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Teachers developing research-informed practice in the post-truth world

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Education is a values-based and complex field in which research evidence is multidisciplinary and multi-paradigmatic, and therefore highly contested. In this paper I argue that within such a field we must value and depend on teachers' research-informed professional judgements, on what and how to teach in their school and classroom. However, there are increasing signs of professional development materials aimed at teachers which are part of the 'post-truth' world. By post-truth we mean where objective facts are less influential than appeals to emotion and personal belief. Some of these professional development materials are based on weak scholarship, but more insidiously some are part of ideological agendas, so that they should be viewed as part of post-truth politics. In considering the research literacy of teachers, the paper aims to provoke discussion and response, from teachers, teacher educators and policymakers, to the possible influence of post-truth on teachers' beliefs and professional judgements.

POST-TRUTH TEACHERS

My purpose in writing this paper is to provoke discussion of challenges that our 'post-truth' world presents for the development of research-informed practice by schoolteachers, and to consider the implications for teacher educators. Three key questions seem relevant. First, how do teachers decide

what and how to teach? Second, what is post-truth and why has it become so prevalent? And third, how might the post-truth world be influencing the professional guidance materials that teachers are engaging with? Finally, we will consider 'fear' and try to understand why professors of education, and teacher educators more widely, have not seemed willing or able to push back critically and

effectively on professional guidance publications that are based on weak scholarship or ideological agendas.

How might the post-truth world be influencing professional learning of teachers? The policy context in England is interesting. Recent government agency (Ofsted) inspections of initial teacher education (ITE) programmes in England have claimed that 'some

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ITE programmes are underpinned by outdated or discredited theories of education' (UCET, 2021: 1). In England, the core curriculum framework (CCF) for initial teacher education provides detailed centralised government agency guidance on how teachers decide what and how to teach (DfE, 2019), and recent Ofsted inspections appear to be monitoring its implementation.

DECIDING WHAT AND HOW TO TEACH

As teacher educators we have a responsibility to help build teachers' professional capacity. In deciding what and how to teach we should aim for teachers to develop 'research-informed' practice in their schools. The choice of the term 'research-informed' is an attempt to capture teachers' critical engagement with theory and empirical research but also to acknowledge their application of professional judgement. Despite this preference, the term 'evidence-based' is widely used (Philpott & Poultney, 2018). Teachers' professional judgement in deciding what and how to teach is essential for at least three reasons.

First, professional judgement is essential because education is a values-based activity. What and how to teach is entangled with purposes and professional values, for example related to desirable outcomes of education. We can consider at least three overlapping purposes, each of which includes multiple strands and nuances: qualification – knowledge and ways of knowing; socialisation – family, citizenship and employability; and subjectification – development as a unique individual including metacognitive and self-regulated learning (based on Biesta, 2008). Teachers' professional judgement involves philosophical decisions around values and purposes.

A second reason is that context is so influential within the complexity of classrooms. This includes the children, the teacher, the teaching team, the curriculum subject, the school, the

community, the policy framework, and wider society. Thus, literally millions of dollars have been thrown at developing and testing a wide range of sophisticated frameworks for observation and analysis of classroom teaching. Despite this effort, finding a reliable and consistent approach to judging quality has proved elusive, and it has proved difficult to link observation-based assessments to raised attainment by students (Steinberg & Garrett, 2015; Wagner *et al.*, 2016).

Third, professional judgement is essential because education as a field is multidisciplinary and multi-paradigmatic. So, if you had a problem as a teacher in your maths lesson, such as off-task misbehaviour on a wet and windy Thursday afternoon, then I can easily find you six world-leading professors of education who can give you six different explanations and suggested strategies: for example, based on frameworks around motivation, identities, curriculum, pedagogy, learning needs or learning environment. This means that educational research requires evaluation and interpretation. Experimental design research, such as randomised control trials (RCTs), is much harder to design and implement in the messy world of education than in the relatively simple world of biomedicine. Education is more like mental healthcare than biomedicine (Philpott, 2017). Matching a control group and using a placebo can be attempted in educational research but they are never going to be ideal. And RCTs rely on proxy measures of educational impact, usually standardised tests, which brings us back to the issue of education being values-based and requiring a clear understanding of purposes. Qualitative educational research is very useful in providing more explanation of why and how children learn, but again, because the researcher has used an interpretive approach to analysis, it also requires evaluation and interpretation by teachers.

Based on these three arguments, it is useful to consider teachers'

'research literacy' as research-informed professional judgement (Boyd, 2022). This terminology helps to balance the value and limitations of public knowledge, including educational research, with the value and limitations of teachers' situated practical wisdom and ways of working (Boyd *et al.*, 2015).

THE POST-TRUTH WORLD

So, if teachers are using professional judgement to decide what and how to teach then the post-truth world becomes a possible influence, especially as there is now material accessible online, for example by bloggers who are or have been teachers, that claims to be 'evidence-based'. The term 'post-truth' was Oxford English Dictionary (OED) word of the year in 2016 and is defined as: 'relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief'. However, Stephen Colbert prefers his term 'truthiness', dating back to 2006, which he defines as: 'the belief in what you feel to be true rather than what the facts will support'. In a useful and concise book on the topic, Lee McIntyre (2018) defines post-truth as: 'Facts are less important than feelings in shaping our beliefs about empirical matters.'

We can consider three key points about post-truth: how it relates to politics; how it has developed with changes in news media and technology; and how it has been supported by science denial.

First, in relation to politics, the OED definition helpfully identifies the public opinion dimension and so foregrounds the rise of post-truth politics. Post-truth can be seen as a form of ideological supremacy, where there is an attempt to influence someone to believe something whether there is good evidence for it or not (McIntyre, 2018: 13). Related terms and concepts do not quite capture post-truth but are associated with it, such as fake news, alternative facts and truth

decay, and we might consider to what extent we previously used more direct terms such as propaganda and lies. It is worth noting Stephen Colbert's introduction of 'truthiness' in 2006 which, seen at the time as merely a joke, with hindsight showed remarkable foresight.

Second, post-truth is strongly related to changes in the news media. Central to this is the gradual demise of newsprint and especially local newsprint media, and its replacement by social media as a way that many people access news and current affairs. It is important to note that the print media was not always a model of objective reporting. Around 1900 in the USA, newspapers such as the New York Times began to emphasise more objective reporting of information; prior to this, most newspapers offered opinionated reports and story-telling which were referred to in the USA as 'yellow journalism'. In recent years, as newsprint has experienced falling sales under pressure of online and social media competition, there has been falling resource available for investigative journalism (McIntyre, 2018). Of course, with former president Trump, who claims to still be the legitimate president as the 2020 election was 'stolen' from him, being such an aficionado of post-truth or truthiness, it is all too easy for Europeans to claim the high ground on post-truth. But the Brexit vote campaign in the UK demonstrated very clearly another major issue for the news media, which is the danger of a simplistic approach to 'balance'. If one side tells a blatant lie then news media, through investigative journalism, would seem to have a responsibility to call it out. However, on Brexit the television companies, including the BBC, had to give both sides equal time and did not call out lies, so giving the impression that there was some basis for these lies. This issue of balance makes a connection to the issue of science denial discussed further in a moment, but directly in relation to how a teacher decides what and how to teach we should reflect on the parallel development and impact of social media

and online materials in recent years. A whole cottage industry has grown up and developed from teacher bloggers and the use of Twitter to become a sophisticated network including teacher conferences and even professional guidance books. This movement has been encouraged by the 'turn to practice' by policymakers; for example, in the UK this includes a shift to school-based teacher 'training' rather than university-school partnership initial teacher 'education'. Much of this online teacher blogger material claims to provide evidence-based professional guidance and it certainly offers an attractive alternative to the often inaccessible and less obviously applicable but peer-reviewed traditional research. It is remarkable that some professional guidance books with a questionable scholarly basis have been published by established education publishers. This raises questions about dependence on the peer review process which normally does operate in some form with professional guidance books as well as with research journal papers.

SCIENCE DENIAL

The tobacco industry on cancer, then the oil industry on climate change, and perhaps most recently the gambling industry on addiction, have all funded research. Their aim has been to create at least the appearance of an opposing view, despite a huge body of work revealing these problems. With the established news media not calling out falsehoods, and simply giving equal time to feeble evidence or downright lies, this has created a seeming equivalence even when one side of the argument is not credible. It seems reasonable to call for the development of critical thinking and evaluation of media by citizens so that they can recognise 'weaponized lies', but achieving that level of media literacy seems ambitious and does not offer a quick fix (Levitin, 2017).

It is difficult to judge an education policy document in relation to underpinning research. A single RCT study was influential in justifying the inclusion of

direct instruction on formal grammar into the Primary National Curriculum in England (Wyse & Torgerson, 2017). This RCT had no checks on the fidelity of the intervention, which appears to have been embedded grammar rather than direct instruction. The pre-tests and post-tests consisted of a piece of first-person narrative, and the project team, employing expert judges, found it difficult to reach agreement on grading. The sample was lower secondary school rather than primary school pupils, even though the study strongly influenced the Primary National Curriculum document. Many education policy documents will claim or at least imply that they are 'evidence-based' but do not use academic genres of writing, including substantial citation and referencing, to demonstrate this to the reader.

As part of the shift in policy in England towards 'evidence-based' teaching, the inspection agency Ofsted has started to publish research reviews. A recent Ofsted review on teaching mathematics (Ofsted, 2021) was subjected to critical review in a paper published in the journal of the Association of Teachers of Mathematics. This review, written collaboratively by three academics and an education consultant, presents a careful critique which identifies four areas of weakness of the Ofsted review. These are that the Ofsted review: draws unwarranted causal claims from studies; oversimplifies or overgeneralises the results of research; bases practice implications on poor-quality studies; and omits substantial bodies of relevant research (Gilmore *et al.*, 2021). The authors conclude that 'the recommendations in such a report cannot be considered to be research-informed' (p. 38). It seems reasonable at least to ask the question: is the inspection agency in England producing post-truth research reviews?

As one example of what I consider to be a 'false debate' we can consider the ongoing direct (or explicit) instruction versus inquiry-based teaching argument. There

is some confusion around the term direct instruction, and, when in capitals, Direct Instruction (DI) is mostly associated with Siegfried 'Zig' Engleman's work and the continuing work of the National Institute for DI based in the USA (<https://www.nifdi.org>). In England authors within the ResearchEd movement have developed a preferred term of 'explicit teaching' and entangled this with Rosenshine's principles for effective teaching (2009, 2012) and also tend to refer to a paper by Kirschner *et al.* on minimal guidance during instruction (2006). Rosenshine himself points out that the research he relies on is outdated; for example in 1990 he commented, 'It should be noted that many of these studies are 30 or more years old... [but] the results of these studies have not been refuted, and... many of the procedures can be applied in both traditional and constructivist classrooms' (Rosenhine, 1990: 212). He might usefully have added that the research he relies on is mostly not in the form of well-designed RCTs. Concerning the influential paper by Kirschner *et al.* (2006), there again seems to be a paper tiger in the room, because they refer to 'minimal guidance' approaches and there is little evidence from research or practical experience that these kind of 'extreme discovery' approaches are found in many mainstream schools. The papers by Rosenshine and Kirschner, to be honest, are rather like this paper I am writing at the moment, they present discursive arguments and refer only lightly to critical engagement with empirical research, although they sometimes lean heavily on cognitive theory. Perhaps I am applying the idiom, 'if you can't beat them, join them.' A recent contribution, a professional guidance book from a teacher blogger involved in the ResearchEd movement, deserves mention here not least because of its title but also because it promotes explicit teaching approaches. The book by Greg Ashman (2018) is entitled *The truth about teaching*. Publishing a professional guidance book for teachers with that title, just two years after the term post-

truth was added to the OED, appears to me to demonstrate confidence or perhaps irony. In his book Ashman builds a scholarly argument in support of explicit teaching, across chapters such as 'The science of learning', 'Explicit teaching' and 'Alternatives to explicit teaching', as well as providing useful practical chapters on planning and assessment. The writing is again discursive, which is perhaps appropriate for a professional guidance text that is aiming to be accessible to teachers. The problem for me in reading it is that it does not seem to be balanced and seems to make great leaps from theory, individual studies and bodies of empirical research to practical implications and suggestions for classroom practice. I am more convinced by a paper arguing for a more balanced relationship between inquiry and instruction approaches in the context of teaching mathematics (Blair, 2021). Andrew Blair is a teacher and in his paper relating theory to practice, published in the professional journal of the UK Association of Teachers of Mathematics, he argues that inquiry provides opportunities for instruction when required, as well as exploration (p. 36).

Along with the Ofsted research review previously discussed, the *The truth about teaching* might be part of a contemporary shift towards the myth of 'evidence'. In a peer-reviewed journal article and based on a discourse analysis of policy documents and expert interviews, Helgetun and Menter (2020) identify a myth of 'evidence' that has developed within teacher education policy in England. They argue that teacher education in England has moved from an age of measurement to an 'evidence era' where: 'actions are justified through a language shrouded in talk of research and best practice' (p. 2). These authors identify one myth supported through data analysis and claim it only within the scope of teacher education because of the limitations of their data. In contrast, originally published online, but then in hard copy by the established education

publisher Routledge, the influential book *Seven myths about education* by Daisy Christoloudou (2014) proposes seven myths spanning across teaching and education. Some commentators have claimed these are simply false debates, paper tigers, used as a foil. Christoloudou refers to her, then limited, practical experiences in schools and the views of E. D. Hirsch to comment on content knowledge and the curriculum. My own experience of teaching in three secondary schools between 1981 and 1998 was that as geography departments we were obsessed with and entirely focused on knowledge and ways of knowing in geography. This seemed to be the case with the departments I continued to work with as a teacher educator based in higher education. I would argue that the potentially useful research by E. D. Hirsch on comprehension and learning to read does not justify his extrapolation of findings within those necessarily focused studies into a whole theory that knowledge has been superseded by content-free skills development in schools in the USA and beyond. Christoloudou also supported her seven myths by frequent reference to Ofsted reports. Ofsted is a government agency providing high-stakes school inspections in the UK. But I would argue that Ofsted has been a pernicious influence that most teachers aim to manage and work around rather than truly comply with. Its reports and views are an interesting source of data for discourse analysis to give insight into implementation and mediation of government policy, but do not provide a reliable evidence base for how schools and teachers decide what and how to teach. And those reports certainly require analysis rather than cherry-picking of juicy quotations. Having used the *Seven myths* book as an example of what I judge to be weak scholarship, I should point out that more recent books by Daisy Christoloudou do appear to provide more scholarly professional guidance for teachers. It is also important to note that the *Seven myths* book has been highly

commended and cited by a range of commentators including some academics. So, in expressing my judgement, am I simply pitching my opinion into the post-truth world?

Have some elements of theory and research been co-opted by ideologues? McIntyre engages with the rather contentious argument that postmodernism, as an epistemological research philosophy, may have been hijacked by right-wing commentators to support the development of our post-truth world (2018: 123). We have to acknowledge that science denial is itself evolving, especially in relation to the influence of social media and online materials. Perhaps it is now less expensive to work through social media than to fund contradictory research?

ACADEMIC FEAR

Having considered three key questions, (1) how do teachers decide what and how to teach? (2) what is post-truth and why has it become so prevalent? and (3) how might the post-truth world be influencing the professional guidance materials that teachers are engaging with?, some pertinent further considerations arise.

Why is it so hard to find critical reviews of teacher blog posts, teacher-led networks and published professional guidance books from the teacher-led movement? Are professors of education, and teacher educators more widely, too timid to offer critique? Are they afraid to disturb their teacher education relationships with partnership schools, government agencies, Ofsted and even with established publishers? Are they afraid of becoming entangled in a social media storm which quickly escalates beyond their control? Perhaps talk of 'academic fear' is a bit dramatic and overstates the issue, perhaps I am trying too hard to be provocative. Maybe 'teacher educator self-censorship' is more accurate and reasonable? To be fair, some professors of education do publish clear, strong and scholarly arguments in papers and books,

for example against the flawed view of RCTs as the 'gold standard' for educational research (Gale, 2018). Perhaps it is too much to expect them to also engage with social media and open-access publishing so that their views are more widely available to teachers.

Why do teacher education departments in England seem reluctant to handle Ofsted government agency inspections robustly? In recent events Ofsted seems to be monitoring programmes with respect to the 'national curriculum' for initial teacher education which was published as a 'core content framework' (DfE, 2019). The Universities Council for Education of Teachers is concerned by some very negative reports on teacher education provision by Ofsted (UCET, 2021). The prescribed content in the framework does reflect some questionable aspects and claims for them to be evidence-based, but nothing that confident teacher educators cannot teach to student teachers alongside a critique and building student teacher capacity for critical evaluation of that content.

Why do we seem to have false debates, artificial dichotomies, arising within education? For example, the curriculum debate, the learning-to-read debate, the direct instruction versus inquiry-based teaching debate, and the RCT versus qualitative research debate? Is it because an attention-grabbing headline is likely to have more impact than a nuanced argument? Perhaps this development of false dichotomies is a consequence of our post-truth world. McIntyre argues that the right wing have co-opted postmodernist ideas for use in political post-truth approaches (2018: 126). Is educational research becoming crudely politicised? For example, has 'evidence-based' practice founded on meta-review of RCT research studies become somehow associated with, even co-opted by, the right wing?

COMMON GROUND

Finally, what common ground can we find, as teachers, teacher educators, educational researchers, inspectors, policymakers, commentators and as authors of professional guidance materials? Might we all at least agree that education is a value-based activity so that purposes and desirable outcomes always need to be debated and considered in deciding what and how to teach? Might we all at least agree that education is a complex field so that our engagement with educational research should insist on robust methodology but consider the complementary contributions of both experimental and qualitative studies? Might we all agree that teachers' professional judgement must always play a significant part in deciding what and how to teach? Might we all agree that teachers need to develop research literacy but also a critically reflective and evaluative approach to their own developing practical wisdom? And that within both these areas of knowledge and ways of knowing, public knowledge and practical wisdom, teachers, as well as authors and publishers of professional development materials, must acknowledge and adopt a critical perspective on the post-truth world in which we live? ■

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