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How does research reach teachers? An agenda for investigating research mobilities in primary literacy education

Cathy Burnett ⓘ, Julia Gillen ⓘ, Ian Guest, Bronwen Maxwell and Terrie Lynn Thompson

Abstract

In England, several developments combine in powerful ways to sustain certain ideas about literacy and research in education. These include the promotion of a specific model of 'evidence-based practice', frameworks for initial teacher education and early career professional development, and a strong accountability framework via inspection. However, as we illustrate through examples of activity on Twitter, to suggest that such ideas are all pervasive is to ignore other, less predictable, ways in which research circulates. Teachers, researchers and others working in literacy education, combined with the work of digital actors, assist the movement of ideas in sometimes unpredictable and even exciting ways. We argue that, if we are to understand how teachers encounter research, we need a better understanding of how research moves. We suggest that such movements are produced through shifting assemblages of human and non-human actors that combine to mobilise literacy research evidence differently and to varying degrees. This, we propose, calls for a new focus on what we call 'research mobilities' in primary literacy research.

Key words: England, evidence-based practice, literacy research, primary literacy, research mobilities, Twitter

Introduction

Literacy is not a fixed target; it looks different in diverse contexts, and conceptions never stand still. Many agree therefore that, if primary teachers are to develop empowering, inclusive and effective literacy classrooms, they need to use their professional judgement to draw on understandings associated with different theoretical perspectives and research traditions (Ellis and Smith, 2017; Hall, 2013; Moss, 2021). Expansive understandings of literacy and literacy education for example include attention to critical literacy, digital media, embodiment, affect and materiality, and the plurality of multilingual and multimodal litera*cies* in which people engage everyday life (e.g. Burnett and Merchant, 2018; Comber, 2016; Leander and Ehret, 2019; New London Group, 1996). However, while such work has significant implications for the scope and range of teachers' professional knowledge about literacy, very little of it has gained traction with policy-makers in England.

Given this, it is worth noting that some research evidence has had a considerable influence on educational policy and practice in language and literacy education. The Clackmannanshire evaluation of a systematic synthetic phonics (SSP) intervention (Johnston and Watson, 2004, 2005), for example, was used to justify use of SSP as a central part of early reading provision across England in 2006 despite critique of the underpinning research and the wider effects of SSP policy (e.g. Ellis and Moss, 2014; Wyse and Styles, 2007). While there is a broader evidence base for the impact of systematic phonics teaching on single word reading, researchers have continued to raise concerns about the effects of foregrounding and resourcing SSP at the expense of alternative, or complementary, approaches to phonics and early reading provision (Clark, 2018; Torgerson et al., 2019; Wyse and Bradbury, 2022). This policy however has been robustly maintained by successive governments in England, bolstered by a high stakes national word reading test at age 6 and accountability through school inspection. More recently, 'The Science of Reading' has swept through the United States, Canada, Australia and elsewhere (Goodwin and Jimenez, 2020) with similar implications for practice.

Another study that has gained considerable influence is Hart and Risley's (1995) exploration of the so-called 'Word Gap' which concluded that children from varied socio-economic groups have differential levels of vocabulary use. As with the Clackmannanshire evaluation, the methodology for Hart and Risley's study has been critiqued extensively with concerns

expressed that it sustains deficit perspectives of certain groups of children which, in turn, contribute to inequitable educational provision (e.g. Adair et al., 2017; Baugh, 2016). Such critique builds on a large body of work which explores the socially and culturally situated nature of children's language use, challenging the premise of the Word Gap research – with important implications for language and literacy pedagogy (e.g. Heath, 1983; Yoon and Souto-Manning, 2018). Nevertheless, our pilot study of media discourse around the 'Word Gap' showed an acceptance of the notion persisting over several years and remaining almost entirely unquestioned (Gillen and Burnett, 2020).

This leads us to ask why it is that some pieces of research evidence gain traction while others do not. The relative influence of research evidence depends on many things. These might include research quality, although not necessarily – but also the effectiveness of researchers' communication and impact strategies, resonance with policy-makers' and educators' priorities and beliefs, and the value colleagues place on research findings (Brown, 2012; Cain, 2015; Meusberger, 2017). This situation is complicated by broader developments in educational policy and shifts in communicative practices. Sources of guidance, support and direction for literacy education have expanded and diversified in recent years in ways that may increase teachers' access to research but may also shape the topics, methodologies and underpinning theories that gain influence.

Against this background, we propose that, for literacy education to thrive in our primary schools, we need to know more about how research findings circulate, about what is taken up and what is left behind that could be valuable to teachers. In developing this argument, we begin by mapping some developments in the contemporary educational landscape that may have implications for the relative impact of different kinds of research. We focus specifically on England but suggest that many of the developments cited are relevant elsewhere, too. We then draw on preliminary observations from a pilot study, *The Movement of Ideas about Literacy during Lockdown*, which traced exchanges about primary school literacy on Twitter, to raise questions about how such developments intersect and interact to bring research to the attention of primary teachers. We conclude that, if we are to understand how teachers encounter literacy research, we need a better understanding of the movements of research – what we call 'research mobilities' – suggesting that such movements are produced as human and non-human actors assemble to mobilise or stall research evidence.

Developments in the educational landscape

One globally influential development with potential for significant influence on teachers' encounters with research has been policy-makers' preference for randomised controlled trials (RCTs) as the 'gold standard' for research in education (Goldacre, 2013). A focus on 'what works' has been widely promulgated in the United States, Australia and other jurisdictions. One effect of this is to narrow what can be known about approaches to literacy education. RCTs and other quasi-experimental methodologies may provide useful information about the measurable impact of approaches on pre-specified outcomes but do little to explore how and why this impact happens, and/or the wider effects of interventions. The process evaluations that often accompany RCTs can, to an extent, provide such information, but their scope can be limited. Framed by the underpinning logic of the approach being tested, they often miss broader and unintended effects. Moreover, an emphasis on RCTs as the gold standard for evidence can privilege certain pedagogical approaches as some aspects of literacy and approaches to literacy education fit more easily with the logic of RCTs than others. Specifically, for example, approaches that build on cognitive-psychological perspectives are more conducive to quasi-experimental design and RCTs than those based on sociocultural perspectives, which typically use qualitative approaches to explore the complexity and situatedness of experience (Burnett and Coldwell, 2020). An overemphasis on RCTs as the key source of evidence therefore risks missing insights from different methodologies and knowledge domains and marginalising the significance of context and the wider aims and purposes of education (Biesta, 2020).

Yet over the last decade or so in England, a series of government initiatives have worked to embed this particular model of evidence-based practice. State-mandated frameworks for initial teacher education, early career professional development and inspection all highlight the importance of 'evidence', suggesting a transmission-orientated rather than negotiated or critical model of professional learning. Even though the curriculum for teacher training specifies critical engagement with research as a core professional behaviour (DFE, 2019a, 2019b; Ofsted, 2020), SSP is identified as the prime approach to teaching early reading and the Ofsted framework for inspecting initial teacher training mandates that 'trainees are not taught competing approaches to early reading' (Ofsted, 2020, p. 28). This statement marginalises the wealth of research that explores early reading from diverse perspectives and which has potential to contribute in different ways to teachers' decision-making and sense of agency (Ellis and Rowe, 2020; Ellis and Smith, 2017; Hall, 2003). This active promotion of a single teaching reading instrument in isolation risks narrowing early reading provision and deprofessionalising teachers.

Contemporaneous with this narrowing of policy focus is an expansion in the range of individuals and organisations that contribute to teachers' professional development. Following the dismantling of local education advisory services and the move to academisation, professional learning opportunities have become increasingly decentralised. It is now common for multi-academy trusts and free schools to develop – and often market – their own professional development courses. There is also a growing influence from independent consultants (Gough, 2013) galvanised by the emergence of economic models that build from free online participation to paid consultancy, and several relatively new bodies, independent of government, universities and local authorities, have been established to support, regulate and accredit professional practice. These include the Chartered College for Teaching, the Teacher Development Trust and the Education Endowment Foundation's (EEF) network of Research Schools. More longstanding bodies also continue to facilitate teachers' engagement with research: organisations such as the United Kingdom Literacy Association, for example, charities such as the National Literacy Trust, and universities running accredited programmes or coordinating teacher action-research networks and professional learning communities (e.g. Brown and Rogers, 2015). Many such individuals and organisations are committed to strengthening relationships between research and practice and brokering research findings. However, the manner of that brokering and the kinds of research promoted may vary, reflecting different commitments, beliefs and levels of research expertise, and intersecting in different ways with the policy developments outlined in the previous paragraph.

In addition to this plethora of activity, it has become easier for teachers to engage directly with research – in theory at least. This may be helped by movements to make research open access – although navigating the vast array of available material can be challenging for hard-pressed teachers. There are also various platforms that host research summaries designed for teachers and schools (e.g. https://www.meshguides.org/), but the process of summarising research for a lay audience through abbreviation, plain English and website design, may have implications for meanings conveyed (Clegg et al., 2016). For example, EEF's Teaching and Learning Toolkit (EEF, online) presents a table which rates interventions for cost, evidence strength and impact on learning, but the contextual, and contextualising, details within underpinning research reports may easily be missed. While some organisations monitor access to their platforms and research summaries, little is known about how teachers engage with these and how (or whether) these feed into practice. There is however a growing body of work that has explored how teachers use social media as a source of professional support and inspiration, and it is this that we turn to next.

Social media sites such as Twitter, Facebook and Whatsapp have grown in popularity amongst teachers as they enable rapid sharing and dissemination of research and practice across geographical boundaries (Macia and García, 2016). Many teachers value Twitter, for example, for mediating easy access to likeminded others, sharing ideas and resources, and pursuing their professional interests (Biddolph and Curwood, 2016; Carpenter and Krutka, 2014; Guest, 2018). The opportunities Twitter presents for research dissemination are now widely recognised. It is commonplace for researchers to disseminate research by tweeting links to articles, blogs and presentations. Many of the organisations and individuals (listed above) that actively broker research are active on Twitter too. Twitter therefore provides a productive starting point for considering why it is that some research findings surge in influence while others fall by the wayside. It is also a practical and feasible social media platform to explore ethically since posts that are constructed for public consumption can be distinguished and made the focus for study (Gillen, 2014). In the next section, therefore, we draw on examples of Twitter use to explore some ways that different interests may interact in teachers' encounters with research. In doing so, we stress that Twitter provides just one starting point for investigating research mobilities. There are many other sites (on and offline) that mediate the movements of research to and between teachers. Our examples do, however, show some ways in which the movements – and their potential influence – may be shaped by multiple actors.

The project

The Movement of Ideas about Literacy to Primary Teachers in Lockdown aimed to explore how ideas for literacy teaching gained traction amongst teachers through the use of Twitter. We were interested in sources of inspiration and guidance that circulate online, sources which may or may not be rooted in research – resources, viewpoints, guidance, lesson plans, evidence of teachers' practice and children's outcomes as well as research summaries and reports. As it unfolded, the project covered an interesting transition period as teachers networked online around ways of teaching online during a lockdown due to the Covid-19 pandemic and as they began to move back into classrooms, often in partial ways. It is important to mention that in this project, we were not seeking to examine ideas that necessarily, directly or explicitly emerged from research. As is clear from one of our

examples below we were interested in the circulation of ideas more broadly.

Over 4 weeks (9 June to 7 July 2020), one of us (Guest) searched for literacy-focused tweets using a variety of strategies and conducted two interviews with tweet authors. Table 1 summarises approaches used, giving reasons for each and noting limitations.

Where tweets were part of threads (a series of replies from multiple authors to an initial tweet or a string of connected tweets from a single author),

Table 1: Data collection activities

Activities	Occurrence	Rationale	Limitations
1. Perusal of Author 2's personal twitter stream (at time of study, Author 2 was following over 3,800 people associated with different educational sectors, disciplines and countries)	3 half hour sessions between 19 and 21 June	Enabled wide-ranging survey of broad range of educators	Limited by Author 2's personal interests and affiliations which did not focus particularly on literacy
2. Daily checks of Twitter streams from a 'Literacy List' of educators (who expressed an interest in literacy within their bio e.g. "Reception teacher. Early Years Lead and Reading Lead")	Daily checks for 15 days from 23 June to 7 July	Search likely to yield literacy-focused tweets from individuals	May have missed those who did not explicitly state literacy affiliation
3. Monitored tweets from accounts linked to charitable associations, for example, @the_ukla and commercial organisations or events, for example @LitFilmFest.	Daily checks for 15 days from 23 June to 7 July	Search likely to yield literacy-focused tweets from organisations	Only possible to follow a selection of associations
4. Searched literacy-related terms (e.g. phonics, comprehension and multiliteracies) reflecting different theoretical underpinnings. These were monitored by creating columns in Tweetdeck.[a] Each column presented a timeline of tweets for terms/hashtags/accounts.	3 times between 21 to 23 June	Explicitly sought tweets linked to different literacy paradigms (and hence different topics and methodologies)	May have missed those not using exact term; or tweets linked to aspects of literacy not addressed by selected terms
5. Used TAGS[b] to collect tweets linked to hashtag chats[c]: #OURfPBookBlether and #EYTeaching.	Prior to, during and after hashtag chats on 9, 16 and 17 June	Ensured focus on tweets authored as part of longer exchanges	Selective and not necessarily literacy focused
6. Interviewed those who use Twitter for professional reasons linked to literacy; explored motivations, strategies and concerns with using Twitter in a professional context.	30 users contacted; 2 agreed to be interviewed and returned consent forms	Explored experience of accessing and brokering literacy research using Twitter	Insights into diversity of experience limited as only 2 interviewees

[a] https://tweetdeck.twitter.com/.
[b] Twitter Archiving Google Sheet – refer to https://tags.hawksey.info/.
[c] Hashtag chats are time-limited discussions, often in response to a list of questions, marshalled by a hashtag.

relationships between them were explored. Sometimes, this involved following links from tweets to other platforms, sources and conversations – for example a tweet might include a link to a blog, which might link to a PDF document, Twitter chat, embedded YouTube video, website link or audio file.

Following pathways in this way highlighted how the movement of ideas can occur in unexpected or serendipitous ways. Twitter users can employ various strategies to increase attention, as documented in guides for maximising social media presence (e.g. Kucirkova and Quinlan, 2017). A mention or tag, for example, can work to recruit an audience, and a url can whisk a user to another location (e.g. refer to Figure 1 for a video link tweeted by the Research Schools Network). However, when a tweet reader inserts a hashtag into a retweet, a tweet can be taken to audiences unanticipated by the author – as with #readingrocks in Figure 4. Popularity can grow as retweets and hashtags propel the post to other places

and audiences within the Twittersphere, often accruing further likes as this happens. Moreover algorithms can throw up possible pathways based on the preferences of other users. A series of YouTube videos, for example, might be 'recommended' to a user following a tweet linked to a related topic. How tweets move is unpredictable to their original authors and can be fascinating to examine.

As illustration, we briefly describe two examples from the dataset: a series of tweets relating to EEF guidance on supporting young children's communication, language and literacy which manifests as a report, video and guidance booklet; and a series linked to a #PrimaryRocks tweet on diversity and children's literature. Our exploration was necessarily selective and our encounters with tweets, and the movements we were able to observe, were inevitably shaped by research design and positionality. However, we focus on these examples as we believe they illustrate different kinds of movement and foreground the role of

Figure 1: 'Preparing for Literacy' tweet [Colour figure can be viewed at wileyonlinelibrary.com]

different actors in mobilising ideas. In each case, we highlight:

- *Authors*: the individual or organisation that was tweeting
- *Visuals*: the subject and style of images
- *Interactions with others*: reproduction or shifts in topic
- *Patterns of movement*: how ideas travelled across multiple tweets

Through doing so, we highlight some similarities and differences between the two examples of how ideas move and suggest that these findings can be usefully extended to thinking about the movements of research.

In line with our approved ethical framework for this project we have reproduced tweets below where they originate from organisations, those with a strong twitter presence or where individual authors agreed for their tweets to be included. Elsewhere we have summarised the content without including tweets themselves.

Our commentaries focus on some features of the tweets. As we shall go on to explore, however, there are many other actors at play here too.

Example 1: Education Endowment Foundation's Talk with Trust and Preparing for Literacy

Our first example focuses on 20 tweets linked to the circulation of the EEF's *Preparing for Literacy* (EEF, 2018). *Preparing for Literacy* is a set of guidance for developing communication language and literacy in the early years that builds mainly on EEF's *Early Years Teaching and Learning Toolkit*, which in turn was based on an EEF-funded synthesis of research evidence (Education Endowment Foundation, online). During our study, we encountered *Preparing for Literacy* through a tweet of a linked EEF framework and video – both called *Talk with Trust* – aimed at parents and encapsulating the same ideas (https://www.youtube.com/watch?v=wZ-4JPQRvHc) (refer to Figure 1). As such, it is an interesting example of how a summary of research on a specific topic (the Toolkit) can be translated into different forms for different audiences: (1) a full report for school leaders, literacy coordinators and other professionals; and (2) an infographic and video of guidelines aimed at parents and carers. More could be said about what is gained and lost through each translation – and this is an area we hope to explore further in subsequent work – but suffice it to say here that, given the care taken to translate this research for different audiences, it is interesting to see how it fared on Twitter during the period of our observation.

First it is worth noting that the 20 tweets focused on different manifestations of the guidance: 12 focused solely on the report, 4 mentioned the report and linked to the video, while 3 included the infographic. One made no explicit reference to the report but mentioned that the author had been 'preparing for literacy' with their own child.

Authors. Most tweets in this series came from those directly involved with EEF (although not from the EEF Twitter account): one from an EEF employee and twelve from EEF's Research Schools Network (with a role in disseminating EEF resources). Seven had no stated affiliation with EEF.

Visuals. Most (12) of the tweets featured the stylised graphics used in the published report (e.g. Figure 1), perhaps because these were incorporated algorithmically by Twitter. Twitter does this automatically unless an alternative image is deliberately selected by a tweet author. These tweets, along with another that featured the infographic from the guidance, perhaps compounded the report's 'official' or 'professional' quality. Two used alternative images: a monochrome, beautifully lit photograph of a father writing in front of his child; and an image of two children holding open books in what appears to be a fantasy forest. We might presume these images were chosen to reflect key messages from the report (the importance of writing with children and of reading for pleasure). They are both stock images with high production values and, as such, perhaps align with the 'professional' EEF graphic, therefore maintaining a similar overall effect.

Interactions with others. As topics move through Twitter, meanings may change in emphasis as users highlight different aspects and frame them in particular ways. Within this series of tweets, however, key messages remained relatively stable (recognising that we cannot know how they were interpreted). Thirteen tweets broadcast a link to one of the resources and, while teachers and parents may ultimately interpret the guidance in different ways, no tweets suggested any critique or reworking of the resource, nor did they present alternative or parallel sets of guidance. Seven tweets, for example, were tweeted in response to calls for advice, and one teacher encouraged teachers to use the guidance to 'RAG-rate[1]' their provision and inform priorities for professional development. One tweet seems to be part of a Twitter chat, an interaction planned and promoted in advance. This is a format that can be used to promote a critical evaluation or exchange of views but, in this case, the opening question invites reflection on practice using the guidance rather than reflection on the guidance itself: "The EEF preparing for literacy report states that 'effective writing is underpinned by children's expressive language'. What

[1]RAG rating is often used as a form of evaluation. Ratings of 'red–amber–green' represent levels of success in relation to aspects of practice – 'green' ratings identify aspects that are already good, 'red' ratings identify areas that need further work.

opportunities do you offer for developing expressive language?" The chat participant is invited to apply rather than evaluate the guidance.

Pattern. We characterise the pattern of movement of these tweets as predominantly *radial*. The initial tweet (Figure 1) is like the hub of a wheel with linked tweets sending (or broadcasting) the guidance outwards to different audiences along different spokes which rarely intersect. The reach of the initial tweet was potentially increased when each 'spoke' was extended by a retweet with potential to take the guidance to a new set of followers. This reach however was modest. One tweet by a well-known individual (employed by EEF but also a published author with a strong Twitter presence) received 61 retweets and 85 likes. Apart from this however, retweets and likes were between 1 and 11 for the *Talk with Trust* tweet, and between 1 and 14 for *Preparing for Literacy*. The radial pattern was complicated to some extent by tweets that linked to existing exchanges or that invited more active engagement. The Twitter chat starter described above, for example, attracted eight replies from teachers who responded by sharing their own practice. However, the majority of tweets propelled the resources towards potential audiences without inviting interaction. Figure 2 attempts to capture this radial pattern of movement, with each globe representing a different audience.

Example 2: #PrimaryRocks

The starting point for our second series was a tweet posted as the stimulus for a #PrimaryRocks hashtag chat (see Figure 3) on the theme of diversity. In this case, there were no explicit links to particular sources of 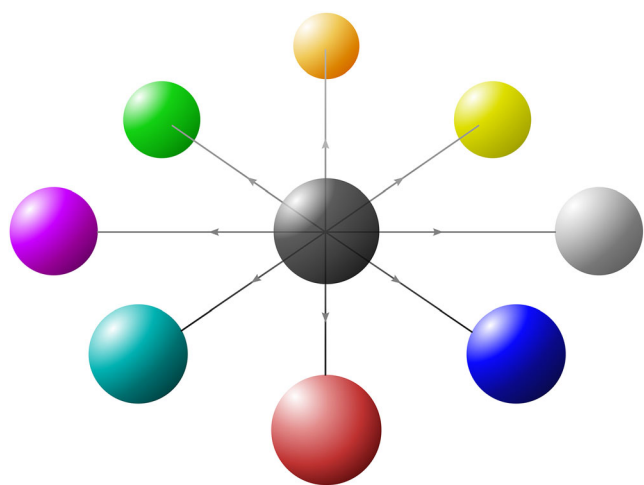research evidence, and it is unclear how far (if at all) they were framed by the extensive research related to diversity in literacy education (e.g. Yoon and Souto-Manning, 2018). These tweets did however resonate with contemporary debates prompted by the Black Lives Matter campaign, and led to tweets in which teachers, consultants, teacher educators, authors and others shared an eclectic mix of examples from their practice.

Authors. The #PrimaryRocks chat linked to the @PrimaryRocks1 Twitter account which managed the chat (refer to Figure 5). Described on the accompanying site (PrimaryRocks.com) as 'The twitter EdChat dedicated to primary aged (4–11 year olds) teaching and learning', it was set up by head teacher Gaz Needle and Rob Smith of LiteracyShed.com to host weekly Twitter chats for primary teachers to share ideas about teaching and learning. It also acts as a portal to Rob Smith's consultancy offer. At the time, the @PrimaryRocks1 account had over 37,000 followers so could be regarded as a popular – and potentially powerful – site for exchanging ideas and practice (Figure 4).

Tweets and hashtags from the #PrimaryRocks tweet led to tweets by other individuals and groups, and on to other accounts and platforms. Examples included:

- A tweet featuring a photograph of a selection of children's books (Figure 5). This contained the hashtag #readingrocks, described by @_Reading_Rocks (the account supporting #ReadingRocks) as a 'place for anyone who wants to make reading rock for EVERY reader.' With a significant presence on Twitter (45,200 followers at the time), 'Reading Rocks' (wherereadingrocks.com) also sells a book subscription service and professional development for schools.
- A tweet from a teacher in the United States who shared images of pupils with models they created to 'bring their books to life', and another from a Liverpool school showing an array of recently acquired books.
- A tweet posted by a teacher featuring a link to a talk she had recorded for teach training students about using texts representing diverse experiences.
- A retweet of a tweet by *Just Imagine* (a well-established organisation providing consultancy and other support), with an image of Patrick Skipworth's book, 'Literally: Amazing Words and where they come from', linked to *Just Imagine*'s podcast series *In the Book Corner* featuring Skipworth discussing his book.

The #PrimaryRocks series illustrates how a tweet can be encountered by and perhaps inspire a loosely connected – and international – variety of individuals and organisations, some commercially motivated, some not.
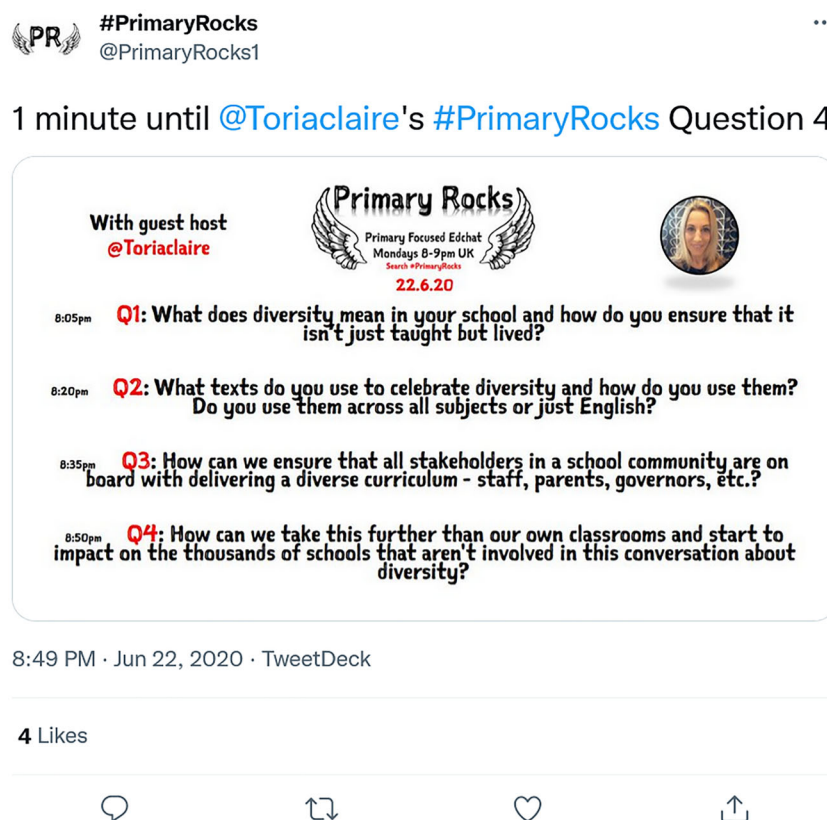

Figure 2: Radial movement [Colour figure can be viewed at wileyonlinelibrary.com]

Figure 3: Hashtag Chat Questions [Colour figure can be viewed at wileyonlinelibrary.com]

Figure 4: @PrimaryRocks1 Twitter account [Colour figure can be viewed at wileyonlinelibrary.com]

Visuals. Compared with the EEF series, the quality of these tweets is personal and celebratory – declarations of delight, appreciation or gratitude are common (as in Figure 5). The images differ too: DIY photographs of tweet authors, children in classrooms and colourful book covers feel more immediate than the stock images and standard graphics of the EEF series.

Interactions. The series was characterised by movements among a wide range of individuals and organisations – teachers, academics, consultants, authors,

Figure 5: Books for the classroom? [Colour figure can be viewed at wileyonlinelibrary.com]

profit and non-profit making organisations – and across multiple platforms hosting different media (such as photos, podcasts, videofiles, links as well as tweets). As with the EEF series, there was no evidence of critique, but in this case, resources and experiences seemed to be shared and mobilised as they resonated with the concerns and interests of individuals and groups. Users connected with the topic and with one another in multiple ways, linking to different areas of interest and practice. Some tweets linked directly to the theme of diversity in education (such as the talk for teacher trainees) while others moved onto other topics (such as the tweets about bringing books to life). Clustering around the theme of diversity, they touched not just on texts for children (as invited by the Twitter hashtag chat questions) but word origins and other aspects of reading for pleasure.

Pattern. We describe the movement of ideas here as *erratic* as tweets scattered in multiple directions. They manifested in different media on numerous platforms produced, supplemented and edited by multiple authors. Different topics, users and exchanges intersected in different ways, with no clear central point of origin. Figure 6 attempts to capture the unpredictable and emergent nature of erratic movement.

Accounting for the movements of ideas

In this study, we did not seek to trace the movement of ideas from exponent to audience and our representations of movements (Figures 2 and 6) are impressionistic, incomplete and indicative of a sense of movement gained from a very limited vantage point. Nevertheless, we suggest that there is a certain alternative power in the effect of capturing movement *in medias res*, in studying ideas on the move. Table 2 presents a necessarily imperfect dichotomy between our two examples. In doing so however, it highlights several aspects to consider in understanding why some ideas about literacy take off and others do not, and in how different interests combine to mobilise ideas.
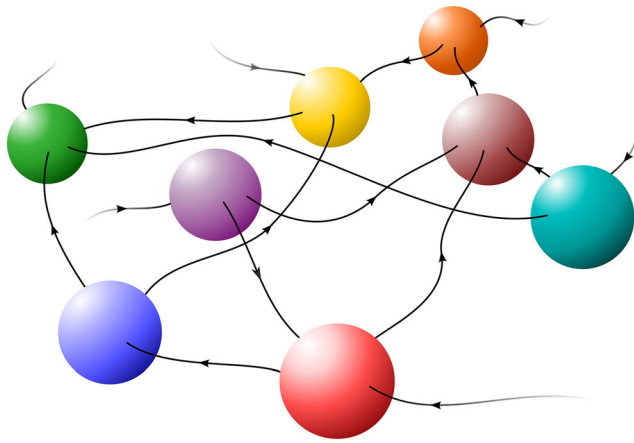
Figure 6: Erratic movement [Colour figure can be viewed at wileyonlinelibrary.com]

The radial pattern associated with the EEF resources arguably reflects and reinforces a conceptualisation of the EEF's research-informed guidance as 'approved' knowledge to be disseminated to teachers in relatively intact form. Conversely, the erratic pattern of the Primary Rocks tweets suggests how ideas may gain a life despite lack of official sponsorship, particularly if posted on social media sites by those with a strong following and oiled by existing relationships, allegiances and the workings of hashtags, likes, retweets and so on. It may also be that, as research evidence enters public discourse, it gains a life in policy circles too, or that social media use buoys up teachers' personal professional commitments to ideas that circulate in informal networks that may be at odds with those foregrounded in other parts of their professional lives. These possibilities are worthy of investigation.

We can only speculate why it was that EEF's guidance appeared to gain little traction via Twitter as support for learning at home was extremely relevant to many during the pandemic. Indeed, the guidance may well have been widely accessed through other sources and at other times: movements beyond the scope of this study. Perhaps, the tweets lacked the dialogic appeal of the hashtag chat question that sparked

such a flurry of tweets about books and diversity. Or perhaps the format of the tweets was significant. Tweets by individual practitioners, with their DIY photos, personal comments and invitations to respond, may appear more inviting or authentic than tweets originating from institutions. Indeed, we noticed limited engagement with institutional accounts in other instances too. For example, a tweeted request from one university for teachers to complete a survey about spelling apparently generated little interest (2 replies, 13 retweets and 10 likes). This may be partly because it is harder for institutions to establish relationships with potential audiences, particularly if they focus on distributing their own information rather than participating in conversations as more social media-savvy organisations tend to do.

Currency of content, familiarity with authors and visual appeal, then, may all matter as to whether or not an idea circulates on Twitter. These are points that are often emphasised in guidance for academics for using social media to generate research impact. Our point however is that these elements – content, authorship and form – will be inflected by a confluence of interests that may or may not be self-evident, interests which may be professional (as with teachers seeking inspiration or a platform to share their practice), commercial (as with consultants seeking to develop a relationship with teachers), aligned with policy (as with bodies tasked with leading practice), or some combination of these. Wider societal developments may well be significant too. In our small investigation, the topics that prevailed were those that resonated with issues featuring strongly in public discourse at the time, such as the Black Lives Matter campaign (which inspired the #PrimaryRocks series). Twitter's immediacy puts educational practice in conversation with everyday life, and so it is unsurprising that pressing concerns play through teachers' requests and recommendations. This matters as it shows that there is not just a relationship between educational policy and the research teachers take up but with wider public discourses too.

Table 2: Summary of analysis

	Example 1: EEFs Preparing for literacy	*Example 2: #PrimaryRocks*
People/organisations	Research schools, EEF employee, teachers (UK)	Consultants, teachers (UK and overseas), teacher educator, social enterprise
Events	Home learning during pandemic	Black Lives Matter
Visuals	Stylised graphics, stock images Professional/official quality	DIY photos Personal, celebratory feel
Interactions with others	Broadcasting, advising, applying	Connecting, resonating with interest and practice
Movements	Radial	Erratic

Our examples also flag up the role of non-human actors in mobilising ideas. As posthuman analyses of technologies elsewhere have explored, technologies help to sustain certain ways of knowing and produce effects that exceed what their designers and users expect (Adams and Thompson, 2016; Gourlay, 2020). The ease with which ideas and resources are encountered – and relationships formed – relies on the architecture and functionality of digital platforms, and this has implications for knowledge practices. In our examples, we see how retweets, likes and hashtags can amplify or propel content to others in ways that are unpredictable by a tweet's author. Other digital actors, such as algorithms, may also shape the kinds of research findings that teachers encounter and how those findings appear (as in the case of algorithmically inserted images). This prompts consideration of other non-human actors that may help or hinder the movements of ideas. In addition to the work of hyperlinks and Youtube – as seen in our examples – we might also pay closer attention to the work of paywalls, journal formats, research archives, dissemination platforms, bots that follow people boosting followings, and so on.

Ideas may be mobilised or stalled then by complex combinations of human and non-human actors, gaining varying levels of attention from different individuals and organisations. Given this, we argue that understanding how ideas move requires an understanding of what happens as different actors come into relation with one another. We find Law's take on the Deleuzio–Guattarian notion of assemblage (Deleuze and Guattari, 1987) helpful in accounting for this as it highlights how 'social, semiotic and material flows' combine to produce relational effects in 'an uncertain and unfolding process' (Law, 2004, p. 41). The notion of asemblage has gained considerable traction in literacy studies as a way of understanding the mutually constitutive nature of people and the materials, texts, technologies, policies and so on which together produce, and are produced by, literacy events (e.g. Daniels, 2021; Lenters, 2016). For our purposes, it is powerful in explaining why research around certain topics, such as SSP and 'The Word Gap' as explored in the introduction, has gained such traction in educational settings. Arguably such ideas have amplified as policy juxtaposes with the workings of organisations, activity on social media, popular discourse and shifting forms of school leadership and organisation, sedimenting certain ideas about language and literacy education as unassailable truths. Importantly, however, the notion of assemblage also allows us to see such performances as ultimately unstable – it is always possible for things to assemble differently, and for actors to become other as they are mutually entangled (Burnett and Merchant, 2020). In capturing this sense

of dynamism and fluidity, it can be helpful to think of assemblage, as Law (2004) suggests, as

> … *a process of bundling, of assembling, or better or recursive self-assembling in which the elements are not fixed in shape, do not belong to a larger pre-given list but are constructed at least in part as they are entangled together.* (Law, 2004, p. 42)

This emphasis on the endlessly co-constitutive nature of phenomena and the production of differing, and possibly unpredictable, effects helps explain how ideas gain traction without official endorsement as teachers' access to ideas in education can be inflected not just by national or school policy but by the variety of commercial, professional, academic interests discussed earlier in this paper. As this happens, some actors can become unpredictably powerful – powerful enough to enrol other actors into a strong enough assemblage that is able to move ideas along (or not).

The #PrimaryRocks example illustrates how, as social media-savvy educators and consultants respond to current events, their ideas, questions and practices are propelled through intersecting webs of social media networks, perhaps eased by the sense of authenticity generated by their contemporary relevance and low tech style. Elsewhere, officially sanctioned but less vibrant content (like the EEF resources perhaps) may assemble in other ways with other actors (such as non-government organisations, and reports and statements about 'the best evidence') sometimes sedimenting authority, sometimes escaping attention. Ideas therefore may be mobilised in different dynamic forms, with effects on trajectories and, ultimately, meanings.

Towards an agenda for 'research mobilities'

Given these insights into the often unpredictable movement of ideas, we propose that there is a need to know more about how literacy *research* moves, and specifically into how literacy research moves 'in the wild' in ways that exceed planned dissemination strategies. This requires a focus on how educational research moves through complex and intersecting networks generated by communications, digital technologies and a shifting educational landscape. More prolonged and extensive explorations are needed to draw conclusions about why some research about literacy gains sway and about how activity on social media platforms combines with activity elsewhere. If we are to understand how (and which) research moves to, between and from teachers, we need to know more about how diverse human and non-human actors assemble. In the light of the discussion above, this

includes investigating how actors assemble to sustain ideas about the relative value of different kinds of research, and also how serendipitous, unexpected assemblages of human and non-human actors can bring research findings to the fore. This is not to suggest that teachers are passive recipients of research. While studies have suggested that teachers' engagement with research is limited for a variety of practical and institutional reasons (Coldwell et al., 2017; Walker et al., 2019), when teachers do engage with classroom enquiry and research, they tend to use research findings to inform their thinking and reflection rather than applying them directly (Cain, 2015).

In the light of this complex context, there is a need to know more about which research findings reach teachers and how they get there and about how research findings may shift in meaning or import as they move and assemble with other actors in diverse spaces. It is for these reasons that we suggest there is a need for research which explores what we call *research mobilities*.

Such work would build on wider work in mobilities which has theorised the significance of movement in multiple contexts (Faulconbridge and Hui, 2016; Urry, 2007) and specifically the interdisciplinary field of knowledge mobilities which has explored how some types of knowledge travel more easily than others (Heike et al., 2017) and how ideas morph as they move across time and space (Barnes and Abrahamsson, 2017). Importantly, as our exploration of assemblage explores, a key focus here is how different individuals, organisations, technologies and so on *combine* to propel or stall the movements of research. This includes attention both to how things combine to sustain the influence of certain kinds of knowledge (as with SSP and The Word Gap explored in the introduction this article), as well as how novel combinations may galvanise interest in alternative knowledge about literacy.

Given the role of human and non-human actors in mobilising research evidence, we suggest that a sociomaterial approach is worth pursuing that builds on the theoretical stance of this article, to illuminate not just the strategic work of researchers in disseminating research but the relational effects of complex interactions between human actors (such as teachers, consultants and associations) and non-human, often digital, actors (such as algorithms and hashtags, policies, frameworks and research syntheses). This may well require work across different disciplines, engaging with information technologists, communications and marketing experts, the digital humanities, public pedagogy and informal learning specialists. Key questions include:

1 *How do research findings move through and between professional, commercial, political, academic and social*

networks, for example as they are circulated and commented upon in established and new media, brokered by 'sponsors' such as schools, academy chains, consultants, local authorities, organisations and so on.

2 *Which human and non-human actors are involved in generating such movements?* Who or what is involved in compelling research to move or stall?

3 *What happens to the content of research findings as they move?* What form(s) do they take? And (how) do meanings morph as they are synthesised in guidance reports, tweets, resources, and so on? What resonances/inflections are acquired as research moves?

4 *How far are the movements of research associated with critical engagement*? There was little evidence of criticality in either of our examples, perhaps because our methods didn't capture this – but when (and how) is criticality enacted through research movements?

5 *What is the experience of accessing, using and mediating research for teachers and knowledge brokers?* Where do teachers encounter research? What possibilities are generated as teachers encounter research in different sites?

6 *Are there differences in the types of literacy research that gain credence or influence?* What stays still? Do some kinds of knowledge move further or faster than others?

7 *Are different kinds of movement significant to the perceived legitimacy of research and/or impact on practice?* For example, differences in terms of speed (fast, slow), rhythm (regular or irregular, repetitive or varied), direction (radial, linear, dispersed, scattergun, rhizomic) and trajectory (where to/where from).

8 *How far do movements of research sustain or unsettle dominant discourses in literacy education?* What maintains or fails to gain influence? Which fellow travellers are picked up as research moves? For example, in our example, interests in diversity and reading for pleasure seem to sit easily alongside one another.

9 How do different interests – professional, commercial, political academic or social – play through these movements? And whose interests are served by these movements?

With these questions in mind, we have now embarked on an interdisciplinary project[2] designed to capture such movements by drawing on a combination of established and innovative research methods. We are using corpus linguistics to identify trends in the emphasis on different kinds of literacy research, combined with qualitative methods that explore teachers' lived experiences of the social and material dimensions

of their encounters with research, and digital methods designed to trace the movements of research across a range of on and offline spaces. This is challenging work, work that is almost inevitably incomplete given the unpredictability and multiplicity of research movements in the wild. However, such work is needed to account for how different kinds of knowledge about literacy are propelled, amplified, stalled or simply lost. It is needed so that policy-makers, educators, teachers and literacy researchers can gain critical purchase on the range of ideas about literacy that are gaining credence in educational practice, and those ideas that remain stubbornly underused. Given the shifting nature of literacy and the need to draw on diverse theoretical perspectives and research traditions to inform a literacy pedagogy that is genuinely inclusive and empowering, this work is pressing and necessary.

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