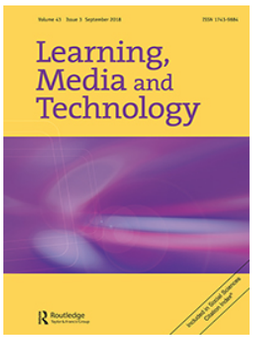

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The uses of (digital) literacy

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ABSTRACT

This article shares research facilitated by a multinational technology provider, converging mobile networked technology (tablets) used across school and home, a technology enhanced community 'third space' providing workshops for students aged 6–9 with their parents/carers. The approach taken avoids the instrumental measurement of functional digital literacy competences, but instead seeks to negotiate a more nuanced and complex understanding of the 'uses of literacy' [from Hoggart, R. 1957. *The Uses of Literacy*. London: Pelican] in digital contexts and in a deeply situated, specific local setting. Working with our findings, we later put Amartya Sen's concept of capability [Sen, A. K. 2005. "Human Rights and Capabilities." *Journal of Human Development* 6 (2): 151–166; Sen, A. K. 2008. "Capability and Well-Being." In *The Philosophy of Economics*, edited by D. M. Hausman, 3rd ed., 270–293. Cambridge: Cambridge University Press] to work on our data in order to provide a discussion on how the digital literacy community might distinguish digital competences as functionings from the 'uses' of such competences for a broader range of capabilities.

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KEYWORDS
Technology; digital literacy; third space; community

1. Introduction

This project involved students aged 6–9 at an Academy School on the south coast of England. It was funded by a technology provider and involved a group of additional stakeholders – Academy governors, a Housing Association, a County Council, community workers and Techknowledge.

The technology provider funded a 'Digital Classroom' project at the academy school, in the form of a community space where workshops were organised for students and their families. We were commissioned to provide an evaluation using an action research framework, explore the community setting as a 'third space' (see Potter and McDougall 2017) and (after negotiation) critique, as well as measure, the kinds of digital literacy 'competence' the stakeholders wanted to see developing. For this critical lens, we speak to the findings by revisiting the 'uses of literacy' (from Hoggart 1957) as opposed to seeing (digital) literacy as an end in itself, and we propose putting such uses in dialogue with Sen's capability approach (2005, 2008), so as to articulate the extent to which digital literacy might offer a bridge from resources to functionings to educational 'uses'. Capability is not used here as a methodology or over-arching conceptual framework. Rather, we speak to our findings with regard to capability in our concluding discussion. We are seeking, in this way, to explore the *uses of* particular kinds of digital technology for learning within 'a mesh of interconnections' (Livingstone and Sefton-Green 2016, 61).

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Previous studies across international contexts are discussed below in our field review. The key findings from the intersecting fields informing our research tell us that:

- (Third) educational spaces of education governed by principles of negotiation, discovery and play, navigation across digital spaces and curation of multiple modalities can cultivate young peoples' literacies and transform how we think about sites of education.
- Digital literacy as a conduit for social praxis has the potential to disrupt educational power relations, give voice and address marginality, but the ability or desire of 'schooled' education to facilitate these shifts for social justice objectives is limited and the opportunities presented by mobile technologies for learning are socially structured and perpetuate inequalities.
- Just as the transition to mass popular culture brought relative benefits and threats to people in 'disadvantaged' communities, the educational benefits, for those with special educational needs (SEN) and/or labelled 'disengaged', of new literacy, in digital/media contexts, provide both new 'uses' and threats.

The unique setting and context for this project has afforded us the opportunity to build on this work to explore in more detail how third space, digital literacy and social setting might converge in a new understanding of digital capability and how competing stakeholder imperatives frame this capability differently.

2. Project design and setting

A sample of students and their parents/carers were provided with networked tablets with a range of pre-loaded applications for learning, access to workshops in a community space and a set of links from the digital activities to community services as well as learning outcomes. Our role was to measure (a) the increase in 'engagement' with learning, using the school's criteria (and including improvements to confidence of SEN students), (b) evidence of co-learning between students and their parents/carers and (c) improvements in the school's connections to the community and to service providers in the region (an identified area for improvement by Ofsted). In this way, our objectives were broadly aligned with the interest in the U.S. in the 'smart' education system, which:

> … links a high-functioning school district with a web of supports for children and families that collectively develop and integrate high-quality learning opportunities in all areas of students' lives – at school, at home, and in the community. Such systems actively engage youths and community members in the development and implementation of services, to ensure that they meet community needs. Community members provide pressure and support; districts and service providers are accountable to the community for improving a broad range of outcomes for children and youth. (Rothman 2010, 4)

The research design was an action research framework, implemented in the community space.

A sample of families with children at the school, who met criteria set by the school for vulnerability, including SEN, and disengagement (both terms we view as problematic and in need of interrogation – see Brotherton and Cronin [2014]), were provided with networked mobile devices, weekly workshops in the open access 'digital classroom' (the funder's term for their international programme).

The potential for tablets to empower and engage school students is of shared interest among the various stakeholders described and the research communities working across the fields of education and literacies. However, the latter group are generally resistant to the more instrumental rhetoric sometimes deployed by the former. We had significant success in a genuine knowledge exchange with the technology provider, advising them that our intervention would be framed by … 'tensions currently arising from a shift of everyday digital practices: from the majority of digital life spent before screens, to the normalcy of moving with screens, holding them up to the world, and rewriting that world through them' (Ehret 2016, L136–L137), and that our theoretical lens

would be focused on the tablets in human hands among everyday material, domestic and institutional 'mess':

> Tablet devices are co-present with human actors in wider culture and require sensitive pedagogical intervention which is cognizant of their potential for all learners to engage productively with new and wider definitions of what it means to be literate. This intervention must recognize human agency itself as a determinant of success, above and beyond what may be claimed for the devices themselves. (Potter and Bryer, 2016, 160)

> The 'stuff' of digital literacies is materialized in smart phones, screens, tablets and other complex digital literacy artefacts that spill into the 'stuff' of everyday life. (Pahl 2014, 173)

Our research questions were:

> How can students identified as 'disengaged' from learning in school make positive use of digital literacy?

> In what ways can a community third space (between physical and digital and between school and home) facilitate these uses of digital literacy?

The academy is split over three campuses. 15.4% of children have a Child Protection Plan and the region scores in the lowest 20% nationally on child well-being, education, health and disability indices. A local housing association is a key stakeholder in the school and the project, providing a third of housing for children at the school. In this locality, those that work in many cases fall under the standard living wage (taken as below 60% of national average yearly income) and are classified as 'working poor'. The school setting has a unique history and culture – a tied island, with an economic history based on extractive quarrying, and a cultural wariness regarding non-islanders which persists, in some forms, in the present (residents have a special name for outsiders, and residents of different sub-regions of the area are labelled with regard to different kinds of quarried stone – see Morris [1985]). These factors, given the situated nature of this research project, are not merely peripheral, but constitute a constellation of assumptions, values and attitudes that may have a direct or indirect impact on the way in which the participants in the project interact with the researchers and the research activities. Any digital literacy intervention harnessing networks and making connections, both online and in 'third spaces' will need to be mindful of any deep-rooted divisions or perceptions in the local context that might impede participation.

3. Fields

There are three key research fields which provided the conceptual framework and approaches to this project: Digital Literacy, The Third Space, and Uses (of Digital Literacy). The first includes work on the relationship between technology and learning, where learning entails identity work and civic engagement; the second provides ways of understanding geographies of activity and the blurred boundaries between these territories; and the third provides a lens through which to make sense of the range of things which people do with digital technology. It is in this third field that we return to Hoggart and begin to make some connections between his notion of 'uses' and Amartya Sen's notion of 'functionings' (leading to capabilities).

3.1. Digital literacy

This project aims to speak to both the 'macro' level research and policy frameworks for media and digital literacy from the European Commission and Unesco and the rich field of social literacies research. In recent mapping accounts of media, digital and information literacy across European Union countries, to which we provided the U.K. reports (McDougall, Livingstone, and Sefton-Green 2014: European Audiovisual Observatory/Council of Europe 2016; McDougall and Pereira 2017), some 939 stakeholders were identified, grouped into civil society, public authorities, academia, content providers, online platforms, regulators and journalists. Our multi-stakeholder context, then,

reflects this 'state of the art'. Educational/academic interventions range from addressing competence gaps to co-creative, participatory projects seeking to utilise digital literacy for constructivist pedagogic means (e.g., the work funded by Jisc) and more ethnographic work seeking to explore how digital practices integrate with socio-cultural factors and personal narratives – see Livingstone and Sefton-Green (2016). Economic/employability interventions aim at increasing digital literacy competences for accessing services, benefits, training and twenty-first century workplace practices – e.g., Lloyds Bank U.K. Consumer Digital Index (2016); Tinder Foundation/Go ON UK (2015), whilst civic engagement/societal well-being initiatives attempt to use digital literacy as a conduit for participation in democracy or accessing public services e.g., Nuffield Trust (2016).

When entering educational settings, many students bring with them experience of making meanings using digital tools and in digital environments (Yamada-Rice 2011, Potter, 2012. As a result, there has been much written about the diversity and range of practices that are associated with new technologies and the respective need for school literacy provision to be better aligned to those in everyday life (Burnett 2014; Burnett, Merchant, and Parry 2016; Potter and McDougall 2017). This work asserts that rather than seeing classrooms as locations which are inevitably impoverished for digital practices in that access and use are bounded and limited by curriculum constraints, there instead should be a focus on developing the distinctive dimensions of classroomness that can help generate productive sites for engaging with new media – these environments are often referred to as 'third spaces', a concept we work with here.

Extending this to a focus on critical praxis, Avila and Pandya (2012) have researched how the increasing ubiquity of digital literacies in and out of school has affected definitions of critical literacies, how we define, teach, and engage in digital literacies, what is negotiated, gained, or lost in the process of combining the critical and the digital and where the power is located, who is silenced and who is given voice and how digital literacy practices impact youths' identity constructions. In specific contexts, Stornaiuolo, Hull, and Nelson (2009) worked with international digital exchange projects in after-school settings to 'develop ongoing, multiple means of measuring students' learning, which encourages our redesign of the activities and the development of new measures more sensitive to the kinds of expanded literacies evident in participants' interactions' (388). Vasudevan et al. (2014) built on these approaches to work with court-involved youths on an 'alternative-to-detention' programme utilising multimodal storytelling. Crucially with regard to our interest in the more porous interchanges facilitated in 'the third space', the researchers in this intervention

> saw ourselves not only as researching the literacies and practices of belonging among the youth participants, but also as providing a service in the form of arts-based, digital media workshops for this organization. Thus, we engaged a pedagogical approach in our research as a way of working rather than as an intentional intervention, and our research was premised upon inquiry into these spaces rather than as an evaluation of our approach. (541)

Our embedded researcher in residence adopted a similar 'mindset'.

In the U.S. context, Hull and Moje (2012) align new literacy practices with the 'Common Core' for K12 with the objective of bridging the gap between new literacies and 'school-based goals' for second-chance opportunities (for a formative account of out of school learning, literacy and identity, also see Hull and Zacher 2010). This work, which closely aligns with our obligation to focus on 'the disengaged', includes *building upon learners' existing knowledge and cultural practices and situating literacy learning within a larger motivating activity and/or purpose* (4) and draws on research into funds of knowledge; ethnographies and third space; cultural modelling, project-based learning and youth media, combining in a body of evidence that:

> … literacy practices derive their vitality from curricula and activities that connect to learners' backgrounds, cultures, and communities; that capitalize on the social nature of learning; and that position young people to experience literacy as purposeful and themselves as skillful and confident makers of meaning. (6)

Our field scanning reinforced our intention to resist technological determinism of all kinds and unhelpful binaries, for example, between distraction on one hand and utopian assumptions about

'engagement' on the other. A polarity reinforced by political and media representations of more complicated research, as Buckingham (2015) argues:

> Technology in itself is neither 'good' nor 'bad' for education. It can be both, but its value depends upon how and why it is used. And yes, it can have a significant positive impact if it is combined with broader changes in pedagogy. Yet the central issues here are not technological ones – or indeed to do with 'discipline' – but to do with learning.

Buckingham can be considered an 'extended stakeholder' here, through his role in the Pedagogy Group for Techknowledge and involvement in the Family, Kids and Youth research. Among the '10 Golden Rules' put forward by Techknowledge as a result of the accumulation of their research findings throughout 2015, are *Develop a clear strategy for roll out, appoint members of staff to act as 'champions' including leadership, IT and those experienced in using mobile devices* and *introduce professional development within the school to include pedagogy and tech use* (Techknowledge 2015). The preceding Digital Classroom initiatives (commissioned and disseminated by our funder) were founded on more explicitly pedagogic principles, and drew on Bloom's taxonomy of the cognitive domain (Bloom (1956)), Ofsted guidelines (2015); and a broad model of 'Digital Literacy'. In addition, we acknowledged the key findings from a technology provider which pointed to the virtues of collaborative working (between teachers and students), more frequent presentation of ideas, independent learning with tablets fostering 'higher level skills', evidence of increased performance in STEM subjects by those involved in technological interventions, and claims for benefits for students with SEN and the 'disengaged' (Samsung 2014). A review of classroom research by Clarke and Svanaes (2014) for Techknowledge also presented common findings regarding the 'culture of use' pertinent to this project at a whole-school level. Particular success stories from Clarke and Svanaes' review include the importance of one-to-one access (provided in our intervention) and the ability to personalise the learning experience (developed in our later discussion as *capability*):

> The portable nature of tablets and the ability to be connected at all times is argued to facilitate seamless learning. Pedagogical benefits identified across academic research include increased or improved communication and collaboration, increased independence, engagement and motivation among pupils, and the ability to customise learning and benefits for children with special educational needs. (Clarke and Svanaes 2014, 14)

3.2. The Third Space

The Third Space (Bhabha 1994; Gutiérrez 2008) is the intersection where 'schooled' knowledge meets unofficially recognised skills and dispositions, and *potentially* entails the ability to translate digital literacy into schooled achievement (with regard to SEN, see Norwich 2014), through increased 'engagement' with the formal curriculum. In our project, we were working with the physical third space (the community space) and a metaphorical third space (the extended 'digital classroom' triad of school, home and community).

> This third space involves a simultaneous coming and going in a borderland zone between different modes of action. A prerequisite for this is that we must believe that we can inhabit these different sites, making each a space of relative comfort. To do so will require inventing creative ways to cross perceived and real 'borders'. The third space is thus a place of invention and transformational encounters, a dynamic in-between space that is imbued with the traces, relays, ambivalences, ambiguities and contradictions, with the feelings and practices of both sites, to fashion something different, unexpected. (Bhabha 1994, 406)

Moje et al. (2004) later extended this Third Space concept to classrooms. They proposed that the construction of Third Spaces involve the merger of aspects of the 'first' space of students' everyday lived experience with the 'second' space of the academic discourses students encounter in school (41). However, they caution that:

> Although we have chosen to align the concept of first space with that of the everyday world that is close to or common to people, the naming of what counts as first or second space is arbitrary; one could easily reverse these labels to suggest that first space is often that space which is privileged or dominant in social interaction, whereas

> second space is that which is marginalized. What is critical to our position is the sense that these spaces can be reconstructed to form a third, different or alternative, space of knowledges and discourses. (Moje et al. 2004, 41)

Gutiérrez (2008) offered *the Third Space as a way to think about the social actors in a given setting, their autobiographical and temporal specificities and how these could be accounted for in the design of an emancipatory form of educational experience. She wrote about how the design for learning in the Third Space could resist the standard binaries of home and school, providing actual and metaphorical potential in incorporating 'shifting practices and communities' into pedagogical design. The concerns of literacy researchers observing third space pedagogy are twofold*:

- What happens to people and learning in a (digital) third space?
- How do experiences in the (digital) third space influence practices back in the second space?

Research in the intersecting fields informing this project tells us that third spaces facilitate 'literacy events' (Street 2003), in which meanings are shared and in which pedagogical framing of those meanings is a key determinant of action in education. Elsewhere we have researched key elements of third space literacies and identified them as curation and porous expertise culminating in a more 'dynamic' literacy (see Potter and McDougall 2017). However we also recognise the foreclosure of 'third space' in education as a limiting term for a 'special' project, such as this, as Burnett warns, the distinction of the 'third' space from others is problematic:

> What do (digital) literacies become as they assemble with other stuff, how do activities/tasks/projects and so on assemble with other stuff as they unfold: with the histories and imaginings of groups and individuals, with established practices for doing school, doing media, doing literacy, doing friendship, teaching, learning and so on, and with other objects and memories lingering in the sites where they happen. And how does this shift as projects move along? For me spaces are always socially produced and as such always fluid and hybrid. (In Potter and McDougall 2017, 170)

Returning to the perhaps over-drawn boundaries, the first spaces of the participants in the project were not accessible to us, nor were we fully involved in the second spaces of the school. Therefore our findings are restricted to the physical third space (the community space) and self-reporting from the first and second spaces.

3.3. Uses

Selwyn suggests that the opportunities presented by mobile technologies for learning are just as much socially structured as they are individually driven, meaning that:

> … the likelihood of gaining advantage from digital education is clearly related to the resources that social groups command, therefore pointing towards the role of digital technology in the perpetuation of accumulated advantage and the reproduction of inequalities. (Selwyn (2014), 138)

The translation from theory into practice, for this research, involved devising strategies that would provide a focus on 'the real effective freedoms people have and their choice among possible bundles of functionings' (Terzi 2005, 450), this is in keeping with a focus on both human agency and materiality but also with the 'postdigital', by contributing to new knowledge about how the hybridity of digital and non-digital spaces and ambiguous, contingent and asymmetrical interactions within and across them offer a disjuncture to 'the hegemony of the digital' (Apperley, Jayemanne, and Nansen 2016, 263). The research was cognisant of the different roles, relationships and personal interactions during the research process and acknowledging the possible influence of these, with a particular sensitivity to the domestic contexts and how 'in the home, lived life seeps away from the panoptic gaze of education into a thread of practice, linked through previous generations and culturally significant ways of knowing and understanding the world' (Pahl 2014, 54).

In this way we were looking for, and at, 'spaces of agency' presented by tablet devices, when learning becomes differently possible in everyday life:

> Putting the concept 'space of agency' to use implies a double-take. We conceptualise the mundane practices of everyday life as a specific space of agency and we conceptualise the complex media (technology) environment as a corresponding space of agency in which the uses and combinations of various media (technology) provide users with specific possibilities for structuring, shaping and executing said practices. (Sandvik, Thorhaunge, and Valtysson 2016, 156)

The Uses of Literacy (Hoggart 1957) is frequently revisited by teachers, academics/researchers and cultural commentators to address current issues in education and social mobility. Exploring the uses of literacy among working-class communities in the north of England, for Hoggart, the 'uses' of literacy were understood as double-edged, on the one hand enabling mobility and on the other as a controlling force. If third spaces enable young people to re-frame their digital skills and dispositions towards playful and creative uses of new literacy for schooled learning, then this would be a key 'use' of new literacy practices – our participants' developing habitus with media production and digital storytelling across these home, school and community. In this way, digital literacy practices relating to identity, sociomateriality, representation, agency and play can be potentially 'of use' in formal education and for social mobility and civic engagement, two key strands of Hoggart's analysis, though we recognise our findings here speak more to the inability of 'schooled' learning for such *utility*.

In 'updating' Hoggart, then, we are observing these 'Dynamic literacies', as bringing together the shifting and contested versions of literacies which have emerged out of semiotics and multimodality (Kress 2003), media education (Buckingham 2003), the new literacy studies (Gee 2004; Street 2003) and 'transmedia literacies' (Jenkins 2011), all of which stand in contrast to the view of literacy as a static, narrow and autonomous set of skills. These dynamic literacies include digital storytelling – providing opportunities for new modes of self-representation and collaborative meaning making between school students, their families/carers, communities and the school; digital curation – writing, editing, and authorship when making or collecting digital content, from the blog to the social media page, from the uploaded snap to the chat and the tweet around those pictures and thoughts; and assemblage, where literacy, media and technology converge in educational contexts as 'the material-discursive-semiotic assemblings that are and could be generated in schools' (Comber 2013, cited in Burnett, Merchant, and Parry 2016, 240). These dynamic practices are enabled by, but are not restricted to, third spaces – negotiated and contested areas between and across physical and virtual (digitally mediated) interactions, in which meanings are made and shared and new kinds of knowledge, representations and efficacy are generated as the 'new uses' of literacy. As Hoggart observed, though, uses is a duality and in the digital age, the participants in our study, with all the stakeholder agendas described and the funding context stated, are as much 'of use' by the neoliberal framing of their digital literacy as they are agentive.

4. Methods and intervention

This was an action research project, with a research assistant embedded in the setting (referred to as a 'researcher in residence') for the duration of the project (10 weeks), working with teachers, students, parents/carers and community workers. The action research cycle, of planning, acting, observing and reflecting from the inside (Kemmis and McTaggart 1992, 10), consisted of: stages of diagnosis (of the 'disengagement threshold'); the three-stranded intervention (which comprised provision of networked tablets, creation of a community space and guidance for family learning); and reflection (on the 'uses' of digital literacy to enable engagement with learning in a third space – a blend of school, home and community). The aforementioned multi-stakeholder configuration presented bifurcation and dynamic adaptation (Phelps and Graham 2010, 184), aspects of participatory action research. The situated outcomes for teachers in the school and the transferable findings and approach are located in the social practices of continuing professional development. In this way, the project was faithful to action research as 'critical praxis' as opposed to more 'technical' (improving efficiency or efficacy) or 'practical' (improving professional practice through reflection) emphases.

The research design was negotiated with stakeholders, which entailed beginning the action research cycle at the point of identifying the problem, which was articulated by the school and the stakeholder group as barriers to full engagement with school and with community services. To validate this, two forms of pre-intervention profiling were conducted. Firstly, confidential data generated by the school and the social housing association provided profiles of families with a living wage income, including a student with disclosed SEN attending the school and meeting threshold criteria for 'disengagement'. Secondly, technology access and perception profiling were conducted through a survey administered through the school with incentives in the form of supermarket vouchers. Following this profiling stage, fieldwork in the school and community consisted of a researcher in residence embedded in the school for two days a week, in parallel with pre-intervention interviews with community facing staff members and key community stakeholders.

Our profiling of participants' prior and existing use of digital devices for learning (as defined by the parents or carers) revealed 90% of students using the internet for education and 50% doing this together with parents or carers. Tablets were the most commonly used devices (far more so than smartphones, games consoles or laptops). Pre-conceptions about the benefits of being provided with a tablet by school were generally related to confidence in the 'for learning' activity, linking up home and school in terms of prescribed apps and security/safeguarding, e.g., 'I would feel safe letting her use it knowing it came from school'. However, some parents/carers were cynical about this, stating that school resources should be 'better spent' or that the project would increase 'screen time', e.g., 'stop grooming them for technology'. Whether this response was directly related to the technology provider's sponsorship of the research cannot be inferred from the statement on the survey. From this data, it was clear that the objectives of the third space activities we were planning would be more about linking home, school and community and also out of school digital practices with 'schooled literacies' than about digital literacy competencies, skills or dispositions in and of themselves.

There are several European precedents for projects such as this, that is, projects in which pupils, families and technology are brought together in order to explore the potential for enhanced media literacy (see Evens Foundation 2016), and two key observations from such work informed our approach:

> Often those families who need most support (socially deprived families, less educated families) don't know where to go or don't realize they need support. Therefore better and more structural exploration of how to reach out to parents and involve them is needed. One very effective way is to organize workshops that parents and children can attend together … Parents need to be offered opportunities for exchange. One way can be groups with other parents guided by an expert. Here they can ask all their questions and discuss their experiences. (Asbjornsen et al. 2016, 9)

> There is a body of evidence that shows that families from medium-high or high socio-economic status and with a higher level of schooling tend to be more attentive both to the risks and the opportunities. These families tend also to promote active mediation, stimulating positive uses of media and promoting the child's autonomy. On the other hand, families of lower socio-economic status report less mediation, either active or restrictive. This situation accentuates differences in children's digital literacy and, consequently, their digital and social inclusion. To address this, schools and social and civic institutions can play an important role, promoting training and special activities for parents. (Pereira, 2016, 12)

These findings guided both the stakeholder-led intervention, and also our approach to interpreting the data that emerged from this: we ensured that our workshops, in addition to targeting the families identified by the school, were intergenerational, featured collaborated social learning and active participation, gave parents the opportunity to work with one another as well as with their children and the facilitators, and promoted an incremental progression to greater learning autonomy, with digital tools, on the part of students; and in addition to this, we were particularly sensitive to demonstrations of, or talk about, 'active mediation', seeking evidence of how and why the technology and activities were accepted or rejected.

The 'Digital Families' programme was presented to parents and carers as a hands-on opportunity to learn how tablets are currently used to support their children's learning in school. Once recruited to the project, we observed their ongoing engagement with the school and other community services. During the exploratory 'stakeholder mapping' stage and the intervention fieldwork, we were interested in synthesising the expectations and assumptions of all the stakeholders 'in the mix', including the students and families. In the post-intervention evaluative phase, we honed in on the families, as our research questions were asking about 'engagement' on their terms. The 10 families in the sample were all living in social housing with a SEN learner at the school. They were provided with a tablet to take home and invited to participate in weekly workshops in the community space. Data generated during the intervention consisted of field notes, video or audio-recorded activities, and semi-structured interviews (with informed consent provided verbally and recorded, due to participants' resistance to formal paperwork being sent to homes). The analysis of the interviews adopted a thematising approach; recordings were fully transcribed and then 'meaning clustered' (following Gee 2011) in order to provide thematic comparison across stakeholder interviews.

During the workshops, families worked with the researcher in residence, teachers and community workers on a series of '3 step' activities. Step 1 was an open brief 'learning by practice' introduction to an aspect of digital literacy – writing a blog, creating animations, video production, using apps for learning, virtual reality for learning, using a 3D printer working and working with *Google Cardboards*. Step 2 involved guidance for using the acquired 'competences' for schooled learning, attempting to link the new ways of learning directly back to the school's curriculum and to identify particular open source applications that could offer learning by doing, linked to both the activities generated by the workshops and the curriculum. Step 3 was the implementation of these aspects of digital literacy in the first space (home). Parents would first discuss how they had been using the tablets at home with the students. They would share apps that they had discovered and identified as resources for learning as well as sharing tips for using the tablet with each other, especially with regard to parental controls. This became a forum in which they would discuss both the uses of and management of digital technology, extending to perceived risks and shared guidance online safety, notions of educational use and the age appropriateness of social media activity. This was followed by a co-production activity centred around the tablet, linked to the school curriculum. Additionally, following one parent's recommendation, a Digital Families *Facebook* group was set-up as part of a workshop on exploring *Facebook* privacy, security and data collection.

During the co-production activities, it was often the children that would take the lead, and would frequently ask whether they would be 'doing Digital Families in the afternoon'. The children's enthusiasm became a strong motivator for parents/carers to continue their engagement with the project. Over multiple workshops, the families created video, animations, co-created a 3D robot, used 3D printers and assembled and painted what they had designed, learned with virtual reality, wrote blogs linked to school topics and experimented with *Google Cardboards*. The kinds of functionings we could observe during these activities were not merely technical, but were related to autonomy in taking the lead in collaborative learning with parents and carers, self-representation, curation and storytelling, reflecting on learning and making connections to the school curriculum. Building on our previous research (Potter and McDougall 2017) we were looking for *dynamic* literacy practices, educational modes of *curation* and the configuration of the *third space* as a rich environment for such practices.

During the workshops it became clear that we were working both with and against the grain; our activities were aligned with SEN-specific learning activities (with the SEN-specialist teaching assistant supporting the activities), and also with the mainstream curriculum – 3D modelling and writing narratives, for example (see Gov.UK 2013, 118, 38), but we were also critical of labels such as 'SEN' and 'disengaged' and resistant to simply looking for markers of 'success' or 'improvement'. This tension was acknowledged in the later stages of the work; following the workshops, interviews were conducted with community stakeholders and parents and carers. Our objective here was a form of triangulation: to relate the observed outcomes of the community space activities and the pedagogic

rationale for the project to an understanding of how the project had been experienced by the parents and carers and the extent to which these new ways of learning were *put to use* in the first space and the potential for their purposeful use in the second space. It is for this reason that we invoke Sen's notion of capability in the conclusion to this piece, for it is through this lens that we hope to apprehend the complexity that is missing in more instrumental accounts.

5. Findings

5.1. 'Othering' by stakeholders

In the stakeholder discourses, the school was positioned as a potential hub for different forms of engagement – social as well as educational, stretching the temporal boundaries of 'school time'. But also significant was the expression of the need to remove any sense that the school, with its freight of authority and (for some) failure, should be seen as threatening:

> We want – what we've used as the example from Harlem in New York, of Harlem being what was called a 'children zone' and that all of the services worked together and collaborated for the single purpose of raising aspirations and supporting families in their community … I would like to see our school being used by the community well into the night, for a variety of services, parental drop-in services with technology, 'learn how to use your tablet for learning' courses, whatever. That it promotes the school as supporting the community and not being a threat to the community. (Senior school professional)

Community members were frequently described as lacking confidence to engage in services. Among those working in the community it has given rise to an approach of 'getting them through the door' to engage in any activity (e.g., baking, coffee mornings, gaming evenings) – a kind of 'soft-assessment' approach to understanding individual needs and encouraging people to engage in other services. This perceived lack of confidence, or will, to engage with community services was believed to extend to the use, or not, of technology. Raising the confidence of parents and carers, via the students, was assumed to be both a priority and a possibility through the Digital Families intervention.

Local stakeholders consistently framed the community as lacking aspiration, and the project was seen as having the potential to address this problem by 'changing the mindset'. This point of view embodied a kind of paternalism, which also found negative expression. Some stakeholders referred to community members with substantial needs as having support 'wasted on them', and the notion of 'learned helplessness' emerged, to refer to families which, over generations, have become dependent on social services.

> It's the challenge – how do you change an ethos on an island? (School professional)

> A lot of them allegedly take drugs, the parents, and seem to be demotivated, happy to stay on benefits. (Community professional)

Some stakeholders expressed concerns about the community having physical access to the 'Digital Classroom', some suggesting that community members should not be trusted with the tablets. In the majority of interviews with local stakeholders (as opposed to the technology provider), descriptions of people in our target group were characterised by this assumption of 'inadequacy' or need for improvement – often through aid-based interventions. Some responses indicated how technology might enhance well-being and, in combination with other factors, play a part in generating the kind of capability we discuss later:

> I would love to see more of the elderly accessing technology on the island. One of the things I've noticed on the island is the children lack grandmother and grandfatherly support, because they're quite often in other parts of the country. And these people could be – through technology – Skyping or whatever, a great support to the youngsters' education … And when there are grandparents around the corner, we know that many parents do use them for childcare and they could be heavily instrumental in the forward development of technology. (Housing association professional)

> From a student's point of view, I think the access to resources and information through technology is already affecting their lives at home and so it doesn't really make sense that they are not taking advantage of that from a learning point of view and to instant access to stuff they never knew about with almost instant feedback from experts across the world. I think that that's been significantly underused, and I think for good reasons, around precautions of privacy and security, particularly because it's children. (Technology provider)

5.2. Perspectives on technology by stakeholders

Despite a general sense that the community had limited access to technology, and limited skills, some stakeholders identified an over indulgence of mobile digital media as a barrier to learning, aspiration, or general well-being. One stakeholder shared a story – described as 'typical' – of a seven-year-old girl who was unable to sleep without *YouTube* playing in the background. This respondent was, therefore, concerned about the additional technology going into homes as part of the project.

Another discursive distinction between uses of mobile technology – 'superficial' versus 'effective' emerged among stakeholders, with some becoming enthused by the ways in which learning could be demonstrated and how technology could generate learning activities in homes:

> We could track how much they use it, when they get home, sitting on the sofa, if they are using it for Maths we could use that as evidence for supporting SEN. (SEN professional)

> For me it's about that personal engagement into further learning. In some ways technology is really accessible, (the school) is best placed to start to build confidence, you would hope parents won't see such a barrier if this is offered to them as well, so the hope is parents will build up that confidence, not just with (the school) but with other people, to take on a learning option for adults. (Senior school professional)

Other stakeholders structured their responses less around a distinction between 'worthy' and 'unworthy' technology, but more around issues of how the 'digital' might be integrated into existing practices:

> It's a battle for autonomy. Teachers' response to having things imposed on them is to shut the door … it's very complex, the local context is key, you need autonomy for the learners and the teachers, otherwise you won't have authenticity. (Educational charity worker)

5.3. Digital literacy and functionings

Observing and reflecting on the intervention, we captured evidence of functionings through participant observation, the analysis of digital material and communication generated by the students and parents/carers during the project and collected self-reporting about uses from participant journals and interviews. A longitudinal study would be required to track the translation of these functionings into educational uses for social mobility (e.g., exam grades, progression into further and higher education and employment), so within the scope of our study we were investigating the perceived conversion from digital functionings to uses (and, later, capability) in the present and future.

Of the 10 families that were invited to participate in this study, 5 families regularly attended workshops (80% attendance). Students from two families moved to other schools during the project and the remaining three families attended less frequently.

With our five regularly attending families, there was evidence of collaborative dynamic literacy practices in the form of digital storytelling through animation, curation of self through blogging and reflexive identity work in virtual reality contexts. The other three remaining families either failed to complete the tasks during the workshops or provided insufficient evidence of following up these practices at home or in school. The five regularly attending families and the three less engaged families were all observed assembling, arranging or curating digital texts in directly educational ways, or, in some cases, reported this development to 'schooled' curation either at home or in school or both. Three families presented new approaches to selecting learning resources for new purposes,

as a result of increased awareness of their pedagogic value, but on this evidence we were not able to 'join up' these practices as reflexive, 'meta' literacy functionings with sufficient credibility.

The five families who regularly attended, in the journals and interviews following the community sessions, provide new knowledge about the 'uses of literacy' in the spaces across and between home and school, in Hoggart's frame of reference the impacts of digital technology on the 'roots that clutch'.

The developing field of research into parental engagement with digital literacy education observes the need for practitioners to identify the conditions (attitudes, values, skills and practices) for dynamic and positive relationships between schools and parents; design activities that enable professionals to work productively and proactively with parents in support of young people's learning; and for parents to reflexively understand the potential role of digital media in their own context (Kendall 2015). However, practitioners must work hard to understand parents and carers as being themselves different, situated and agentive in othering one another, which seems to underpin some responses about engagement as presence:

> We enjoyed it big time, it was really worthwhile. But some of the other parents who didn't keep coming, I know one person who was really keen but he's going through a rough patch with personal commitments. And one lady, I took one look at her and just thought, well she won't continue, she's just that kind of person, with her background and everything. (Parent/Carer)

> Some of the other parents, they are quite disengaged from the school, some have taken their kids out now, I've seen it on Facebook, so that's why the attendance at the workshops went down I think. It's pretty unstable. (Parent/Carer)

Nevertheless, there was clear evidence of digital activities acting as a conduit for relationship building and enabling parents/carers and children to find new ways of being together:

> It's 50/50 me helping him and him helping me. With his phonics, he's using apps and with his Lego trains and that, he's using search engines now and finding videos and channels. And we use the tablet together, so if I'm there doing bits and pieces he'll be asking me and with Mathletics, it's all set up for him and I can help him more. When I was his age we didn't have any of this did we? (Parent/Carer)

> It's much better working with parents and the kids together, you can see them working together and what they need. The kids loved being with their parents I think, they really looked forward to it, if the other parents could see that. Just parents alone, I'm not so sure about. (Parent/Carer)

On the other hand, a sense of this more 'fluid' context for engagement being exploited by peripheral participation arose:

> It was surreptitious that we were trying to get parents better at digital things. Parents don't really know what they want to get out of it, but you can just be interested and sociable and get to it. Especially if you find an angle for engagement, like they are all using the same after-school club or something. Or a money maintenance course at the adult centre, people turn up and get £20 and don't come back, like some took the tablet. But if you make the positive outcomes the end result – like saving money through a series of new things, or a digital literacy equivalent, like home shopping, getting free delivery? (Digital Champion Volunteer)

> We've got young families who need support but it's a £3.50 bus trip so that adds pressure if people have to go elsewhere, so the location for this is great and it's breaking through if only for that reason. On the other hand, they have *very* close-knit bonds with each other, it's a very insular community also, so perceiving anything coming in from outside as not being in their best interests, and a great deal, understandably, of suspicion … You can say that doesn't happen but it does. (Adult Education Tutor)

The kinds of functionings we could observe in these activities related to independent engagement with learning in new (digital) contexts and self-selection of suitable applications for 'schooled' learning, the latter more consistently evident. We were not expecting parents and carers to reflect on their own community identities, however, this arose again from the perspective of professionals evaluating the project's outcomes. Our research setting was characterised by particular cultural idiosyncrasies, outlined above, regarding the wariness of the community towards 'outsiders'. We make no claims for

overcoming this, but it is worth noting that with the modest impact of the intervention on 'engagement', came some subtle shifts in perceptions of the community by local stakeholders.

There was evidence that the project encouraged co-learning within families, and it also served to soften long-standing barriers facing participants:

> I say we have an amazing space or a room, I don't call it a classroom because people have so much difficulty walking into a space anyway and with our target audience calling it a classroom, there's no way, so community hub, community space. The digital bit is good, that works, but it needs more of an identity outside of the school, I feel like it needs its identity, away from what (technology provider) and (school) want to call it for their PR, these just create more barriers without them realising it. (Adult Education Tutor)

There was evidence of greater autonomy with learning and particularly with peer-learning:

> His cousin's got a tablet and he's showing him, taking his knowledge and showing what his knows and giving it to his cousin, who's two years old … With his writing, like yesterday they were doing a London project in school and now he's typed it all out himself, used the search engine and found the London Eye and everything, and he's searched that himself and he knows where to go to find what he's looking for. (Parent/Carer)

Parental confidence was clearly increased, but this was variably framed – sometimes by proxy (observing their children's progress) and sometimes in more protectionist contexts:

> We used the tablet at home mostly for the language work, English, Spanish and German, good levels as well … I don't know how she figured it out. If I struggle, my husband steps in, but that's something to do with him being more patient as well, I like it but I got on much better when I was working with the kids, as it's good doing something with them not just for myself you know? The kids are clever, they never struggle like us. (Parent/Carer)

> I think it's the safety thing, they learn about it at school but I don't have a clue and some people they leave their kid logged in, things like that. (Parent/Carer)

A second major disconnect, however, along with that between the school and the community, remained between the day to day curriculum in the school and the use of technology at home:

> But most of the new things with technology, for the learning, they don't come home from school so much, only from this project. From school they come home with website addresses for a topic, but that's it really. I have to look it up myself, what they need for homework, it's not easy. (Parent/Carer)

Across all of the discursive themes – engagement, community, the status of digital – our most consistent finding was to do with the difficulties faced by educational and community professionals in such historically and culturally loaded settings as this, with attempting to harness the potentially egalitarian affordances of technology to ameliorate issues of power and previous lived experiences of the damage done by alienating 'schooled' education.

> There was so much judgment involved, it's like the people we wanted to engage have a pre-conception that it's either bums on seats to get funding or it's loaded with this judgement that you're not good enough, we're here to make you better. And even though that's not explicit, they come in with that. To them, it's that they're being told they need to come here to get help and that's a stigma. (Adult Education Tutor)

6. Discussion: uses for capability

As we made clear at the outset, our approach to this project was intended to avoid the instrumental measurement of functional digital literacy competences, and it is apparent that no such simplistic outcomes can be adduced here. Instead, we have attended to the interplay of human agency, social context, educational context and technological affordances in order to arrive at a complex picture of activity, understanding and investment. For this reason, we are drawn to Amartya Sen's notion of *capability* in order to provide a way of illuminating this research, but this is also motivated by a desire to reclaim the word, with all its intricacies, from its use as a synonym for 'competence'. Jisc (2017), for example, speaks of 'Building digital capability' and presents a set of benchmark statements which characterise the digitally capable learner and which are organised around assertive verbs of

engagement: 'I know … ', 'I build … ', 'I collate, manage and access … ', 'I make sense … ', 'I design and create … ' and so on. For Sen, however, capability is more complicated than competence, and he reacts against models by which the well-being of groups of people is assessed upon reductionist metrics. Capability, in Sen's terms, emphasises human diversity, the significance of choice-making (including negative choices), and the possibilities of flourishing:

> The capability approach to a person's advantage is concerned with evaluating it in terms of his or her actual ability to achieve various valuable functionings as a part of living … Some functionings are very elementary, such as being adequately nourished, being in good health, etc., and these may be strongly valued by all, for obvious reasons. Others may be more complex, but still widely valued, such as achieving self-respect or being socially integrated. Individuals may, however, differ a good deal from each other in the weights they attach to these different functionings – valuable though they may all be – and the assessment of individual and social advantages must be alive to these variations. (Sen 2008, 271–272)

It is exactly this sensitivity to variations that we have sought in this research. If we now adopt this capability lens to speak to the uses of digital literacy and assess the impact of our intervention, we can identify a complex mix of digital capability for learning which is highly specific and situated, especially with regard to students with disclosed SEN and those meeting 'red flag' criteria for disengagement (both labelling functions were prescribed by the school and funder as non-negotiable). Our participants all demonstrated (digital) functionings in *one or more* of these practices:

- independent engagement with learning in new (digital) contexts (sometimes epistemological, sometimes curational, creative, or self-representational);
- self-selection of suitable applications for 'schooled' learning;
- autonomy in taking the lead in collaborative learning with parents and carers (evidence of 'flipped learning' in a family/home context).

Very rarely, however, could students demonstrate meaningful uses of such digital literacy for positive change. This kind of (digital) capability, the full *combination* of these uses as functionings, was absent this evidence, as the *uses* of digital literacy were always partial.

The capabilities of parents and carers were generally subject to long-standing impediments – financial, related to trust of institutions, time constraints and anxiety around screen time and 'good/bad' use of mobile technology. This was amplified by the lack, beneath surface level, of a coherent and sustainable rationale for 'joining up' the triad of school pedagogy, home digital learning and community engagement. SEN professionals reported a lack of connection between their blended support (one-to-one in the school, one-to-one mobile provision outside of school, access to community space for parental support) and classroom teachers' everyday practice. This is a major impediment to the development of a 'smart' system.

Our experience with this community 'third space' project leads us to argue that looking more closely at the *uses of* digital literacy, rather than assuming it as end in itself or assuming its translation into school 'engagement' is important as the field of digital literacy education enters its 'maturation' phase. Going further, we suggest that a capability lens provides a 'way of seeing' mobile technology, learning and engagement which moves beyond the uncritical and instrumental deficit rhetoric that often attends such interventions, speaking to a richer, more sensitive account of technology's situated affordances against objectives for social well-being and the public good.

Ethics

This research was carried out in accordance with the Bournemouth University Ethics Code of Practice (http://blogs.bournemouth.ac.uk/research/researcher-toolbox/research-ethics/) and ethical approval was granted by the Research Ethics Panel. The British Educational Research Association (BERA) research ethics framework was also adhered to: http://content.yudu.com/Library/A2xnp5/Bera/resources/index.htm?referrerUrl=http://free.yudu.com/item/details/2023387/Bera.

Raw data, as agreed with the participants, has been embargoed and is not publicly available. On acceptance, this article will be placed in the Bournemouth University open access repository, pending embargo restrictions by the publisher.

Conflicts of interest

The technology company identified here as a stakeholder, provided funding to the research team. As explained at the beginning of the article, we negotiated a change in the approach to the Digital Families initiative which allowed us to make a more critical assessment of its implementation and impact. The extension of the original project into the Digital Families community initiative was funded by the Engineering and Physical Sciences Research Council. At no time did either the technology provider nor the research council attempt to influence our work or findings, so we do not consider there to have been any conflict of interest.

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