUBJECTS OF NEO-LIBERALISM: Beyond the analytics of governmentality', *Cultural studies*, 22(5), 2008, pp624–653.

¹¹ D. Bridges, P. Smeyers, and R. Smith, (eds) *Evidence-based education policy: what evidence? what basis? whose policy?* West Sussex, Wiley Blackwell, 2009. See also: C. Holligan, 'Liquid modernity: Exploring the Research-Contract Nexus within Contemporary Scottish Political Culture', *Scottish Educational Review*, 45(1), 2013, pp6-22.

¹² See K. Lynch, 'Control by numbers: new managerialism and ranking in higher education', *Critical Studies in Education*, 56(2), 2014, pp190-207; and M. Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life*, Princeton, NJ, Princeton University Press, 1995.

¹³ D. Hill, 'Comprehensive education: ideology and wider socialist and Marxist education policy', *FORUM for promoting 3-19 comprehensive education*, Vol. 63 (1), 2021, pp47-58.

¹⁴ J. Scott, *A Dictionary of Sociology*, Oxford, Oxford University Press, 2015.

¹⁵ D. Hill, 2021, op. cit.

¹⁶ E. Playfair, 'The comprehensive college', *FORUM: for promoting 3-19 comprehensive education*, Vol. 63, No. 1, 2021, pp58-68.

¹⁷ J. Elliot and N. Norris, *Curriculum, pedagogy and educational research: the work of Lawrence Stenhouse*, Milton Park, Abingdon, Oxon, Routledge, 2012.

¹⁸ B. Barker and K. Hoskins, 'Education, inequality and social mobility', *FORUM for promoting 3-19 comprehensive education*, Vol. 63 (1), 2021, pp107-114. See also D. Hill, 2021, op. cit. and Wolf, K. (2018) 'Power struggles: A sociological approach to activist communication', *Public Relations Review*, 44, pp308-316.

¹⁹ Ford, T.G. et al. (2009) *Handbook of education policy research*. New York: Routledge.

²⁰ Larsson, C. and Sjöberg, L. (2021) 'Academized or deprofessionalized?— policy discourses of teacher professionalism in relation to research-based education', *Nordic Journal of Studies in Educational Policy*, 7:1, pp3-15. See also Weingart, P. (1999), 'Scientific expertise and political accountability: Paradoxes of science in politics', *Science and Public Policy*, 26(3), pp151–161.

²¹ Strathern, M. (2000) *Audit Cultures: Anthropological Studies in Accountability, Ethics, and, the Academy*, London, Routledge.

²² Ozga, J. (2009) 'Governing education through data in England: from regulation to self-evaluation', *Journal of Education Policy*, 24(2), pp149-162. See also: OECD PISA 2009, 'Overcoming Social Background. Equity in Learning and Outcomes', Vol. 111, Paris, OECD, 2010; Scottish Government. (2010) Programme for International Student Assessment (PISA) 2009-10 Highlights from Scotland's Results, Statistics Publication Notice Education Series ISSN 1479-4569, Edinburgh, Scottish Government; and T.S. Prøitz, S. Mausethagen, & G. Skedsmo, 'Data use in education: alluring attributes and productive processes', *Nordic Journal of Studies in Educational Policy*, vol. 3, no. 1, 2017, pp1-5.

²³ B. Olsen and D. Sexton, 'Threat Rigidity, School Reform, and How Teachers View Their Work Inside Current Education Policy Contexts', *American educational research journal*, 46(1), 2009, pp9–44.

²⁴ J.M. Little, 'Understanding data use practice among teachers: The contribution of micro-process studies', *American Journal of Education*, 118(2),2012, pp143–166.

²⁵ C. Lundahl and M. Serder, 'Is PISA more important to school reforms than educational research? The selective use of authoritative references in media and in parliamentary debates', *Nordic Journal of Studies in Educational Policy*, 6:3, 2020, pp193-206.

²⁶ S. Ben-Porath and T.H.B.Shahar, 'Introduction: Big data and education: ethical and moral challenges', *Theory and Research in Education*, 15(3), 2017, pp243-248. See also I. Hacking, 'Biopower and the Avalanche of Printed Numbers', *Humanities in Society*, 5, 1982, pp279-295, and T.M. Porter, 1995, op. cit.

²⁷ T.S. Prøitz, S. Mausestagen & G. Skedsmo, 2017, op. cit.

²⁸ D.F. Labaree, 'Progressivism, schools and schools of education: An American romance', *Paedagogica Historica, International Journal of the History of Education*, 41(1–2), 2005, pp275–288.

²⁹ E.D. Thoutenhoofd, 'The mass production of learning: positive behaviour in a datafied education system', *Nordic Journal of Studies in Educational Policy*, 5:3, 2019, pp153-164.

³⁰ S. Ball, *Education plc: Understanding private sector participation in public sector education*, London, Routledge, 2007.

³¹ D.W. Murray, *Drowning under unintended consequences: a specific example of policy mess*, EdD Thesis, University of Edinburgh, 2015.

³² See <http://www.craigforth.co.uk/>.

³³ <https://www2.gov.scot/Topics/Research/About/Social-Research/SR-Contracts>.
Downloaded: 1/02/20.

³⁴ C. Holligan, 'Liquid modernity: Exploring the Research-Contract Nexus within Contemporary Scottish Political Culture', *Scottish Educational Review*, 45(1), 2013, pp6-22.

³⁵ N. Fairclough, 'Critical discourse analysis and critical policy studies', *Critical Policy Studies*, 7(2), 2013, pp177-197.

³⁶ FOI Reference: 202000018463. The Toolkit contract ended on 31st March 2020.

³⁷ Scottish Government, 2017, op. cit.

³⁸ J. Ozga, Governing education through data in England: from regulation to self-evaluation, *Journal of Education Policy*, 24(2), 2009, pp149-162.

³⁹ Scottish Government, 2017, op. cit.

⁴⁰ Ibid

⁴¹ Ibid

⁴² B. Williamson, 'Governing software: networks, databases and algorithmic power in the digital governance of public education', *Learning, Media and Technology*, 40(1), 2015, pp83-105; and B. Williamson, 'Digital education governance: data visualization, predictive analytics and 'real-time' policy instruments', *Journal of Education Policy*, 31(2), 2016, pp122-141.

⁴³ Scottish Government, 2017, op. cit.

⁴⁴ J. Urry, *Reference groups and the theory of revolution*, Abingdon, Oxon , Routledge, 2011.

⁴⁵ J.E. Escalas, and J.R. Bettman, Self-Construal, Reference Groups, and Brand Meaning, *The Journal of consumer research*, 32(3), 2005, pp378–389.

⁴⁶ A.H. Halsey, *Decline of donnish dominion: the British academic professions in the twentieth century*, London, Clarendon Press, 1995.

⁴⁷ Scottish Government, 2017, op. cit.

⁴⁸ Ibid

⁴⁹ Ibid

⁵⁰ B. Williamson, 2015 op. cit.; B. Williamson, 2016, op. cit.

⁵¹ Scottish Government, 2017, op. cit.

⁵² F.M. AlHaidari, *The Discourse of Business Meetings: Agency and Power in Financial Organisations*, Palgrave Macmillan, 2017.

⁵³ F.M. AlHaidari, *The Discourse of Business Meetings: Agency and Power in Financial Organisations*, Palgrave Macmillan, 2017.

⁵⁴ G. Shaw, *The art of business communication: how to use pictures, graphs and charts to make your message stick*, New York, Pearson, 2015.

⁵⁵ H.H. Gerth and C.W. Mills, *From Max Weber: essays in sociology*, Oxford, Routledge, 2009.

⁵⁶ P. Taylor-Webb, 'The evolution of accountability', *Journal of Education Policy*, 26,6, 2011, pp735-756.

⁵⁷ Scottish Government, 2017, op. cit.

⁵⁸ Ibid

⁵⁹ S. Fuller, *The Intellectual: the positive power of negative thinking*, Cambridge, Icon Books Ltd, 2005.

⁶⁰ R.A. Goldstein, 'Who Needs the Government to Police us When We Can Do It Ourselves? The New Panopticon in Teaching', *Cultural Studies – Critical Methodologies*, 4(3), 2004, pp320-328.

⁶¹ B. Lingard, 'The impact of research on education policy in an era of evidence-based policy', *Critical Studies in Education*, 54(2), 2013, pp113-131.

⁶² C. Garland, "We Teach All Hearts to Break": On the Incompatibility of Education with Schooling at All Levels, and the Renewed Need for a De-Schooling of Society, *Educational Studies*, Jan/Feb2012, 48(1), 2012, pp30-38.

⁶³ <https://educationendowmentfoundation.org.uk/evidence-summaries/>

⁶⁴ Blair welcomes private firms into NHS | Health | The Guardian

⁶⁵ <https://impetus.org.uk/our-team>

⁶⁶ Scottish Government, 2017, op. cit., p8.

⁶⁷ A. Dawson, E. Yeomans and E.A. Brown, 'Methodological challenges in education RCTs: reflections from England's Education Endowment Foundation', *Educational Research*, 60(3), 2018, pp292-310.

⁶⁸ N. Rose and P. Miller, 'Political power beyond the state: problematics of government', *The British Journal of Sociology*, Vol. 43 (2), 1992, pp173-205.

⁶⁹ M. Arnot, 'Reshaping the 'nation': education, 'performance data' and policy discourses in Scotland', *European Conference on Educational Research*, Free University of Bolzano, Italy, 2018.

⁷⁰ J. Nisbet, *Pipers and Tunes: A Decade of Education Research in Scotland*, Edinburgh, SCRE, 1995.

⁷¹ <https://royalsociety.org/>

⁷² R. Biederman, P. Petitti, and P. Maglathlin, *Reimagining work: strategies to disrupt talent, lead change, and win with a flexible workforce*, 1st edition. Hoboken, New Jersey, Wiley, 2018.