Search smarter? Leveraging Pinterest for learning

Teaching and learning problem

Students routinely use social media. How, then, can they develop the skills to enable themselves to use social platforms like as Pinterest to help them search more judiciously to create and curate useful resources?

Abstract

This chapter considers the findings of a small-scale research examining how student teachers in K-12 (Secondary) can use social media platforms as pedagogic tools. Thematic analysis was deployed as a methodology, to help organise potentially unwieldy qualitative data, narrow the focus and develop research-informed proposals for use in the classroom. The broader aims of this chapter are to explore the value and limitations of Pinterest - a social media platform - for use in a classroom and in the context of the literature. A supplementary aim is to contextualise Pinterest in the world of educational technologies (or edtech). In this chapter, I will propose collaborative authoethnographies as a future method of exploring the ontological and epistemological questions arising from qualitative inquiry.

Initial findings reveal a disconnect between student teachers' social media use in schools. The limitations of the study were its small sample size and the paucity of peer reviewed or policy literature specific to social media and Secondary education.

Key words

Technology: autoethnography, technology enhanced learning, PGCE, edtech; elearning; I.T.E, social media

Pinterest (derived from 'pin' and 'interest') is an online pinboard on which users are invited to pin and repin images and videos, without risking intellectual property violations (Atherton, 2018a).

Narrative account of the author's experience and reflections

At the time of writing, social media were in their infancy in terms of their impact and spread, their functionality, their reputation and, more pointedly, users' social literacies. I will address each of these factors in turn, so that we can view Pinterest in the context of other social media.

Impact and spread

The rapid spread of social media may be well-documented but is also remarkable. Instagram only took eighteen months to acquire fifty million users. Radio needed thirty-eight years to reach a similar audience and television, thirteen years

(Vaynerchuk, 2013; Atherton, 2018a). Pinterest users grew from one hundred and twenty-eight million in 2016 to four hundred and fifty-nine million in 2020 (Statista, 2021). These statistics, however, make sense on closer examination. Social media platforms are lightweight in terms of data, they are acquired by way of the simple download of an app to the users' portable device. The rapidity of the spread of social media platforms reveals a branch of the communication industry that is unencumbered by gatekeepers, cumbersome and incompatible technologies. Social media platforms' content is user-generated, which removes barriers such as the content creation or the glacial progress of intellectual property rights.

The frequent virality of social media content can be explained by the idea that social platforms are essentially user-friendly affinity spaces, in which the act of 'liking' is cognitively and kinaesthetically straightforward (Barber, 2016; Atherton, 2018a).

Functionality

What users can do on social platforms can be explained by comparing them to traditional forms of communication. Anyone can publish on social as text like an ebook or as a multimedia content like radio, newspapers, magazines television or cinema. It could be argued, therefore, that the user is the publisher. It can be viewed as empowering that children can create, edit and disseminate their own content, either alone, or in collaboration with their peers. This notion of the democratisation of communication, however, has been challenged in many ways for example by the arresting of Iranian Instagrammers for their alleged immorality, of Twitter's removal of Donald Trump from Twitter after repeated incendiary remarks and disputed claims. The ease with which users can publish carries many risks, one of which is reputational damage.

Reputation

Moving forward beyond the 2020s, how will schools and educators view social media? Might they see social from a position of acceptance and understanding. Fake news, online hate speech and cyber bullying are unlikely to disappear from social without severely restricting the freedoms that made them so popular in the first place. That said, will younger users be able to understand that what they post is a public message that cannot be retracted and is open to misinterpretation and decontextualization?

If social media are to be harnessed as aids to learning, both students and teachers may need to acquire a whole new set of skills and literacies.

Social literacies

What are social literacies? What lexical, semantic, syntactical, visual and symbolic codes do we need to use social media to help us learn? How necessary are these skills in terms of what young people need in order to thrive in their future work and to what extent do social media effectively de-skill their users?

This chapter seeks more specific definitions and applications of the term, 'social

media' and focused on Pinterest. Though Pinterest is generally placed in the same category of other social media platforms, this chapter examines its uses as a social search engine in the context of Secondary School teaching and social media.

Since the commencement of this study, the impact of Covid-19 has limited the opportunities available to social science researchers and presented what Roy and Uekusa (2020) term as, 'scholarly challenges' (2020, p384) in terms of access to participants. The original data for this study had gone no further than remote data collection, with a small sample of face-to-face questionnaires - all pre-Covid-19. The next logical step was to develop this study in a way that offers potential value to those involved in initial teacher education (ITE) and also to other scholars and students who seek a way to contribute work that has depth, in the absence of opportunities for traditional qualitative research methods (Roy and Uekusa, 2020).

Main research questions:

- What are the implications of student teachers using Pinterest as a learning tool?
- What are the specific definitions and applications of the term, 'social media'?
- How might this study develop the work on autoethnography in teacher education in Atherton (2020b) and Atherton (2021) by proposing that this study is the start of a collaborative autoethnography (Roy and Uekusa, 2020)?

Background literature

Social media platforms like Twitter and Pinterest did not gain mass global appeal until the 2010s, hence the need to prioritise literature from after this period. There are a number of recent case studies of specific social platforms but they are frequently located outside Europe and in the undergraduate sector. These may be relevant but could risk losing focus. This study is concerned with the use of social media among student Secondary School teachers but a great deal of the literature on social media and the broader context of edtech will be discussed to provide context. There is little space to discuss this in-depth, but this review will also address the broader context of educational technology (edtech) and issues of inclusion and exclusion.

The literature since the 2010s has sometimes wrestled with phraseology, or how to name technology in education. Recent attempts to do this have come up with terms like, Technology Enhanced Learning (TEL), elearning, instructional technology and edtech. To develop James and Pollard's (2014) point, technology's fast-changing paradigms tend to be defined and framed in language that is assumed to be ideologically neutral (Bayne, 2015; James and Pollard, 2014). If technology 'enhances' learning, might this assume that the education system needs only its

teaching and learning augmented by hardware and software (Kirkwood and Price, 2013; Luckin et al, 2018; Hamilton and Friesen, 2013; Bayne, 2015)? Similarly, if the act of definition is often performative and ideologically loaded, how can the literature demonstrate genuine criticality and help bring about social change (Bayne, 2015; Selwyn, 2020; Clark, 2020)?

At the heart of this problem, literature post-2015 explores a tendency for the language of technology in education to be semantically reductionist and therefore conservative in essence (Bayne, 2015). As a consequence, some of the literature on technology in education fails to view technology as a site for semantic struggle. In that sense, the literature does not sufficiently address issues of inclusivity, social justice and the search for alternative paradigms and new theoretical frameworks (Bayne, 2015; Atherton, 2020b; Selwyn, 2020; Schroeder, Curcio and Lundgren 2018). An example of these emerging frameworks is posthumanism (Sidebottom, 2019; Braidotti, 2016) and critical posthumanism, in which humans are enmeshed in an ideologically complex ecosystem of social learning and interactions with technology (Bayne, 2015). This theme of ecology is also developed by Vetter's notion of convivial technology (2017) as an alternative theoretical framework for discussing technology. This framework challenges essentialist ideas and is roots in sustainability, social responsibility and 'degrowth' (Vetter, 2017 pp1-9). Despite this, there is yet to be a sense of coherence regarding theoretical frameworks and the topic of edtech, let alone social media.

What is/are social media?

The term social *media* points to the more widespread sharing of multimedia content and refined functionality (Atherton, 2018a; Jones, Scanlon and Charitonos, 2018, cited in Luckin, 2018). Facebook, Twitter, Pinterest, Instagram, Snapchat, Tik Tok and so on are all social media platforms, that is spaces for global communication and online sharing of user-generated or curated content (Greenhow and Lewin, 2016; Atherton, 2018a; Brughera et al, 2019). There have been studies that have discussed taxonomies - or categories - of edtech but these have said little of social media (Atherton, 2019; Nor Al-Deen; 2012; Poore, 2015; Wankel, 2015; Rosen, 2012). At the time of writing, research into social media has seen the generation of voluminous data but the overall findings lack coherence (Brughera et al, 2019). Indeed, some studies have indicated that a reason for the weak boundaries of social media classification is not just their hybrid or convergent nature but linked to who is doing the defining. As a result, it is hard to create a comprehensive review of the literature about social media (Ngai, Tao and Moon, 2015). In many cases, these classifications are determined and refracted by the users themselves, which helps form *folksonomies*, rather than taxonomies (Jones, 2012). The organic, fluid nature of such a knowledge base frequently resides in blogs and on social media, as opposed to peer reviewed journals. Other barriers to clear classification are derived from the hybrid nature of the platforms. For example, Facebook was originally termed as a social network; Linkedin still resides in that category (Atherton, 2018a).

Subsequently, does social media belong in a debate about edtech?

Social media and pedagogy

Some of the recent American literature concerns social media and pedagogy. Examples of these are Krutka et al (2017), who used student survey data to examine how student teachers can teach social responsibility and Carpenter's (2019) study into educators' experiences of SPAM on social media. Similar to this is Greenhow and Lewin (2016), who looked at how social media can act as a bridge between formal and informal learning. As educators and learners started to use collaborative tools, such as 'wikis' and alternative games, a new series of challenges was identified by Jenkins et al (2009): did learners have the skills to participate constructively and successfully? Furthermore, how far would academics embrace not just new technologies but new pedagogies? Facebook, along with other technology giants like Microsoft, Google and Apple, are keen to tap into the growing edtech market. From 2016, one of the focuses of Facebook's attention was the Learning Management System Market (LMS) (Boorstin, 2017). Facebook built the software for 'Personal Learning Plans' for *Summit* schools in the USA (Cox, 2016). These LMS's are built to monitor pupils' cognitive skills and focus areas in specific subjects. One of the by-products of this policy may be that Facebook can be perceived as ethical and contributing to a better society (Atherton, 2018a). This could be a judicious tactic in light of the negative publicity that major corporations sometimes attract and the power they possess (Selwyn, 2020; Atherton, 2018a).

Social media platforms are sometimes explored through case studies that interrogate their potential to develop students' participation in society. Gleason (2016, cited in Greenhow, Sonnevend and Agur, 2016) conclude that Facebook can help teachers' innovation and encourage a more inclusive, participatory educational culture. Similarly, Carpenter (2016) explored how teachers use social for advocacy, collaboration and personal development. More recently, Schroeder, Curcio and Lundgren (2018), acknowledged the paucity of empirical studies specifically on Pinterest and education. In counterpoint to these claims of democratisation, some of the literature recognises a hostility to the use of social media in schools, despite the pedagogic potential (Atherton, 2018a; 2019a; Greenhow and Lewin, 2016).

Skills and digital literacies

Some of the related work is located in the K-12 or Secondary context in the USA. There have been a number of think pieces in peer reviewed journals about the benefits of social media in schools (Krutka and Carpenter, 2016). Schroeder, Curcio and Lundgren (2019) conducted an exploratory qualitative study of the use of Pinterest in elementary-level preservice and elementary-level in-service teachers and called for further research into teacher education. Leading on from this, Carpenter et al (2019) analysed Twitter data from K-12 students, whereas Gleason (2015) assessed new and emerging literacies among teenagers using Twitter. Some of the recent American literature has a theoretical basis, for example Gruzd et al (2018) analysed social media and uses and gratifications in a higher education content and Pittard (2016) conducted a longitudinal study of teachers' use of

Pinterest. This was through the lenses of neoliberalism and feminism (2016). Despite the preponderance of studies from the USA, there have been systematic reviews from a global perspective such as Brughera et al (2019) and Luo et al (2020). Brughera et al (2019) and Luo et al (2020) both selected literature linked to professional development in higher education. There are many reviews of social media use in the health sector but these are not relevant to this study. Much of the research concerns undergraduate students in universities all over the world, which is difficult to link closely to the context of the UK.

Conclusions from literature review

James and Pollard (2014) suggest that a diagnosis of the effectiveness of education should be alongside a consideration of society's values and goals (2014). When we add technology to education, we are left with an unwieldy range of ontological questions, some problematical terminology and contested ideas (Babbie, 2014).

There is a notable paucity of literature about social media and pedagogy, especially in terms of the British context and Secondary Initial Teacher Education (I.T.E). The discussion around social media in education is in its infancy, both in terms of the range of literature and the application sharpness of focus; research into Pinterest is rare but there are some studies that focus on Pinterest (Pittard, 2016; Braghera et al, 2019; Schroeder, Curcio and Lundgren, 2019; Atherton, 2020b, 2021). There is evidence that the literature specifically on Pinterest in education is addressing issues of inclusivity and social justice, as well as skills (Schroeder, Curcio and Lundgren, 2019, Carpenter, 2019; Gallagher, Swalwell and Bellows, 2018). The next section will delineate the research design.

Research design

student This chapter refers to a study of student teachers' use of Pinterest in the classroom. The sample is composed of PGDE student teachers. The initial data was gathered in 2019 at a university in the north of England. *student*

The study can be summarised in the following way:

1) Online questionnaires on Surveyhero.com about using Pinterest for learning

2) Main study - Face - to face interviews

The chief challenges of the research design would be to combine the lived experiences of researcher and participants with the necessary gravitas and dimensionality of empirical research (Greene, 2008; Rorty, 1992, cited in Gruzd et al, 2016). The response to this challenge will be to place the focus on the language of individuals as qualitative data which will provide a testimony to lived experiences (Rorty, 1992, cited in Gruzd et al, 2016). At the same time, the study needed to be

'explicit and replicable' (Brughera, 2019 p2). In terms of the main schools of epistemology, this study eschews positivism's pursuit of objective truths through empirical data and claims of universal truths (Struthers, 2014; Ellis et al, 2011).

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student

Fig A: Questions posed to the sample
What was good and bad about using Pinterest for learning
What does it reveal to you about the broader context of learning through social media)?
If you have an opportunity to use Pinterest for learning again, what might you do differently?

Data collection and analysis

The raw data was processed in the following order:

1) The text from the Surveyhero online questionnaire was fed into a word cloud generator (Wordle.com) to identify dominant words and phrases. Word clouds analyse text and present the most frequently used text in pictorial form. This pictorial representation (Ramlo, 2011) helped me familiarise myself with the data and open up initial lines of inquiry (Braun and Clarke, 2019). As a bridge from this chapter to previous two studies and the next - a collaborative autoethnographic study - I decided to use thematic analysis. Through this, I identified and analysed semantic and latent codes (Braun and Clarke, 2019). The main advantage of this was to help minimise redundant data and narrow the focus (Punch, 2014; Denscombe, 2007; Atherton, 2021; Braun and Clarke, 2019).
2) In vivo coding: the data was pasted onto a Word file. I then placed each comment in a column, to help me analyse the actual words used by participants. I created codes to help me categorise the raw data. I could then

go through the data line by line to help me identify themes (Saldaña, 2016).
3) Line by line coding: this enabled me to drill down into the themes that I had organised, identify patterns and subtexts (Cohen, Manion and Morrison, 2010).
4) Potential limitations of the research were the relatively small sample and, perhaps more tellingly, the contradictory nature of some of the data. This will be examined in the following 'research findings' chapter.

Analysis

I will now identify and interrogate surface and latent codes in the context of the literature (Rolfe, et al, 2011; Braun and Clarke, 2019; Atherton, 2021). This inductive method was intended to sharpen the focus of the research and minimise researcher bias (Punch, 2014; Denscombe, 2007; Braun and Clarke, 2019). I was mindful of my inclusion and exclusion criteria for the literature and the data that I foregrounded; there was always a danger that the amplification of specific findings could be a product of the prejudices and assumptions of the researcher. I am hopeful that the careful coding helped minimise this risk (Saldaña, 2016; Cohen, Manion and Morrison, 2010). Despite the desire for rigour and empiricism, this section will be mindful of the notion that generalisations and theories - far from arising organically - are often created by the subjective thinking of the researcher and their own agendas (Clarke and Braun, 2019; Atherton, 2018a).

The online questionnaires were conducted as an optional plenary to a university seminar. Once I had created the table in Word, I pasted the data into Excel, so I could use the 'Data sort' function to place the codes in alphabetical order. That way, I could use an additional column to identify sub themes. The initial codes that I created are summarised in the bullet points below

- R= RESOURCES
- IMAGES
- INSP=INSPIRING
- ALT=ALTERNATIVE
- CAT=CATEGORIES
- CREA=CREATIVE
- DIS=DISTRACTING
- IRR=IRRELEVANT

Analysis of responses

In vivo coding on an Excel spreadsheet helped develop a more granular approach to the data. In order to do this, I created an extra column, with more specific codes,

based on a deeper familiarisation with the qualitative data. These codes are summarised in Fig C below:

Fig C: In vivo coding of responses

Code identified	%	Summary of comments
SS=SUBJECT SPECIFIC	21	Boards could help pupils structure English essays; literacy f resource; categorised and shared Politics resources
INC=INCLUSIVITY	5	Could help scaffold materials and support SEND pupils.
FT=FEAR OF TECH	7	Couldn't make sense of it, hard to use
TI = TEACHING IDEAS	36	Infographics, classroom displays; could inspire students and lesson plans
QC=QUALITY CONTROL	26	A great deal of content was inappropriate for students, unhel distracting.

In vivo coding made some of the more negative comments much more prominent. The reason for this appears to be that the negatives were usually subordinate to the positive point. Perhaps this was out of politeness. Some of the less prominent comments were only made by one participant but they could provide rich sources for further practitioner research:

- Memes that generate humour allow pupils to engage with the text.
- I found lots of resources and helpful tips for my placement.
- Those images that did have a form of educational benefit were not from an educational source and therefore could potentially be misleading.
- I found it distracting being on my phone as I hopped back into the habit of checking my messages.

The data revealed that Pinterest can help student teachers categorise information but, at the same time, these categories can provide distractions. The participants liked the easy access to visual resources, though 12% found Pinterest distracting or providing irrelevant search results. The dataset revealed that student teachers benefit from reflection and can use their own perspectives to help their own development as student teachers (Braun and Clarke, 2019). It was only the act of reflection that enabled the participants to open themselves to the creative potential of

Pinterest in lessons or be specific about potential pedagogic incidents or limitations. The benefits of their reflection further manifested themselves in their feelings about Pinterest and its potential for pedagogy, collaboration, creativity and inclusivity. They also expressed perceptive ideas about potential exclusion from the benefits of edtech and the barriers to effective use of Pinterest; most participants had positive ideas about the pedagogic benefits of Pinterest but were aware of the many inhibitors (Stabile, 2015; Atherton, 2018a, b; Krutka and Carpenter, 2016; Ingle and Duckworth, 2013). Notably, they talked about the potential for collaboration between teachers and between pupils but said nothing of the ways in which Pinterest could help develop the skills that are necessary in the contemporary workplace (Baume and Scanlon, 2018, cited in Luckin, 2018; Kolb, 2017; Nor Al Deen, 2012; Wankel, 2015; Wagner, 2014).

In terms of the broader context of learning with social media, individual comments offered a more insightful response and enabled the data to be further categorised. I have summarised the comments in bullet form in categories that represent the emerging issue that they raise.

- **Pedagogy**

Individual teachers have unique teaching styles and using Pinterest reveals how learning resources have few boundaries.

- **Encouraging collaboration**

Social media encourages the andragogical (or adult-friendly) sharing of ideas, articles and media.

- **Developing teachers' creativity**

Pinterest requires teachers to think creatively about how to use it to broaden the learning landscape.

- **Promoting inclusivity and participation**

Pinterest helps teachers move with the times, encourage participation, interactivity and engage students with a familiar platform.

- **Reinforcing social exclusion**

Social media could exclude students without phones or connectivity.

- **Barriers to using social media**

Pinterest can be an effective tool but is subject dependent; in some areas there is no alternative to teaching to the test. Also, it could require additional scaffolding and behaviour management strategies, such as monitoring students' screens. Though there were concerns about safeguarding and cyberbullying, these were not based on

direct experience of using Pinterest in a classroom.

The latent, or underlying codes (Rolfe, et al, 2011; Braun and Clarke, 2019) helped me identify something of a chasm between the social media use of student teachers and their pupils outside lessons and access to technology in general (Atherton 2020b). This chasm presents itself through inconsistencies in access and connectivity. Emerging and future research will, of course explore the digital divide and digital literacies in the context of Covid (Atherton, 2021). Yet, what may be missing from this debate, could be the extent to which social media is one of many technological tools and therefore deemed ideologically neutral, a tool to perform a task (Lanclos, 2016; Selwyn, 2011; Bayne, 2015). This instrumentalism could be viewed as an inhibitor to epistemological questions about digital communication, social exclusion or society's values in relation to education and the end user's lived experience (James and Pollard, 2014; Atherton, 2019; 2020b; 2021; Selwyn, 2020; Richardson, 1997; Josselson and Liebech, 1995; Rorty, 1982). The evidence for this in this study was the participants' calls for more teaching *about* social media or their recognition of the need for ground rules regarding digital literacy and responsibility (Gleason, 2015, Krutka et al, 2017). Part of this arose from disparities in the pupils' and their own digital literacies and the risks of cyberbullying (Poore, 2016; Atherton, 2019a; Greenhow and Lewin, 2016). One example of this confusion is a lack of agreed phraseology in relation to taxonomies of social media; is Whatsapp social media when it is encrypted? Is Youtube social media or a hybrid? Is Twitter also a media company and Facebook a content producer (Bayne, 2015; Atherton, 2018a)?

student

In terms of moving forward, participants engaged with the following pieces of practical advice for people considering using Pinterest in a classroom.

Examples of these are:

- The need for ground rules
- Learning goals and other aspects of the structure of lessons
- Search skills and other examples of digital literacy
- The need for preliminary research

This raw quantitative data reveals a great deal of enthusiasm towards using Pinterest and other social media in a classroom but there was also scepticism and fear. 46% of respondents were not willing to say that they would consider using social media in a classroom.

Though there is a little experience, knowledge of and competence with social media in schools, there are clearly many barriers. Connectivity, safeguarding concerns, lack of digital literacy are all notable inhibitors, despite the participants' recognition of how Pinterest can encourage creativity.

In terms of its scope for research, social media platforms can help generate voluminous data (termed as 'big data'). This can present unwieldy, unfocused datasets (Atherton, 2018a, b; Fuchs, 2017). Most of the data was collected quickly and easily; the anonymity guaranteed by the questionnaire design and ethical

approval could have created a much larger project (BERA, 2011), though there was a more manageable and meaningful dataset. This targeted approach could be viewed as a move away from digital positivism. Here, quantitative data is given greater prominence and endowed with higher significance than qualitative (Fuchs, 2017; Daniel, 2016; Atherton, 2019a). Indeed, this preponderance of big data can sometimes be seen to obfuscate, not elucidate. Sprawling, often contradictory data could be seen as a symptom of an echo chamber effect, in which multiple contributors shout loudly but few are really heard (Colleoni, Rozza, Arvidsson, 2014). When the data is more focused, the researcher can attend to the micro, not the macro (Fuchs, 2017; Atherton, 2019a). Furthermore, analysing smaller datasets can mitigate the risk of digital dependency, where an over reliance on empirical data can be at the expense of the need for analysis (Gardner, 2013). To facilitate a move away from digital positivism, Fuchs (2017) calls for an alternative paradigm, which consists of critical digital research (Atherton, 2019a, Fuchs, 2017). One of the benefits of this approach could be a greater acceptance of the problematical nature of social metrics and fluidity of social identities, profiles and multimodal communication (McCosker, 2017). The Conclusions section will state the case for collaborative autoethnography as a way to build on this focus on drilling down into individual stories to explore ontological truths (Roy and Uekusa, 2020). Indeed, the fact that social media is, at the time of writing, in its infancy may begin to explain the enmity towards it; is it possible to answer ontological questions when the subject is on shifting sands (Babbie, 2014; Atherton, 2018a)?

Conclusions, Limitations and Suggestions for Further Work

In terms of the initial research questions, the data and literature have helped direct the initial research questions in the following ways:

- The taxonomies, definitions of social media vis a vis edtech are still problematic and contested semantically, ontologically and ideologically. There needs to be ongoing practitioner research into specific social platforms, preferably in the context of Secondary Initial Teacher Education.

Furthermore, it could be argued that the data reveals something else about the student teachers' exclusion from, hostility towards or ignorance of how to use Pinterest in their teaching. A great deal of the data was reflecting on the school or college-wide rules on and feelings towards social media in lessons. Perhaps this ideological neutrality is not extended towards social platforms like Pinterest (Bayne, 2020, Selwyn, 2020; Atherton, 2021).

Strengths, limitations and suggestions for further research

Further research could attempt to define these specific literacies, though such research is likely to be ephemeral in nature, as such knowledge bases are characterised by their fluidity (Siemens, 2005; Shukie, 2019; Atherton, 2018b). In

terms of research methods for further research, there is evidence that the mixed methods approach could benefit from incorporating a greater proportion of narrative writing, to amplify the complementary empirical data (Shaw, 2020; Greene, 2008; Cresswell, 2009; Sidebottom, 2019).

In terms of the focus of my own body of research, the pandemic has clearly increased a feeling of isolation among student teachers and teacher educators. That said, the ongoing lockdowns have provided opportunities for researchers to develop their constructivist or interactionist theoretical perspectives (Roy and Uekusa, 2020), This study builds on the use of reflexivity through narrative writing and autoethnography in Atherton (2020c) and Atherton (2020c).

Recommendations and opportunities based on evidence

Educators may want to be part of a school's work on digital literacy, despite the associated risks, complexities and fluidity (Siemens, 2005; Shukie, 2019; Atherton, 2018b; Bayne, 2015; Poore, 2016).

Cyberbullying is an online extension of the power imbalances, and exclusionary practices associated with any bullying. As with conventional bullying, the parental figure is usually absent while cyberbullying is taking place (Poore, 2016). With matters as serious as these, educators will always need to consult senior managers about the legal, ethical and practical implications of entering into a project involving Pinterest with children (Brughera et al, 2019; Luo et al, 2020).

In terms of initial activities, student teachers could encourage their students to take ownership over their own creating their own 'student contract'. Discussion of this contract could enable children to discuss the complexities and inconsistencies associated with the notion of cyberbullying. If the learning culture is inclusive and responsible, there is likely to be fewer hiding places for potential cyberbullying. At the same time, educators are advised to make it clear that it is unacceptable in the eyes of the school and the law. Educators would be wise to have an ongoing appetite for knowledge of the ongoing issues surrounding

cyberbullying in the social media space; this could help address the disparities between the pupils' and teachers' digital literacy (Poore, 2016; Atherton, 2018a; 2019a; Greenhow and Lewin, 2016; Brughera et al, 2019; Luo et al, 2020).

Recommendations for use in the classroom:

- Pin: use this basic function to share images and multimedia content. Find or source an image or video, give it a title and description and, if necessary, link to a web address (URL). Ask your students to 'describe your Pin's visual details', to ensure that they met your success criteria. These criteria could include the source of the image, why they are choosing it and what it shows about their learning. This could then be commented on by peers and the teacher, for formative assessment purposes (Atherton 2018a).
- Board: Share content on boards to help your students categorise what they have found. Create a board that students can contribute to or a secret board to store resources and creative ideas.
- Idea Pins: Create an 'Idea pin' to enable students to create and subvert visual content. Select 'allow comments' to create collaborative quizzes or encourage formative feedback. The 'Idea pin' function could help students chronicle their learning throughout the course. This summary of learning could be completed in small groups and could culminate in an end of term showcase of each group's work.
- Search: Ask students to use the search box to search for all specific boards. For example, if students search for 'Macbeth revision' and restrict the results to 'boards' they can then share with the group and critique the resources' quality and provenance.

Emerging technology in this field:

SOME

RECENT

WAYS FOR TEACHERS TO USE

SOCIAL MEDIA

TIK TOK

Make, share and mash up short videos

- Restrict access to your class
- Disable 'duet' function to avoid comments
- Teacher shares bitesize 'how to' videos
- Students summarise their knowledge in creative ways

CLUBHOUSE

Clubhouse
Drop-in Audio

Learn through audio; crowdsource your teaching!

- Invite only but contacts can invite you
- Crowdsource answers, ideas debates
- Create 'closed rooms'
- Search: "Find conversations about..."

GOBUBBLE SCHOOL

'Walled garden' social

- All content is vetted before it appears.
- Rewards the number of 'likes' given, not received.
- Join via a code from the teacher

ANCHOR

Easy to make podcasts

- Submit audio clips to podcast creators
- Make a class/school podcast
- Collaborate on synchronous or asynchronous projects
- Publish publicly

The next chapter will provide a case study of how a range of edtech-related events were planned and disseminated on Linkedin and Twitter.

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