From Digital Literacy to Capability

From Digital Literacy to Capability:

Exploring the Impact of Technology on Engagement with Community Services, Schools, and Family Learning

Research conducted for **Samsung UK** by the **Centre for Excellence in Media Practice** (**CEMP**) in partnership with the **Isle of Portland Aldridge Community Academy** (**IPACA**).

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Executive Summary

This report shares the findings of a research project evaluating the intervention of a multinational technology provider (Samsung) with an academy school and its community in a unique island setting off the coast of England. A sample of families meeting criteria for vulnerability and disengagement, including students at the setting with special educational needs (SEN), were provided with networked mobile devices, weekly workshops and an open access 'safe space' in the form of a 'digital classroom' for the community.

Initially the research focussed on caregiver engagement in community services and education, with specific focus on learners with special educational needs (SEN). As the research developed – along with the Digital Classroom initiative at the academy – two additional strands emerged. Firstly, the Digital Classroom became a focal point for broader community engagement addressing community needs, digital access and the development of digital literacies. Secondly, through collaboration with Synergy Housing Group, Dorset County Council and Skills and Learning, a climate of prioritising digital inclusion arose.

The development of a transferable Digital Capability approach for measuring the outcomes of digital engagement initiatives in highly situated contexts is at the heart of the project. The project's core objective is to **provide a nuanced picture of the complex relationships between institutions, education, community and technology**. The findings speak to the complexity of the kinds of 'digital capability' (adapted from Sen, 2008) all the stakeholders are looking for, as well as explaining the importance of moving beyond reductive and functionalist notions of digital literacy and addressing the risk of 'othering' communities during such interventions.

This Digital Capability approach has informed both the development of a Digital Families programme – a series of digital media co-production activities for families – and the use of a Samsung Digital Classroom as a community space. The capacity for the Digital Families programme and the Digital Classroom to engage families, promote family learning and develop digital literacies is also investigated.

> ***Technology engages children instantly. From some of the experiences I have had with parents and children, I think the use of that technology needs to be further developed. I talk to parents who when their child interrupts they hand them their phone to play a game on it. The children are engaged with that technology but if we can develop the understanding of the possibilities, and the use of that for learning, then that is obviously a huge benefit, and also if we can use it to engage the families that are difficult then we are onto a win-win situation there aren't we?***
>
> ***SEN specialist***

Project Overview

Guiding Principles

This project explored the role of digital technology as an engagement and learning resource for families identified as both socio-economically challenged and with young learners with special educational needs. It should be noted that digital interventionist projects like this can become technologically deterministic - that is technology itself is seen as the driving force for change, ignoring the socio-cultural, historical, and generally human dimensions. To avoid this, to ensure ethical integrity, and to preserve the contextually meaningful integrity of this project, six guiding principles were established:

Accounting for Multi-Stakeholder Investments

Stakeholders – technology provider / project funder; academy governance and management; school teachers and SEN professionals; housing association; local council and related agencies; parents and carers; students.

Accounting for the different motivations for participants, degrees of investment, and the range of desirable outcomes expected.

Enabling a Family Voice

Treating families as equal stakeholders in this project; the outcomes they desire were used to shape the research.

Situating the Socio-Cultural Context

Avoiding technological determinism through capturing socio-cultural climate and relevant pedagogic and community outreach practices.

Caution in relation to Reductive Policy Discourse

Framing digital inclusion in terms of access to consistent internet connections, appropriate technologies, and digital literacy training opportunities.

Transferability of Outcomes

Theoretical findings and practical outcomes of this research project will be packaged for impactful transferability.

Continuous Reflection on Power and Privilege

Given the involvement of significant commercial, social, and academic organisations, the capacity for these organisations to influence the research agenda and impact on the lives of participants is consistently reflected upon. Additionally, the socio-cultural background of those involved in this research, and the assumptions that they bring to this project are foregrounded.

> ***it's just something we all want and we can all help each other…we need to cross that triad if you like, the parents, the student and school, we all use this, we're all familiar with it, we all have problems with it at times, and we all kind of help each other to try and make that useful.***
>
> **SEN specialist.**

Project Map

This project was...

Funded by an international technology provider...

...investigated by a centre for media research...

... with a researcher from a doctoral training centre...

... supported by a social housing provider...

... situated in an academy school.

Where?

The Isle of Portland. An island community with socially deprived areas.

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... to investigate ...

This included:

Digital Families

A series of workshops exploring family co-production of digital media to develop digital literacies and support SEN* learners.

... hosted in...

Digital Classroom

A space developed as a digitally enabled agile learning environment, expanded for community use to meet needs of a deprived community.

... situated in...

Digital Inclusion

A socio-cultural context of discourse around accessing digital technologies, and a community service focus on digital inclusion.

... which are important because of ...

... this all led to...

Family Digital Literacies in Learning

The perceived benefit of digital technologies in children's learning especially for SEN* learners and a mismatch of school / home use of technology.

A Need for Community Services

There is a significant lack of access to community services on the Isle of Portland. This is exacerbated by the needs make-up of the island.

The Necessity of Digital Access

Basic participation in society (accessing social benefits, housing, employment opportunities) requires digital access and a digital competence.

Digital Families Programme

The digital families programme is being developed and deployed at IPACA – independent of the research - and additional community service providers from Dorset County Cou

Self-Sustaining Community Space

The Digital Classroom as now a self-sustaining community space – providing a source of revenue for the school and offering basic community services.

From Digital Access to Literacies

Discourse surrounding digital inclusion has developed from a focus on access to include digital literacies and, a need for training.

Project Timeline

Deliverables	Progress
Literature and Policy Review *including material from Techknowledge and previous Samsung research*	Completed January 2016
Capability Profiling and Family Survey	Completed July 2015 Families selected from survey profiling (generated by CEMP) and IPACA data.
Pre-Intervention Interviews (stakeholders)	Completed and Transcribed August 15
Steering Group Evaluations	3 reviews circulated during 2015 3 stakeholder reviews: Skype IPACA Samsung *Synergy Housing and Skills & Learning Consulted throughout*
Intervention – Development of Digital Classroom *Developed digital classroom and established community services. Data collected through observations, self-reporting, research reflections, and interviews with community outreach practitioners.*	Completed December 2015
Intervention – Digital Families Workshop *Weekly family workshops focussed on family technology use. Data collected through observations, self-reporting, and researcher reflections.*	Completed September 2015
Post Intervention Interviews* *Follow-up interviews with stakeholders and identified community outreach practitioners.*	TBC Out of funding for funded RA time. Funds available from Bournemouth University in addition to match funding.
Intervention – Pedagogic Rationale for SEN Learners* *Development of pedagogic rationale for the use of typically available technology and software to support learners with Special Educational Needs*	TBC Out of funding for funded RA time. Funds available from Bournemouth University in addition to match funding.

Analysis and Final Reporting* *Critical analysis of all data collected. Presentation of data in the form of a final Project Report including key findings, recommendations, and success stories.*	Jan 16
Web and Press Dissemination *Dissemination of associated project materials online and engagement with press-outlets. Techknowledge to support.*	Feb - March 16
Impact Development – Development of Best Practices *Funded through Bournemouth University and the Engineering, Physical Sciences Research Council. Capture and present examples of best practice through a Digital Inclusion seminar series and training opportunities.*	Jan – July 16 (potentially 2019) Training sessions are underway with Skills & Learning and Synergy Housing group.
Impact Development – Production of Digital Families Activity Guides *Funded through Bournemouth University. Design and produce activity guides for Digital Families workshops and make available at DigitallyFamily.com.*	Feb – July 16
Impact Development - Journal submission *Funded through Bournemouth University. Production of journal articles capturing the capabilities approach as a means of informing digital integration projects.*	July 16 Intention to publish in the British Journal of Educational Technology
Ongoing Impact Dissemination *Through ongoing impact development, additional opportunities for dissemination will be identified including practitioner communities, academic channels, and local and national news outlets.*	2016 – 2019 ongoing <u>Proceedings so far:</u> MES 2015 (Boston, MA) Festival of Learning 2015 BETT 2016
Community of Practice Dissemination *Findings from this project are being directly disseminated through active participation in educational, community outreach practitioner, and academic communities.*	Ongoing throughout 2016 Stakeholder Seminar at BU or London Summer 2016 Seminar Series – Community, Academia, Education Festival of Learning 2016

Research Strategy

Carrying out this research involved the review of relevant literature concerned with the educational benefits of technology and the benefits of digital literacy. Due to timeliness of this research area, the desk-research part of the project continued and paralleled, while informing, the field research. Field research adopted a participative action-research approach through embedding a *researcher in residence* into the school and community. Via this embedded researcher an action-orientated, needs-led methodology was used to shape the research agenda. However, before the research proper began it was necessary to adopt an ethically and academically robust framework.

Capability Framework

This research was undertaken to understand how and why particular digital technologies were used in a specific community context and what insights might be drawn from this for the purpose of digital inclusivity. Consequently, Amartya Sen's concept of capability was used to create methodological and ethical foundations for the work. Sen's work reacts against models by which the well-being of groups of people is assessed upon reductionist metrics which tend to focus on material comforts and financial security. In contrast, capability emphasises human diversity, the nature of being and the possibilities of flourishing.

For Amartya Sen, (2008), the capability approach is based on a view of living as a combination of various 'doings and beings':

> 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. (2008:271-272)

The significance of this shift is summed up by Norwich:

> [A] key aspect of the capability approach is that commodities (or goods) are useful only insofar as they enable functionings. Two people may have the same resources, for example, money or food, but one may be less able to use these resources because of some personal or social factor.. (2014:17)

The implications for this research are clear: tablets are not a 'capability' in themselves, but a resource, and therefore we are attempting to capture the changes in 'functionings' that they may facilitate. It is important, then, to not merely enumerate the 'new' possibilities that tablets may create, but to assess how valuable those possibilities are to the participants. There is a positive political motive underlying this – a desire to construct human lives in terms of possibilities rather than deficits. This cannot be the product of technological determinism, nor a simple equation of new digital practices with autonomous models, but instead through, specific, situated research, we can examine the ways in which students move between the worlds of home and school in an actual and metaphorical "third space" (community) between the two.

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). These strategies were geared to three main principles that ensured the research was:

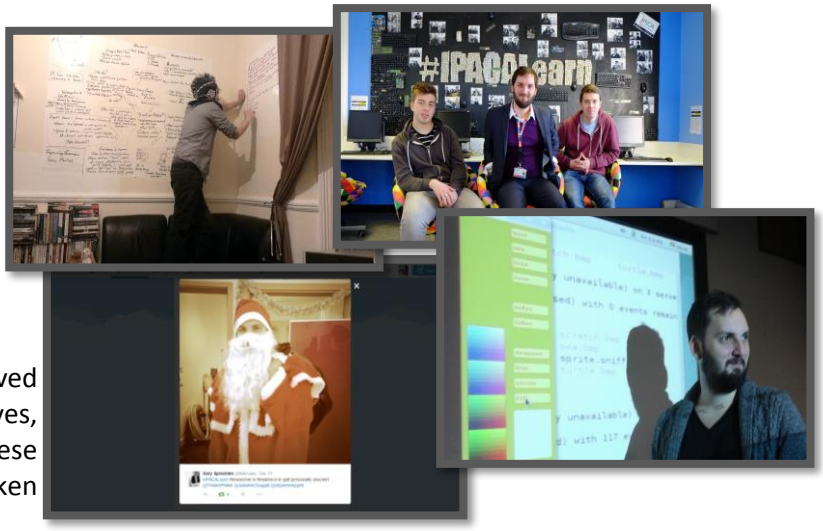


Figure 1 - Researcher in Residence: Undertook Several Roles in the School and Community.

Humanistic – interested in the lived realities of the participants' lives, ensuring that the diversity of these lives was apprehended and taken into account;

Holistic – cognisant of 'the big picture', that is, the various spaces, social networks, institutional and technological interactions that the participants experienced, thus attempting to avoid producing data with no context.

Situated – cognisant of the different roles, relationships and personal interactions during the research process and acknowledging the possible influence of these.

In summary, before moving onto to describe the research methods and processes, we argue that the capability approach provides a methodologically appropriate and ethically grounded foundation for this research: it provides a sensitivity to the diversity of the participants, inspiring methods which capture the fine grain of thought and feeling; it has social justice at its heart and seeks to understand what 'equality' might mean; and, crucially, it provides a relational framework for understanding how individuals apply particular freedoms of choice from various capabilities.

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 – to instantly access stuff they never knew about with almost instant feedback from experts across the world. I think that that's been significantly underused [because of anxieties around] privacy and security, particularly because it's children.

Teacher.

Field Scanning

Methods

Academic field scanning (including field mapping from previous studies by the research team), thematic synthesis of recent literature review by four doctoral researchers working in CEMP, review of research reports and summaries provided by stakeholders and in public domain (Samsung, Tablets 4 Schools, Techknowledge, Families, Kids and Youth).

The review of literature and research in the broad field of technology in / for learning foregrounded empirical work with methodological rigour from the last five years, often commissioned and / or disseminated by stakeholders in the project, alongside, and in dialogue with, the more rigorous, critical academic work from the field of educational research.

The thematic approach to this project was designed to mirror the most prominent areas of debate within this broader field – namely, discourses around engagement / distraction and confusion over the relationship between technology, media and culture. Overly simplistic media representation and policy rhetoric – for example, the review by the UK Government's 'behaviour tsar' into the impact of tablets on children in classrooms, was given less attention than empirical research into the complexity of young peoples' different relationships with mobile technology and with the 'semi-permeable membrane' between formal learning in school and more diverse and porous 'curational' learning in other contexts (Potter, 2014).

In short, the field scanning reinforced our intention to resist technological determinism of all kinds and unhelpful binaries between distraction on the one hand and utopian assumptions about 'engagement' on the other, a polarity reinforced by political and media representations of more complicated research, as Buckingham demonstrates:

> (Many) reports are limited by their emphasis on test scores as a measure of educational achievement. Yet when you read more closely into the recent OECD report, its conclusions do appear more nuanced. Most significantly, it argues that teachers need time and support if they are to learn to use technology effectively.
>
> Technology is the only way to dramatically expand access to knowledge. Why should students be limited to a textbook that was printed two years ago, and maybe designed 10 years ago, when they could have access to the world's best and most up-to-date textbook? Equally important, technology allows teachers and students to access specialised materials well beyond textbooks, in multiple formats, with little time and space constraints. Technology provides great platforms for collaboration in knowledge creation where teachers can share and enrich teaching materials. Perhaps most importantly, technology can support new pedagogies that focus on learners as active participants with tools for inquiry-based pedagogies and collaborative workspaces.
>
> Yet this more complex message wasn't the one that got through in the media. Once again, the debate was presented in either/or terms. Either we use technology or we don't. Either we allow such devices, or we ban them. The accumulated evidence from research on technology in education takes us well beyond this kind of simplistic thinking. In light of the debates of the past couple of weeks, it bears saying once more: 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, 2015: http://davidbuckingham.net/2015/09/25/digital-distractions-whats-wrong-with-the-debate-about-technology-in-education/)

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. We draw on his conception of value dependent on purpose and function in our rationale for utilising the capability approach for this project.

Key Findings from Stakeholder 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* (Technowledge, 2015). There isn't space in this report to include the full review of the research findings which informed these recommendations, but these were both the clearest 'fit' to this project and those with, in our view, the most robust empirical basis.

Samsung's previous Digital Classroom initiatives employed a different methodology, drawing together Bloom's Taxonomy, OFSTED criteria and a broad model of 'Digital Literacy', similar to the cross-European criteria we have elsewhere challenged as being 'tangled' (McDougall et al., 2015). By this we mean that the criteria are ambitious and combine several criteria for measuring the success of digital literacy projects, which may be difficult to achieve at the same time. The published key findings from the Samsung work that are clearly relevant to this project, despite the majority of the research being conducted with younger students, relate to: collaborative working (between teachers and students); more frequent presentation of ideas; independent learning with tablets fostering 'higher level skills'; and some limited evidence of increased performance in STEM subjects by those involved in the interventions. Further to this, for the project at IPACA the following findings were of particular relevance:

SEN AND DISENGAGED PUPILS SEEM PARTICULARLY TO BENEFIT

- The equipment makes it easier to differentiate learning, benefiting individual pupils and making lessons more inclusive.
- Being able to create sophisticated presentations has made SEN pupils more confident and creative in sharing their work in class.
- The equipment has helped to engage those who have been turned off in the classroom.

> The combination of innovative hardware and selected software has proved particularly powerful. At Henwick Primary School, a pupil with dyslexia has been using the dictation apps to record his ideas on the tablet. This has led to a marked growth in his confidence, particularly in writing, and he has started to use the keyboard more, using Clicker 6, a child-friendly tool that helps children of all abilities write independently. (Samsung, 2015: 5)

Again with direct reference to the benefits of mobile devices for SEN learners, Techknowledge presented a case study on the work of TreeHouse School in supporting students with complex autism through the use of tablets. While this is more typical of 'witness testimony' than empirical research, our review of such accounts informed the provisional 'success measures' we were looking for in our intervention. However, we were keen to distinguish between the device as 'determinant' and the richer blend of pedagogic approach and co-design of learning, as appears to be evident in the work of Indira Ramraj:

> This project truly brought out learners' personalities, strengths, creativity and imagination. For some of our learners at TreeHouse School communication, emotion and imagination are barriers but in this project they shone in pushing those barriers to express themselves and create their own stories, visions and themes for their films.
>
> (http://techknowledge.org.uk/blog/sen-how-technology-can-prepare-students-for-the-real-world/)

A review of classroom research by Family, Kids and Youth (Clarke, Zimmermann and Svanaes, 2013) for Techknowledge (in its previous incarnation as Tablets for Schools) presented some common findings pertinent to this project at a whole-school level (the 'Culture of Use') represented thus visually:

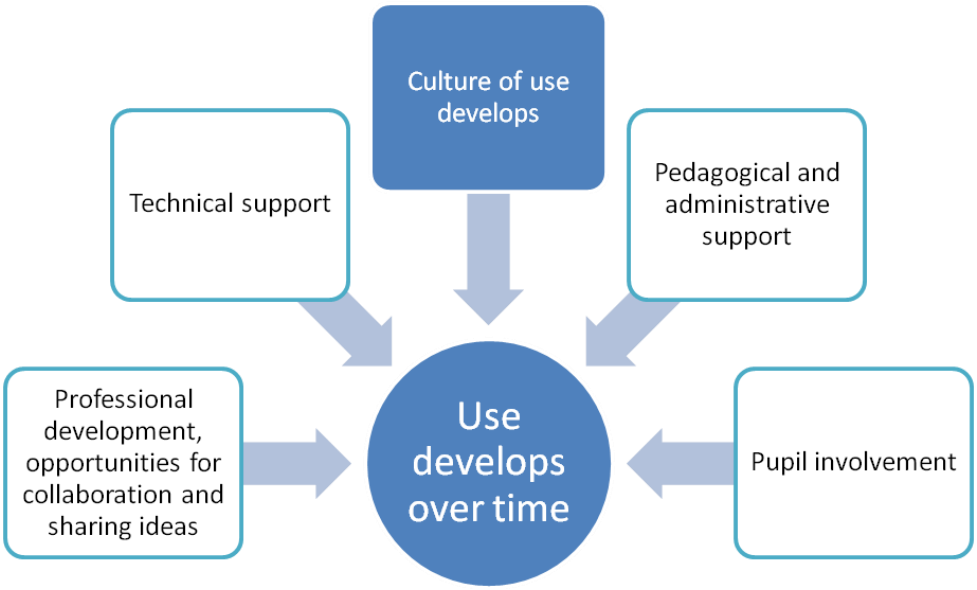


***Figure 2** - Culture of Use: Cultural Factors Dictating the Usage of Technologies in Education*

Particular 'success stories' from Clarke et al.'s 'meta' review include the importance of 1-1 access (provided in our intervention), the ability to personalise the learning experience (developed in our research as capability), learner autonomy and metacognitive development (for our project, functionings):

> 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. (2013: 16)

These are the kinds of functionings that are increasingly being identified in education; Nield (2016) for example, includes a range of cross-curricular pedagogic activities that are facilitated by tablets, such as creative practice, research, reflective practice, collaboration, and programming.

Academic research into the potential for mobile, networked technology to provide such learner-autonomy often invoke the concept of the "third space" - an area between school and including repertoires of informal knowledge, skills and dispositions brought in from 'outside culture'. Sometimes this is a literal third space, the actual halfway house of an after-school club, museum, gallery, youth club or other such place, and sometimes this is co-located in school as a

metaphorical space, negotiated in dialogue and pedagogical strategies designed to mediate expertise and challenge dominant roles and representations of knowledge.

In our project we are working with the physical third space (the community space), the metaphorical third space (the extended 'digital classroom'), and also the triad of school, home and community, which is constantly referenced as an aspiration, but which eludes measurement or evaluation by research. Gutiérrez's notion of Third Space (2008) is the intersection where 'schooled' knowledge meets unofficially recognised skills and dispositions, and entails the ability to translate digital capabilities into schooled achievement (particularly for SEN learners), or digital literacy aptitude into engagement with the formal curriculum. These would be rich manifestations of functioning.

A key figure in the field of research into technology in education, Selwyn (2014) 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. (2014:138)

Digital technologies therefore have, at least, the *potential* to amplify social inequality, so when grand claims for autonomy, voice and participation / co-design are made by both practitioners and policy-makers, with mobile video making in particular constructed as a democratic and empowering 'articulation technology' (Haw and Hadfield 2011:113), it is important to be reminded that:

> The current emphasis on youth voice and visibility is occurring at a time when young people have few opportunities for unmediated, unscrutinised expressions of culture, recreation, critique and social commentary. It also coincides with the disappearance of a genuine public sphere in which participation typically takes place. (Harris 2004:149)

Furthermore, when presenting classroom or networked evidence of 'student voice' in whatever form, Arnot and Reay (2007) identify, from detailed research, four categories of student talk as part of their consideration on whether everything that students say should be taken as relevant and should be considered as 'voice':

> 1. Classroom talk: the styles of communication and language codes used by teacher and taught.
> 2. Subject talk: making explicit the recognition and realisation rules of specialised communicative competence in particular subjects.
> 3. Identity talk: social bonding, humour, casual friendship talk and what Bernstein described as the ''sub-voices'' of social categories.
> 4. Code talk: students' representations of the rules which govern educational codes and their impact.
>
> (Arnot and Reay 2007:318-19)

We have, in our formulation of recommendations for converting functionings to capabilities, acknowledged the importance of stakeholders' perceptions of 'what counts' as authentic, autonomous expression of voice, particularly in the context of notions of 'valid engagement'.

Learning Networks

Whilst actor-network theory is not utilised in this study, the notion of the learning network is another under-theorised idea in much of the policy and commercial rhetoric around mobile connected devices in education. Whilst social networks can reasonably be viewed as an emerging fusion of human / non-human agency in contemporary education and learning, the status of the capability 'affordance' (networked device) in the school, and on what terms if functions, requires critical analysis. The Open Education movement (Hall et al., 2014) disturbs and disrupts 'either / or' models of networked learning in favour of 'either/ and' disruptions which problematise the conditions of possibility for expertise, discipline boundaries and the commodification of learning, whilst existing in the same space as profoundly neo-liberal 'providers'. Whilst this project does not have the scope to foreground this stakeholder tangling more rigorously, we bear witness to the 'either / and' practices of a multi-national corporation working with an Academy, local housing association and SEN professionals.

Crucially, all the research into the value of tablets in schools indicates the importance of a shared pedagogic rationale for the work, so we were investigating the extent to which this was in evidence.

Whilst the Digital Classroom / Families initiative does not require social media 'competences' as a mandatory aspect of capability, clearly any networked learning experience with genuine learner autonomy will involve such 'cultures of connectivity' (Van Dijck, 2013). Kendall (2015) provides a literature review of research into the value of social media in schools but with an emphasis on parental engagement, again with layers of complexity when viewed through a social literacies lens. In particular, this review shared one sobering observation with much of the research, of a lack of transgression of degrees of the various forms of 'capital' '(social, cultural, academic, digital). In other words, very often the students who thrive in 'third spaces' are those that are successful in school already, the parents that engage with schools through social media interventions engage in traditional modes as well and successful 'community hub' initiatives are often in areas with relatively low barriers to participation, either virtual or 'real world':

> Whilst our analysis encourages us to remain enthusiastic about the potential of social media to support vibrant school/community relations we caution against 'quick fix' approaches that treat 'e-interaction' as socially and culturally neutral. Understanding an externally-facing social media strategy instead as 'digital literacy' work deeply embedded in complex socio-cultural relations might, we argue, yield a much richer, more dynamic level of parental and community engagement. (Kendall, 2015: 26)

Taking a step yet further back, after the conclusion of the project, in the US the *Opportunity for All? Technology and Learning in Lower Income Families* report (Rideout and Katz, 2016) provided the following headline findings: whilst many low income families are now online, their connection speeds are basic and do not support multiple devices (this was the case with several of the families in our sample); under-connection is a major impediment to using the internet for learning (our intervention can only address this through the provision of devices but connection standards at home were beyond our remit); and – most striking for our project – reducing internet access to mobile devices places students at a disadvantage (this cuts against the grain of much of the 1-1 pro-tablet work). In addition distinctions need to be made between the different 'third spaces' in which parents feel comfortable:

> Lower-income parents were also unlikely to take advantage of community resources such as libraries in order to get connected: Just 29 percent of those without home computer access said they used computers at public libraries "sometimes" or "often." Mobile-only parents were more likely to make regular use of free Wi-fi at places such as coffee shops and restaurants.

(http://blogs.edweek.org/edweek/DigitalEducation/2016/02/mobile_internet_access_low_income_parents_survey.html)

Albeit retrospectively, it is clear that this last obstacle is directly addressed by this project, as the provision of a community space in which to connect with mobile devices was at the heart of the intervention.

Finally, one dimension which neither our thematic field scanning nor the analysis has paid discrete attention to, but at the conclusion of the project has arisen as significant, is the design of the physical spaces and the phenomenological relationship between physical space and virtual 'third' space and networked engagement, as addressed by Stephen Heppell, consultant on the project:

> I've had a lot of involvement with both the design of virtual communities on-line **and** the design of physical learning spaces like schools, companies, community centres and colleges. We learn about each from the other, of course. (For more information, see http://rubble.heppell.net/places/default.html)

> ***We want [as happened in Harlem, New York] a "children zone" in which all of the services worked together and collaborated for the single purpose of raising aspirations and supporting families in their community. So, we want there to be, at IPACA, joint services. 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, or whatever.*** **Teacher.**

Research Questions

From desk research, framed through the capabilities lens, the following research questions were created. These questions were reviewed and refined by stakeholders They were designed to act as research guides, rather than provide a fixed, prescriptive, research agenda and therefore address the themes emerging through the desk review and the heuristically developed research interests of stakeholders. Perhaps most importantly, they allowed for a degree of flexibility so that the research itself can be responsive to the needs of participants – without losing its rigour.

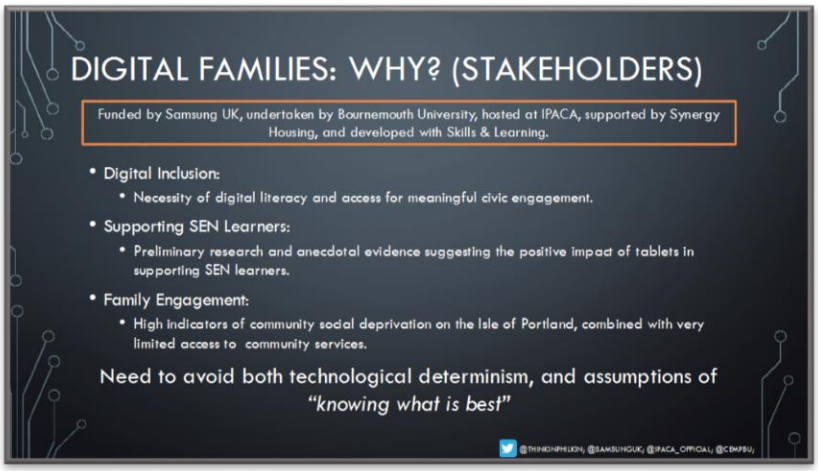


Figure 3: Digital Families Research Justification as Presented at BETT 2016

1. How do the school management, teachers, parents, community stakeholder groups and service users define capability?
2. In what ways can digital learning technology develop capability with broader societal benefits outside of the school?
3. What are the required conditions for digital learning technology to foster capability and lead to empowerment, engagement and inclusion in community contexts?
4. What is the current level of digital literacy within the community, and how does this impact upon public use of community services?
5. Can the provision of digital technology and digital literacy training lead to greater educational engagement from learners and their caregivers?

Methodology

The capability approach does not dictate specific methods, although clearly the methods need to be congruent with the philosophical underpinnings of capability. For Terzi, the capability approach argues that:

> …equality and social arrangements should be evaluated in terms of the theoretical space of capabilities, that is, in the space of the real freedoms people have to achieve the valued functionings that are constitutive of their well-being. It maintains that, rather the means to freedom, what is fundamental in assessing equality is the extent of people's freedom to choose among valuable functionings. (2005: 449)

Evaluating the impact of the digital intervention on the 'theoretical space' that participants have to achieve new functionings, a capacity to 'be' or 'do', things they find valuable requires an understanding of the initial theoretical space. Of course this is dependent on their immediate socio-cultural context. In the case of this community specifically there is a strong socio-historical underpinning to many of the cultural practices and perceptions on the island. After situating the research, this holistic perspective was applied in understanding and profiling targeted participants.

Intervention Situating

Given the situated nature of this research project it is necessary to outline the cultural context, that is, to provide an account of the factors that make Portland distinctive. These factors, we suggest, 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.

The distinctiveness of the Isle of Portland is signalled in a contemporary art project – a site-specific audio walk by the artist Katrina Palmer. The project summary on the Artangel site says: "Katrina Palmer has undertaken her own excavations into this elemental island, marked by unsettling absences, deviant goings-on and a writer who has gone missing",[1] which conjures up a sense of 'otherness', inflected by the historical remoteness and inaccessibility of the island together with the 'extractive economy' which, as Palmer's work explores, has caused the island to be 'hollowed out'.

This report will, of course, not deal with every aspect of the Island's distinctiveness, but will focus very briefly on one particular dimension – a historically rooted sense of suspicion regarding non-Islanders. This is relevant to this project simply because any digital literacy or capability intervention with networking 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. In other words, funders, stakeholders, practitioners and researchers should guard against making assumptions that people have the pre-dispositions to connect with others.

In this local context, the term 'Kimberlin' is used to refer to non-Portlanders and can be found (albeit with a slight difference in spelling) in the 'Terms of Surrender of Portland' following the Island's surrender to the Parliamentarians in 1646:

> "vii. That Islanders and Strangers (called locally Kemberlins) shall have and enjoy their lands and estates as formerly they have done…" (Morris, 1985: 151).

[1] http://www.artangel.org.uk//projects/2015/end_matter/about_the_project/end_matter

Stuart Morris's history of Portland presents more evidence of this attitude – even between the wars, he says "incredibly there were still individuals living who had 'never been to England'" (1985: 127). He also adduces "the time honoured Portland custom of courtship" which continued well into the 19th century, according to which marriage would only take place after pregnancy confirmed the rightness of the match. Significantly "any Kimberlins who took advantage of the 'free love' but who did not honour their duty to marry were stoned out of the Island!" (42). And perhaps driven by a need to conserve resources, the Poor Houses in the 18th century "drew the line at helping Kimberlins" (44).

A collection of articles and letters from the *Portland Free Press* includes this joke (and a remarkable collection of anti-Weymouth stickers), from 1982, which seems to confirm a continuing awareness of such suspicion of 'incomers':

> "Many years ago a young man from Wyke came courting on Portland. He returned looking rather the worse for wear 'Did you get drunk' said his friend. 'No, I got stoned.' Was the reply" (*25 Years of the Free Portland News*, 2003:7).

We do not propose to assess in detail any kind of possible causal relationship between Portland's geographical distinctiveness and aspects of its character, but it is probably reasonable to suggest that its historical isolation and size may have contributed to this in some way. It was, as Bettey says, not until 1839 when the Ferry Bridge was opened that "Portland was joined to the mainland, and this momentous event prepared the way for all the other changes which were to occur in Portland during the next few years, and which were to break down its ancient isolation" (1970: 113).

There is, of course, a danger that this attempt to understand a specific context has the undesirable effect of 'othering' the participants in an anthropological way. As our methodology makes clear, we are anxious to avoid this, hence our mobilisation of the capabilities model and a form of participatory action research.

Participant Profiling

Two forms of pre-intervention profiling were conducted:

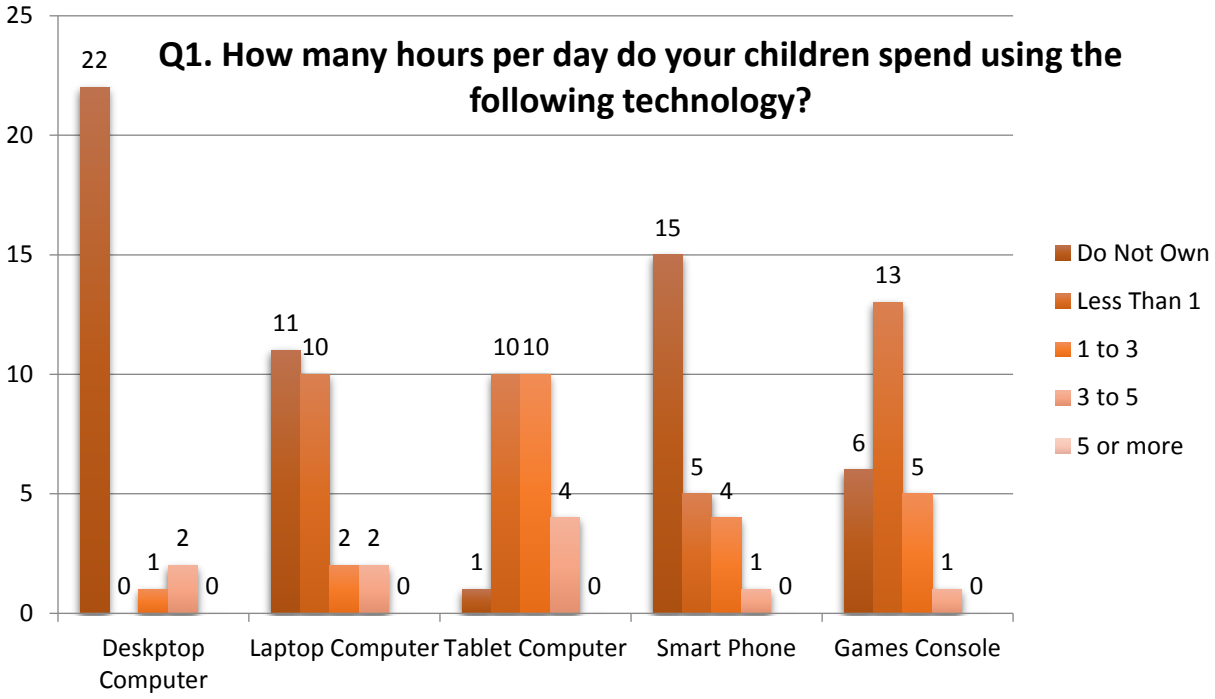
1. Confidential data generated by the school provided profiles of families with living wage income, a student with disclosed SEN attending the school and meeting threshold criteria for 'disengagement'. The sample was generated from this group.
2. Technology access and perception profiling was conducted through a survey administered through the school with incentives in the form of supermarket vouchers. The collated data follows.

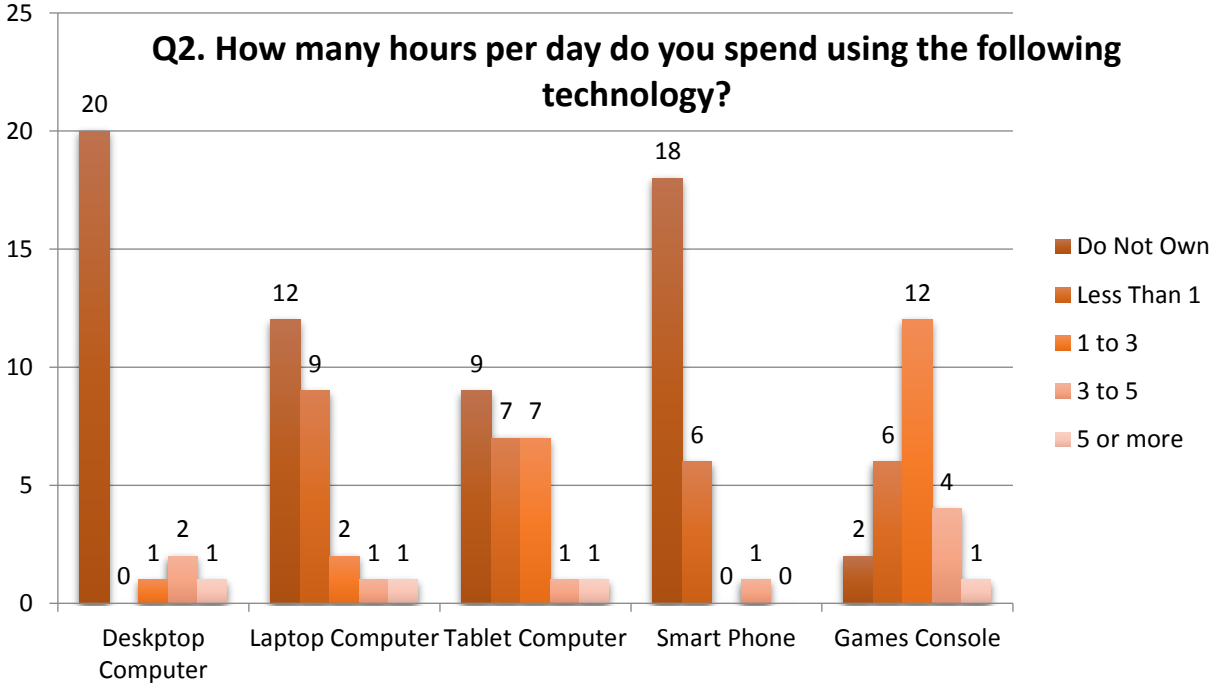
A further form of profiling – school monitoring of the online use of the provided tablets during the intervention - was not available to the research team during the timescale of the project. This data, along with the post-intervention interviews with teachers and the more ethnographic

> ***I mean there are some brilliant Apps – children engaging more in what they're learning. Extending their learning. And actually…as long as children don't stop making progress altogether, if you've got a happy child in the school, that goes a long way for long -term success. You know, so they go off and they use these tablets and they use them with their family and they forge relationships and maybe parents can use the tablets as well, for their own personal development. I mean it's just a domino effect, isn't it really? One thing knocks into the next.*** **Teacher.**

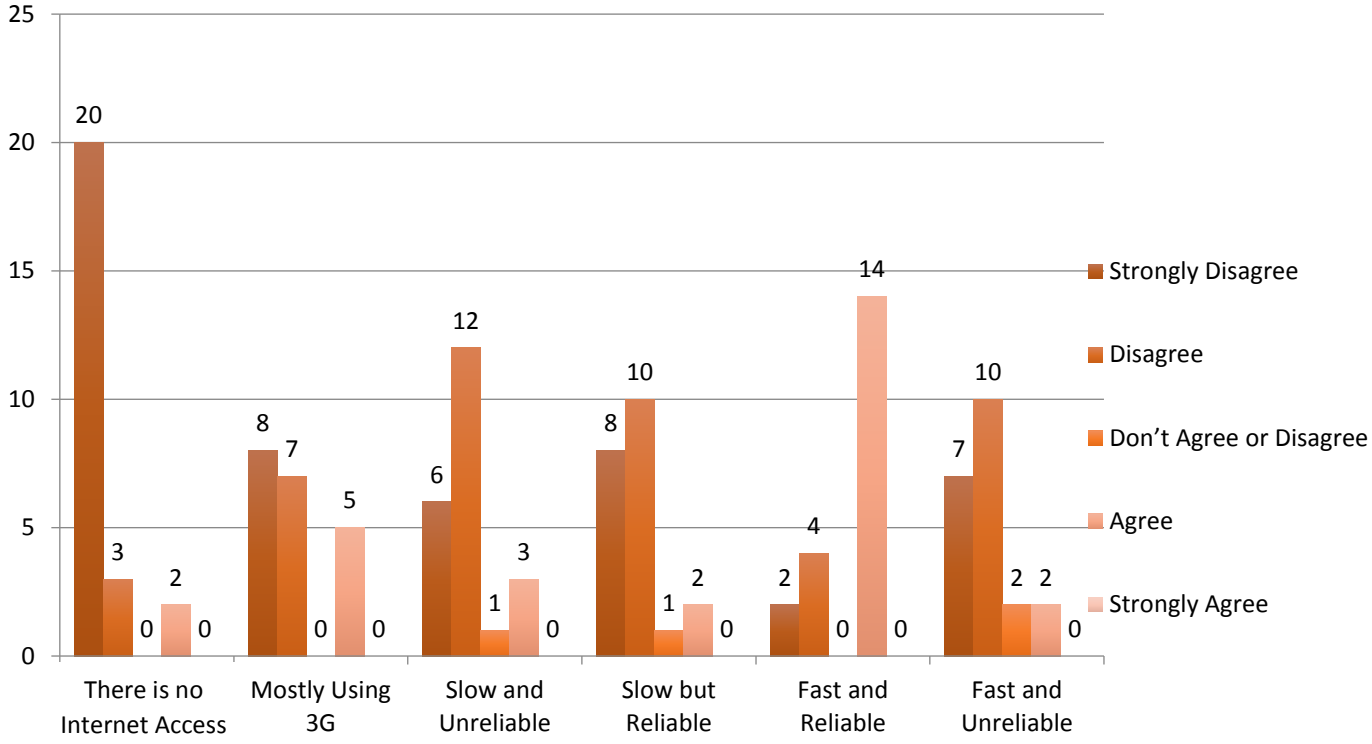
ambitions of the intervention phase were the three elements of the project that we were not able to include due to the delay in the availability of the community space.

Participant Profiling Survey Results

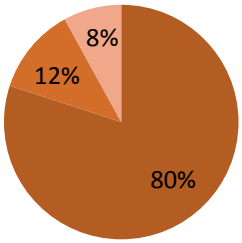




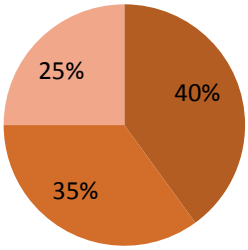
Q4. How strongly do you agree with the following statements describing your internet access at home?



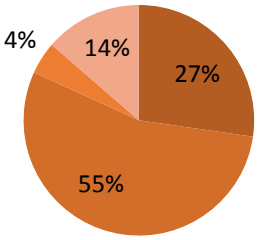
No Internet Access



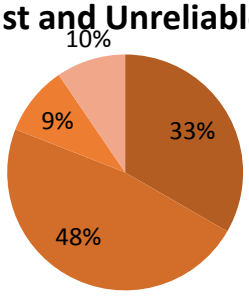
Mostly Using 3G



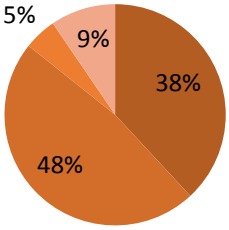
Slow and Unreliable



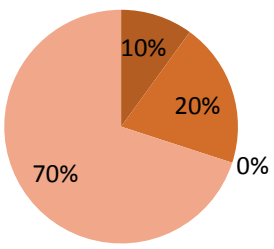
Fast and Unreliable



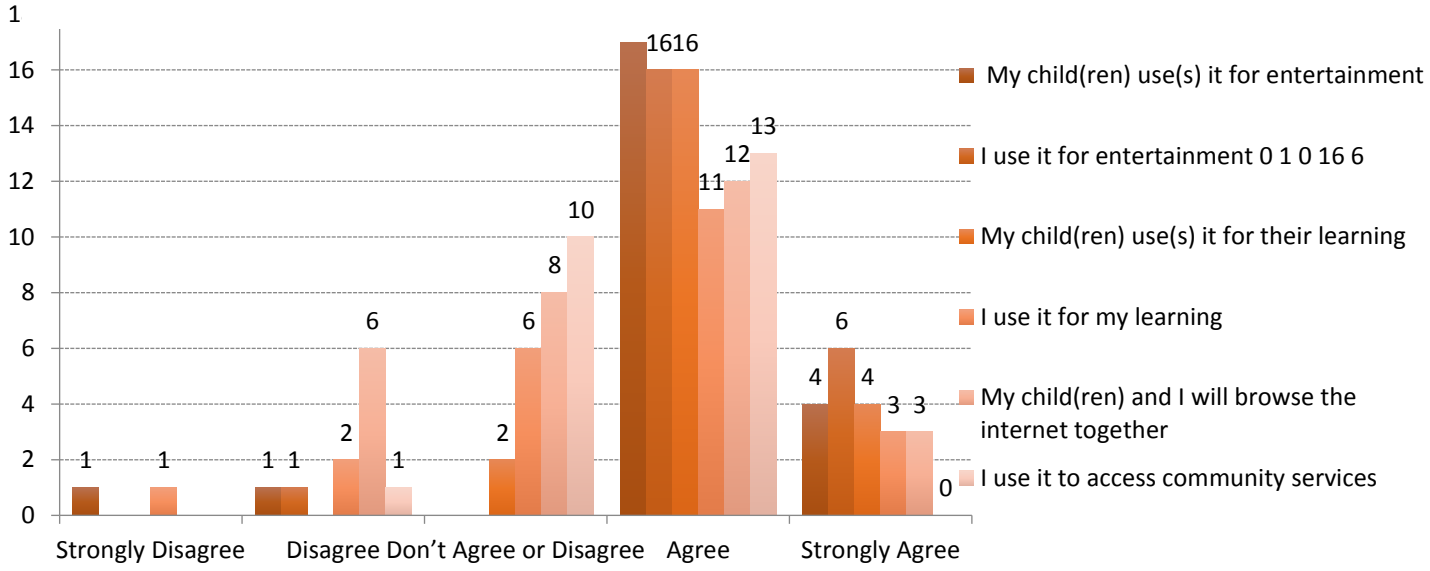
Slow but Reliable



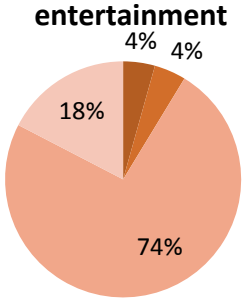
Fast and Reliable



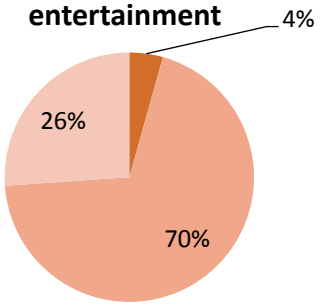
Q5. How strongly do you agree with the following statements about internet usage in your home?



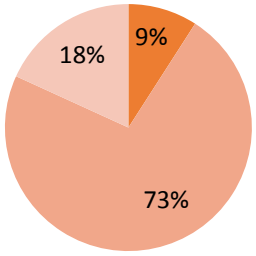
My child(ren) use(s) it for entertainment



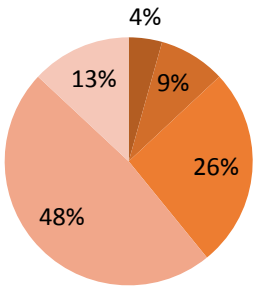
I use it for entertainment



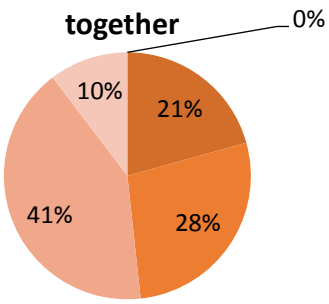
My child(ren) use(s) it for their learning



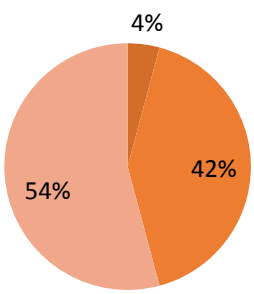
I use it for my learning



My child(ren) and browse the internet together



I use it to access community services



Q6. If the school gave you a Tablet computer to have at home, what benefits do you think it would have?

Better than using phone to search, help us to access the community services & groups, free up a device.
Money would be better spent on other resources that the school needs.
Others less fortunate would benefit more.
My child could go on learning games.
Homework, school email.
We could support , learn and play together and I would have greater understanding of his technological world.
My daguther would use engaging educational games … but would find her way back to iplayer!
I think tablets at this age are unnecessary. They should enjoy being young children, stop grooming them for technology, screen time is screen time, no matter what screen.
Communication about what goes on at school.
Saving money on replacements and repairs. Ensuring all children have the same technology.
Would keep it separate from entertainment.
Using it for homework and I would feel safe letting her use it knowing it came from school.
I need to use laptop for my degree so having another device in the house would free mine up.
Because it was given by the school my child would be more encouraged to do school work and research.
Be able to download at home, easier.
Access to more learning programme like Matheletics.

Field Research

Research began in October 2014. The researcher in residence began embedding himself in IPACA for 2 days a week. To begin, community facing staff members at IPACA and key community stakeholders were identified and interviewed. These interviews identified stakeholder perceptions of community and SEN leaner capability and perspectives of technology. Using a capability lens ensured that the afforded opportunities for families, SEN learners, and the school are framed on their own terms in addition to taking into account the broader socio-cultural context. Working with these stakeholders – Synergy Housing in particular – families were identified to take part in the IPACA Digital Families initiative.

Methods

Action Research: diagnosis, action (replacing convention with discovery method), dialectical reflection, participatory (researcher in residence as researcher and practitioner: agent of change), emphasis on continuing professional development.

Action research as 'critical praxis' as opposed to 'technical' (improving efficiency or efficacy) or 'practical' (improving professional practice through reflection): *requires participants to question and challenge given value systems* – 'double loop learning' (Argyris, 1990, Kicheloe, 2003: 138-141). Data – fieldnotes, filmed / audio-recorded activities, interviews (semi-structured).

Informed consent provided verbally (recorded), semi-structured interviewing with thematising, transcribed and 'meaning clustered' for discourse analysis – focus on thematic comparison across stakeholder interviews - Semi-structured interviews: *respondents are encouraged to set the agenda, though the presence of the interviewer and other forms of control exerted by them means that the respondent never has full control of the setting.* (Scott and Usher, 1999: 109)

IPACA Digital Families invited families living in social housing with a SEN learner to take home a Samsung tablet and participate in 1 hour weekly 'workshops'. Workshop delivery was supported by a Digital Champion volunteer from DCC, and Louise Pizzey – a SEN specialist teaching assistant. Digital Families is based on comparable programmes that invited parents to participate in activities that are reflective of their children's school work. When inviting parents to participate, Digital Families was presented as a hands-on opportunity to learn how tablets are currently used to support their children's learning in school. In addition, we observed their ongoing engagement with IPACA and other community services. The Digital Families project lasted 10 weeks from April to June 2015 and was hosted in the Digital Classroom.

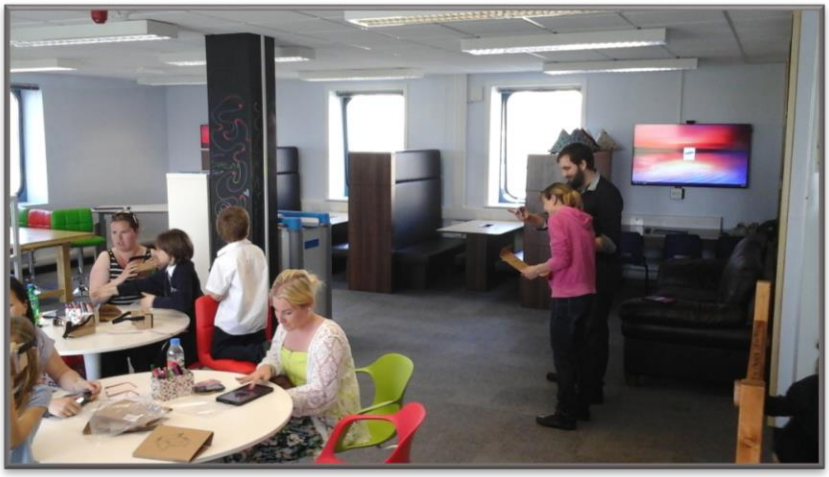


Figure 4: *Digital Families Activity - Exploring Smartphones Learning Apps*

Additional action research was undertaken in partnership with Synergy Housing, Dorset County Council (Skills and Learning), and IPACA. The researcher worked with these community organisations to inform the design and development of the Digital Classroom. Working within IPACA the researcher established health and safety, child safeguarding, and payment procedures for safe, sustainable community usage.

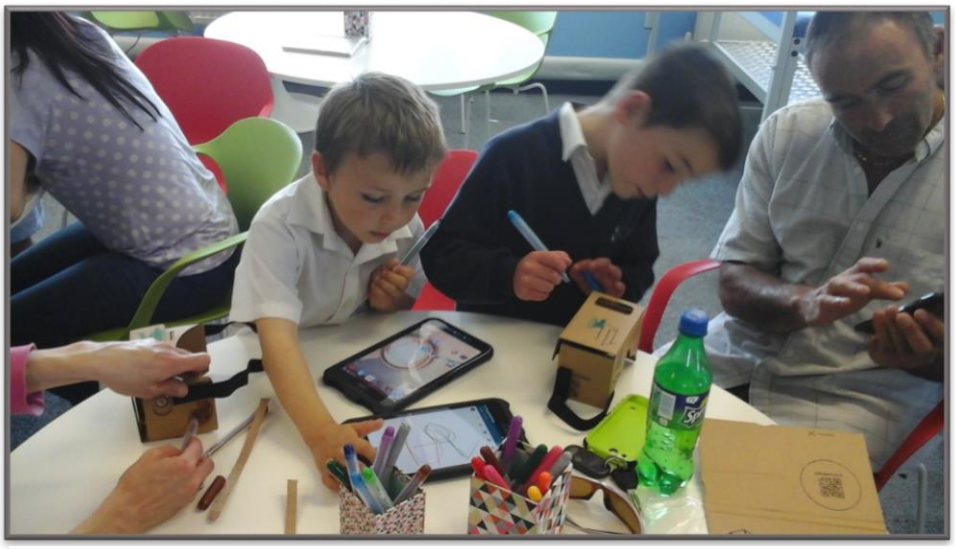


Figure 5: *Digital Families Activity: Exploring VR Learning Apps*

Community stakeholders saw the classroom as an opportunity to address the lack of physical access to community services on the island as well as address their broader aims for digital inclusivity. Through working with the community organisations mentioned previously, needs on the island were 'soft-assessed'. Community services deliverable through the digital classroom – including employment support, public engagement events and adult education – were identified and steps taken to begin delivery.

> ***For those students who at the moment have got access to it, it's actually making it completely a normal thing: if I've got a problem I know I can Google it to find an answer or something…which for me and a lot of students is a completely normal thing. But for those students who haven't got Wi-Fi at home that's still pie in the sky and therefore the gulf between the kids can actually become wider and wider. So I think for families just to have access to Wi-Fi and have that equipment means they can get totally used to it… and parents and children can help each other to make it work. That's how I think they will benefit and will learn together.*** **Community Worker**

Research Findings and Recommendations

Initially the project explored SEN learner use of tablets in a family learning context before expanding to include parental engagement and developing digital community spaces in a culture of digital inclusion. As a result, outcomes will be framed in terms of SEN, the Digital Families programme and community use of the Digital Classroom.

Digital Families Pilot Programme

The Digital Families programme had a dual purpose, both supporting SEN learners through facilitating at home family learning with digital technology and engaging disengaged parents with digital technologies and broader community services. The next iteration of the Digital Families project will be the development of a series of Lesson Plans and Supporting Materials that can be downloaded as a pack and independently run by other schools or community organisations. Therefore, with each finding is a recommendation going forward to inform the future development, dissemination, and impact generation of Digital Families. Where appropriate, success stories have been included to illustrate meaningful impact.

SEN Finding 1 – Leveraging and Contributing to an Existing Community of Specialist Practice

There is a pre-existing community of practice within the local context using digital technologies to support SEN learners using tablets especially. There is strong anecdotal evidence to support the use of tablets in SEN learning, however this does not necessitate the use of SEN apps specifically.

Success Story: *The enthusiastic support of Louise Pizzey, a teaching assistant currently finishing her SEN specialism qualifications, ensured sensitivity to the needs of SEN learners and their families as well as offering practical advice. This project formed a part of her studies, as she is required to evidence her practice in the broader SEN practitioner community.*

(See Finding 3).

Recommendation and Future Work: *Developing the Digital Families programme specifically to support families with SEN learners would require support from this community of practice. Therefore, it is recommended that a SEN specialist – preferably an active practitioner - be brought on board as a stakeholder to provide a link with this community.*

Although I manage the SEN it's the class teacher that should take responsibility for the children in their class. I mean they really should be part of this whole project…It's very easy to give somebody a tablet.. it sounds lovely, coming in and saying "we're gonna do this, we're gonna do that". And it's very easy for us as school to say: "Right, off you go then. There you are you set that up, that would be nice. Tell us what you're doing." But actually we need to be involved in it and the class teachers, I'd say, need to be involved in it. In the planning stages and whatever really. They're their children, aren't they? **SEN specialist**.

SEN Finding 2 – Developing and Disseminating the Pedagogic Rationale for the use of Digital Technologies

Anecdotally, tablets are frequently used to support SEN learners with a range of learning and behavioural difficulties. Other than Mathletics, and Lexia (specifically designed for dyslexic students) applications that are frequently used by SEN specialists are not specifically designed for SEN learners. The specialists rely on their expertise to identify opportunities within apps to support SEN learners' specific development needs – either through the practising of coping strategies or areas of deficit. In addition, SEN interventions are frequently undertaken using a mixture of digital and non-digital approaches.

Recommendation and Future Work: *As well as bringing on board a SEN specialist as a stakeholder it would be beneficial to have active input into the development of lesson plans for students. Lesson plans can then be tagged as 'Designed for SEN Families' and connected to the specific SEN they are seeking to address. Additional supporting materials can be produced for parents as well such that they can continue this practice, and potentially develop their own expertise through developing their understanding.*

SEN Finding 3 – Use of Digital Technology as a *'leveller'* for SEN Learners

Parents generally referred to the tablets and the access to additional learning materials as a means of their SEN learners developing skills to match their peers. Alongside the direct support of learning facilitated through digital technologies, there is also a suggestion that technology can act as a leveller in other ways. A parent described how her daughter, who struggles to write, would use the speech-to-text function on the tablet when doing school research.

Recommendation and Future Work: *Ideally with the support of a SEN specialist, as well developing lessons plans for SEN learners, it would be beneficial to produce additional supporting material to demonstrate how the tablet can be used by SEN learners generally. For example, highlighting settings or apps that can be used to facilitate coping strategies.*

Success Story: *A parent taking part in the Digital Families project described her tablet as "a leveller". Her daughter has dyslexia, so struggles to write. This has had knock on effects in other subjects as she is asked to search for materials online for homework. To overcome this she began to use the text-to-speech option on the tablet so she could quickly search for the materials she needed. The parent then also shared this advice with another parent in a similar situation.*

SEN Finding 4 – Parental Desire to Support Learning at Home with Appropriate Technologies

From discussions with families with SEN learners it became apparent that there is a desire from parents to understand how they can use technology at home as a support mechanism. This desire for understanding applies both to use of to support learning; but also how it can be used as a leveller. This finding was further explored a focus group at Victorian Education Centre, Poole. This centre specialises in supporting learners with significant special educational needs. Again, they reiterated the desire from parents to understand the correct technology to use, as well as how to use it.

According to the SEN specialists at the Victorian Education Centre, multiple parents have begun buying tablets, as they perceive them to be educationally beneficial. Again, reported by the SEN specialists, there is a lack of understanding of how to use them effectively (See SEN Finding 2). In this case, the tablets themselves are inappropriate for the specific needs of some learners. Although the Victorian Education Centre works with learners with significant needs, there are parallels to be drawn with IPACA.

Recommendation and Future Work: *There is a need to provide actionable advice to parents about not only how to use technology to support educational needs; but also how the appropriate technology to use. Along with including the pedagogic rationale for using technologies for SEN learners it is worth including discussions regarding the appropriate technologies to be used.*

Success Story: *A parent with a child who has behavioural issues in the form of a lack of attention and hyperactivity suggested that the tablet helped with this. According to this parent, the tablet would calm the child down and allow him to focus on a task for a longer period. Additionally, the child has been showing his siblings how to use the tablet:*

"[Using tablets] can calm him down, his concentration can be there. And Hugo's passed on what he learned. For example, his cousin's got a tablet and sometimes Hugo takes a tablet over there and shows him how to find certain things. He's actually taking his knowledge and given it to his cousin."

Digital Families Parent

Digital Families Finding 1 – Demand from Community Services for Family Engagement and Digital Literacy Outreach Activities

Collaboration with Synergy Housing, Dorset County Council, and Skills & Learning, regarding the development of the Digital Classroom led to their support and engagement with the Digital Families project. Currently, there is significant interest in schemes that support family learning and furthering a digital inclusion agenda (See DI Finding). As such, Skills & Learning supported the Digital Families Pilot Project through supplying a Digital Champion volunteer, advising in the design and delivery of workshops, and supporting Digital Families in registering to become Digital Champion volunteers after the programme had ended. This interest has evolved into formally supporting the future delivery of Digital Families across multiple locations (See Impact and Dissemination Plans).

Recommendation and Future Work: *A member of Skills & Learning to be brought on board as an official stakeholder for the next iteration of the research project. Digital Families can be aligned with the outreach / engagement strategy of Skills & Learning as well benefiting from their expertise in community engagement and education.*

Success Story: *Skills & Learning have agreed to support the running of Digital Families projects across multiple venues. They will identify venues and staff to evaluate the Digital Family Packs (see Outputs) – specifically targeting enthusiastic community workers to pioneer the project. In addition, they have agreed to support the funding of the project through grant applications and bids. Also, the researcher in residence is providing training for Skills & Learning's adult educators and digital champions so they can run these Digital Family activities.*

Figure 6: *Skills & Learning Training: Guiding Digital Champions in Running Digital Families*

Digital Families Finding 2 – Humanising Digital 'Integration' Initiatives using the Capabilities Approach

Adopting the capabilities approach afforded a humanistic, contextually sensitive, approach to exploring Digital Families as a digital intervention. Discussing capability – framed in terms of opportunities, desires, and values – with stakeholders and parents allowed us to understand the aims of the intervention from their perspective. There was however a mismatch between the families and the stakeholders. Families primarily framed capability in terms of their own digital literacy, lack of confidence using technology, and a desire to understand the teaching practice taking place within the school. IPACA and community groups framed capability gaps in terms of low aspirations, low employability, and a lack of engagement with the school and community services.

Recommendation and Future Work: *A key output of this research project is the capabilities methodology. Our next steps to create this methodology requires a reflection on the specific methods (interviews, questionnaires, observations) that were deployed and an abstraction of the capabilities approach used in this context such that it can be generalised to other digital integration projects. A key guiding principle for this research was adopting a humanistic approach that took into account participant values and the broader socio-cultural context of the research. It is this guiding principle that informs the methodological development of the capabilities approach.*

Digital Families Finding 3 – Parental Reverence of 'Digital Natives' and their Self-Dismissal as 'Digital Immigrants'

Parents discussed their children's use of technology in reverent tones. They would specifically reference their speed at picking up new things that they can do and the degree of curious exploration that the exhibited. According to some parents though this was slightly bemusing as their children would only have to watch them do something once to be able to do it themselves – which became an issue in regards to using password and child-locking the tablet. Perhaps due to the nature of the interviews, when parents discussed their own digital literacy they would draw comparisons with their children and further elevate them, whilst dismissing their own capabilities. This perceived lack of digital literacy was however, a key motivator for some parents in taking part in the Digital Families project.

Recommendation and Future Work: *In the families identified – and cross-referenced to stakeholder interviews with Synergy Housing and Skills and Learning – there is a desire to develop digital literacy skills. However, the research suggests that one of the barriers to developing these digital literacies is confidence in accessing community services and confidence in using technology. In the researcher in residence's opinion the development of Digital Families should focus on replicating the playful curiosity of those children in their parents, in relation to digital technology. Additionally, Digital Families will include parental only workshops dedicated to building confidence in relation to managing children's use of digital devices, identifying online dangers (including: cyberbullying, hacking, and 'phishing'), and the basic computer security. The latter two workshops are being developed in conjunction with Bournemouth University's Cyber Security Unit (See DC Finding '3').*

Success Story: *A parent who took part in the Digital Families pilot programme has now been registered with Dorset County Council's Skills and Learning to become a Digital Champion volunteer. He will be the first of these volunteers on Portland and is currently supporting digital outreach projects.*

Digital Families Finding 4 – Community Engagement with Digital Literacy Training and Community Services through Digital Family Learning

Throughout the project, there was consistently low engagement with the workshops. Average attendance was 4 families out of a possible 10. Most parents showed up for at least one workshop; however, after receiving their tablet 2 parents did not attend a single workshop. Attendance was bolstered by the including children in workshops from weeks 3 to 7. Additionally, the use of not-typically available or novel technology (Oculus Rift, 3D Printers, Google Cardboards) appeared to be effective as an incentive for continued participation. Parents were selected – in partnership with IPACA and Synergy Housing – and invited to participate based on their perceived need. According to community-facing staff at IPACA, Skills & Learning and Synergy Housing this lack of engagement with community services is-to-expected. However, the use of novel technologies and otherwise 'fun' family activities parallels the approach adopted by these organisations in encouraging initial engagement.

Recommendation and Future Work: *According to community outreach practitioners, it requires a building of trust – in the venue, other participants, and the workshop leaders – over a period of time. Primarily, this is achieved through organic growth of workshops through word-of-mouth*

promotion from participants, participant self-selection, and running supplementary one-off activities in the venue. As well as exploring different selection strategies, the format of the workshops can be modified to half-day, or full day events rather than weekly workshops. Furthermore, the workshops themselves should be presented as, and focus on, the co-production of digital media or other similarly fun, non-intimating, activities.

Digital Families Finding 5 – Parental Sharing of Tips for Raising the 'Digital Native'

During the digital families workshops a structure for the hour organically emerged. Attending parents – facilitated by questions from the researcher - would first discuss how they had been using the tablets at home. They would share interesting or useful apps that they had discovered, as well as tips for using the tablet – especially in relation to parental controls. This became a digital parental forum in which they would discuss – and sometimes debate – the use and management of digital technology. This would then be followed by a co-production or co-engagement activity centred around the tablet.

Recommendation and Future Work: *Each digital family workshop should provide opportunities for parental discussion around digital technologies usage in the home. A set time during each workshop can be set aside and a specific topic can be introduced to foster discussion. For example, digital device time management, staying safe online, and the age appropriateness of social media could all be used as topics that link into the workshop's main activity. Additionally, following a parent's recommendation, a Digital Families Facebook group was set-up that can be used for future Digital Families workshops.*

Success Story: *One of the parents put forward the idea to create a private Digital Families Facebook group. This Facebook group was set-up as part of a workshop (which also included exploring Facebook privacy, security, and data collection). The Facebook group has been used to engage families outside of workshops and share photographs*

DF Finding 6 – Family Co-Production with Digital Media

Following parental discussion of management digital technologies, they would then co-produce or co-engage with a digital activity. Parents described this as enjoyable experience overall and expressed their appreciation for being able to see their children's use of digital technology. During these activities it was often the children that would take the lead. Additionally, the children would frequently ask whether they would be doing the Digital Families in the afternoon demonstrating their enjoyment. However, this may be due to removal from their typical classroom environment to a novel context. It is apparent that their children's enthusiasm became a strong motivator for parents to continue their engagement with the project. Initially, engaging parents using digital technology focussed on 'exciting' but inaccessible technology quite superficially (See DC Finding 2).

Recommendation and Future Work: *Using digital technology to engage the families – especially technology that is perceived as novel or futuristic – generated fun and excitement during the workshops. However, the inaccessibility of the technology used – and its rather superficial use – limits the long term impact of the Digital Families project. It is therefore recommended that the purpose of the Digital Families should be on family co-production of digital media using accessible tools - both free and low entry barriers.*

Figure 7: Digital Co-Production: Digital Family Activities under Development

Success Story: Over multiple workshops the families co-created a 3D robot. The robot was created with the free-to-use app Autoplay. These designs were then printed out using 3D printers supplied by IPACA and packaged as bespoke toys for families to put together and paint.

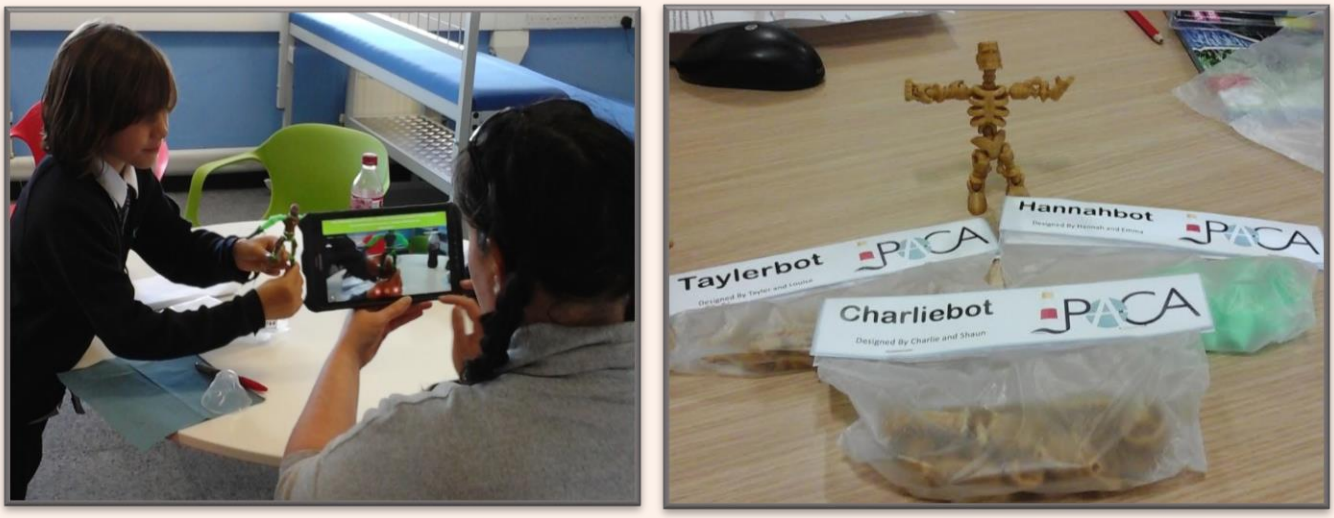


Figure 8: Digital Families: Developing Visual Processing and Digital Skills with a 3D Modelling

DF Finding 7 – Simultaneous Perception of the 'Frivolity' and 'Purposefulness' of Technology

There is a perception of digital technology as being both a hindrance to and a facilitator of learning. Additionally, discussions regarding the role of technology in family life highlighted tensions surrounding how often it is used. Therefore there is an intersection between the frequency of use of technology, and the use of this technology. This can be framed as – in admittedly slightly simplistic terms – the debate between quality and quantity of digital media usage. Additionally, there seems to be a paradox in how parents are reporting how they manage the use of technology. First, suggesting that they allow their children to use digital devices freely as they reported them predominantly using educational apps, but going on to discuss having to limit usage – in the morning and evening especially.

Recommendation and Future Work: *There are broader implications regarding the perception of the frivolousness or purposefulness of digital devices. This is of course worth exploring in greater detail in further research. In addition, it is difficult to recognise when learning is taking place. For instance, the SEN practitioner interviewed reported that the applications used are often not designed for educational purposes, but are repurposed to do so. Therefore, with all of the Digital Family activities it is necessary to make explicit what learning is actually taking place - not only to reassure parents that these activities are not 'frivolous' but also to develop their capacity to recognise other learning opportunities.*

> ***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 that's something I would love to be able to do, because when we did work with the basic skills agency – 10 or 15 years ago – it was quite clear that grandparents could play a significant role in young children's development. 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 Representative**

Digital Classroom

As discussed, the role of the researcher grew from delivering the Digital Families project for SEN families, to the inclusion of an action research approach in establishing the Digital Classroom as a community space. Drawing on the network of community practitioners created through the project (those able to support and fund services), and familiarity with Portland's culture and community needs, the project was well placed for this. It was intended that the Digital Classroom would provide community services and engagement activities. This section outlines key findings in relation to the establishing of community services and the running of community engagement activities. Success stories are included to capture the community impact.

DC Finding 1 – Persistent Lack of Digital Access, Digital Support, and Physical Access to Community Services in the Setting

As touched upon previously, there is a tangible lack of easy access to community services on the island. Community support organisations such as the Job Centre, Citizens Advice Bureau and Shelter provide half-day walk in sessions once per week. These are hosted in a community centre and are reportedly poorly advertised. Typically, it is expected that Portland residents will travel into Weymouth to access these services. In the case of Adult Education, this was previously available on the island, however there has been no provision for four years. Furthermore, for access to specialist services – such as mental health or domestic abuse support – further travel is required into Dorchester.

In the case of the Job Centre, users must prove they are actively job-hunting for 35 hours per week in order to continue receiving benefits. This is monitored through access to an online job-searching platform for 35 hours. However, the situation is untenable for many on the island due to limited access. Following the Olympic Legacy for Weymouth and Portland, Portland benefits from excellent quality blanket 3G coverage and access to fibre-optic internet speeds. However, the ongoing subscription cost is prohibitive to some. Before the Digital Classroom, there was limited access to internet-enabled computers on the island.

Recommendation and Future Work: *The Digital Classroom should continuously develop as a community resource. Currently a Job-Shop is available on a Wednesday morning. This is currently being expanded to include digital support, and support in accessing universal credit, social housing applications, and signposting other services. However, there is a need to overcome some perceptual barriers regarding community services hosted in a Digital 'Classroom' in a school building. Therefore, it is recommended that engaging outreach events be hosted in the space alongside promotion through IPACA's social media networks. Additionally, further work with Skills & Learning is required to run adult education courses.*

Success Story: *In partnership with Skills & Learning, Synergy Housing, and IPACA the Digital Classroom was established as a Digital Learning Hub (DLH) for Weymouth and Portland. This forms 1 of 10 DLHs across the Dorset. Along with this designation is a commitment to fund community services from the Digital Classroom including a Job Shop and Adult Education.*

It's almost like the wall comes down and actually, "no this is what we are and this is what we are going to do". It's sort of breaking through and saying that this is available to you, this is how you can access it and here is the support to do that, and to do that in a community centre is going to be far easier than trying to do that individually at home isn't it? **Community Worker.**

DC Finding 2 – Perceived lack of 'Confidence' in Engaging with Community Services

A consistent reference to a lack of confidence in accessing community services emerged from interviews with IPACA and community stakeholders, which overlaps with the perceived lack of confidence in using digital technology (see DC Finding 4). This lack of confidence is related to a lack of trust in community organisations – and in Portland specifically, *outsiders* – and an unfamiliarity with venues, other service users, and community practitioners. In the case of the Digital Classroom at IPACA, further barriers are introduced through the perception of a venue located within a school. It is repeatedly mentioned that many of the community members targeted by community services will have had a negative experience of the education system.

Additionally, a lack of confidence is also repeatedly referred to in discourse surrounding the use of technology. From the Digital Families project it emerged that many parents were dismissive of their capabilities with the technology (see DC4). It can be argued that the lack of confidence in using technology has more to do with self-perceptions of skills. In addition, community outreach workers mention this perceived lack of skill as a barrier to community service access as community members may be unwilling to admit this.

Recommendations and Future Work *Over the running of this project there was a general lack of awareness of the community space. In addition, those that were aware of the space may have deterred some by its location within a school. Additionally, the provision of training opportunities directly is not always the best approach, especially when attempting to encourage initial engagement. There is therefore a need to promote the space, through fun, non-prescriptive, non-intimidating activities.*

DC Finding 3 – Using Digital Technologies as a Tool for Generating Initial Engagement with Community Spaces and Practitioners

Engagement with community services is predicated on the initial engagement with the space and community practitioners. From interviews with the community outreach practitioners it is apparent that creating this initial engagement is a key consideration. Additionally, before a community space becomes self-sustaining through the provision of government funding services – particularly in relation to adult education – there is a minimum limit of consistent attendance that needs to be met. Community spaces will offer activities that prioritise low barriers to entry (e.g. free cost, no commitments, accessible times) and immediate rewards (e.g. fun activities, product to take away, quick skill development). Typically, these events revolve around crafts, cooking, and competitions. However, community outreach practitioners are exploring the potential for using digital technologies. Using digital technologies to engage community members has a two-fold rationale. Firstly, there is a need among some community members to develop basic IT, word-processing and internet safety. Secondly, providing access to technologies perceived as modern can create additional motivation to engage. This motivation was particularly apparent during the Digital Families project (See DF Finding 5). Given the Digital 'Capital'

(technology access and digital literacies) of IPACA, the notion of using digital technologies and support to engage the community was explored through a Digital Dorset Day.

Recommendation and Future Work: *The Digital Capital of IPACA can continue to be used to support the community in developing digital literacy skills, and engaging with community services. Of course it is recommended that the Digital Families project continue. Additionally, the Digital Dorset Day can become a half-day event every month running alongside the end of the school day. This can be run by the IPACA Digital Leaders and IT Technicians, and Dorset County Councils Digital Champion volunteer. There should also be opportunities to run training courses or focussed drop-in sessions, provided by teachers.*

Success Story: *Digital Dorset Day was a full-day event hosted by IPACA and supported by Dorset County Council, Skills & Learning, and Bournemouth University. During the day community members accessed digital support from IPACA's Digital Leaders – digitally savvy IPACA students – under the eye of IPACA's IT Technicians. An Occulus Rift was available for community members to experience modern Virtual Reality as well as being able to see a 3D printer in action. The event was well attended and acted as a pilot for similar events.*

Figure 7: Digital Dorset Day: Engaging in Community Services through Future Technologies

DC Finding 4 – Perceived lack of 'Confidence' in Using Digital Technology

As mentioned in DC Finding 2, there is consistent reference to a lack of confidence in accessing community services that emerged from interviews with IPACA and community stakeholders. This lack of confidence extends to perceived aptitude with digital technology. In the case of the Digital Classroom at IPACA, this is further compounded by the perception of a venue that is located within a school. It is repeatedly mentioned that many of the community members targeted by community services will have had a negative experience of the education system. Additionally, a lack of confidence is also repeatedly referred to in discourse surrounding the use of technology.

From the Digital Families project it emerged that many parents were dismissive of their own levels of digital literacy, whilst elevating their children's. During workshops there was a tentative approach from parents when using technology, especially those that described themselves as having low levels of digital literacy. This resulted in frequent asking for help or allowing their children to, in effect, lead the use of technology. Parents would then adopt a more passive role, instead asking reflective questions of their children. In this approach to family digital media co-

production there is potential to create a learning atmosphere that fuses the playful exploratory nature of children with a critical reflective approach from parents.

Recommendations and Future Work: *As mentioned in DC Finding 2, technology itself can serve as a useful means of incentivising initial engagement. In addition, there are three key aims of Dorset County Council's current engagement activities, the initial engagement of specific community groups with digital technologies, the development of digital literacies in the community, and the promotion of family learning. There is therefore an opportunity to use technology as the primary incentive for community engagement, whilst framing this engagement in a way that satisfies the community outreach aims. It is recommended that the Digital Families project be further developed – in partnership with Skills & Learning – and training be provided to their community outreach practitioners.*

DC Finding 5 – Inherent Tensions in Community Service Provision through an Academy

Throughout the project there were several tensions that hindered the development of the digital classroom as a community space. In typical cases visitors to the school site are required to sign in and be escorted at all times. This process of signing in can create a barrier for community members – especially those who are not literate, or have self-esteem issues relating to access community services. This situation is further exacerbated by the potential of community members with unspent criminal convictions using the community space. Every effort was made by the researcher in residence to overcome these barriers, including establishing additional risk assessment, safeguarding, and child protection for the use of the space.

Recommendations and Future Work: *Currently there are two safeguarding risks in relation to using the Samsung Space as a community venue. First, during community activities sixth form students are still able enter and use the space. Second, and perhaps most seriously, the toilet facilities are shared among students and community volunteers. Although policies have been put into place to accommodate both the necessity of safeguarding children and accommodating community members, these two problems still need addressing.*

DC Finding 6 – Digital Classroom's Efficacy as an Agile Learning Space

The Digital Classroom at IPACA fits the school's broader pedagogic approach for developing agile learning environments. Within this agile philosophy is the implication of agency on behalf of the learner and teacher. With the Digital Classroom, learners are able to make use of the different learning areas depending on their preferences. Additionally, on an organisational level, the agile development of the space allows the Digital Classroom to serve multiple purposes. As a result, it has hosted continued professional development training, music lessons for 6 and 7 year olds, introductory coding for GCSE students, and regular sixth form Business Studies and ICT lessons.

Recommendations and Future Work: *There is an immediate organisational issue in balancing the use of the space by IPACA for students, for teaching staff, and the community. However, anecdotal feedback regarding the space has been positive and it is therefore worthwhile capturing this through additional research. In addition to the educational use of the space, its usage for meeting and provision of community services implies it may have additional usages that have not yet been considered. As part of the Telling Tales of Engagement extension project, a seminar will be held in the space to discuss this project. This will provide an opportunity examine the efficacy of the space as a seminar setting in addition to using the live-web cam to live stream the event.*

Success Story: *Primary school music teacher Nikki Fryer's use of the space serves as an illustration as of the Digital Classroom's capacity to facilitate novel pedagogies. During a lesson with Year 2s (6 to 7 years old) they used the webcam in the space to record and then share their lesson.*

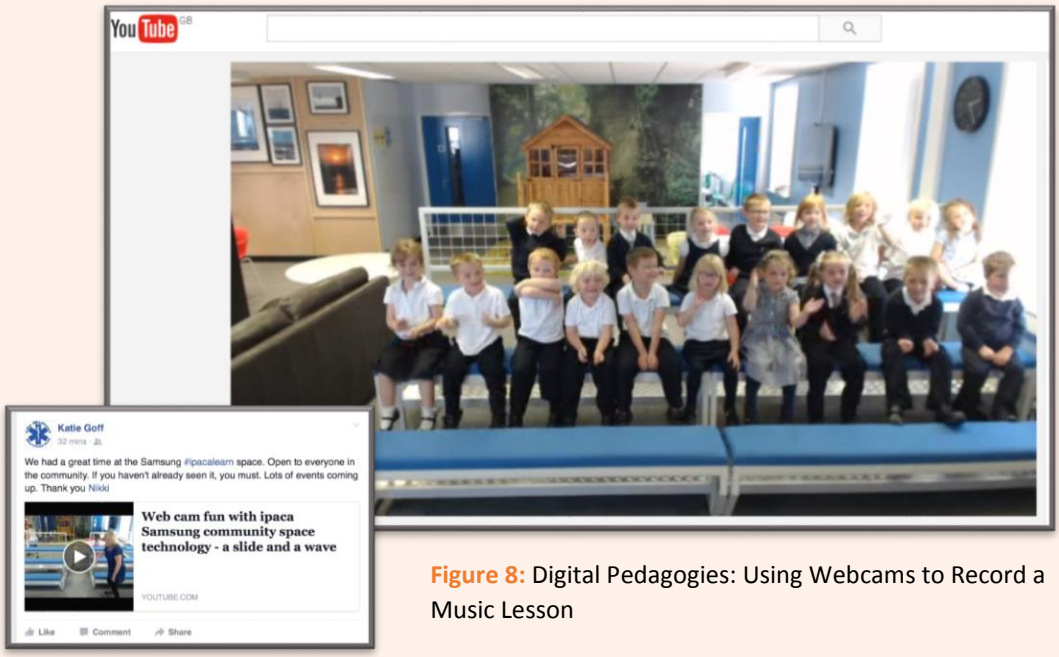


Figure 8: Digital Pedagogies: Using Webcams to Record a Music Lesson

DC Finding 7 – Community Advocacy vs Organisational Limitations: Sustainability of the Digital Classroom as a Community Space

It was intended that the Samsung Digital Classroom would serve as an agile learning environment, a venue for community activities, and a space to support community service provision. It has been successful in these aims however there are questions regarding sustainability for three reasons. First, the running of the space as a community venue requires continuous liaison with community groups and service providers, particularly Skills & Learning and the Synergy Housing Group. Second, there is a need for ongoing governance of the space to regulate financial, safeguarding, and operational issues. Finally, there is a lack of clear leadership for the community space to drive forward its development.

After initially identifying a lack of clear management of the space, a committee was established. This comprised community members, community facing staff at IPACA, and the researcher in residence. Again, with a lack of clear individual leadership the committee attendance floundered. As previously mentioned through developing relationships with Skills & Learning and Synergy Housing, the first ongoing community service provision was offered in the form of a Job Shop. However, tensions are arising over the expected payment for the space, the need to balance the use of the space with the school's lessons and community activities and the current restructuring occurring at IPACA.

Recommendations and Future Work: *There is a need for clear leadership for community engagement with the Samsung Digital Classroom. This is illustrative of a broader lack of consistent liaison with key community due to the absence of the Director of Community Engagement and Enterprise and the ongoing restructuring at IPACA. It is therefore recommended that once the restructuring is complete, a designated lead for community engagement should work on*

rebuilding relationships with key community partners including Skills & Learning and Synergy Housing.

Digital Capabilities

Revisiting the Capabilities Approach

At this stage, it is prudent to revisit the capabilities approach. As well as informing the philosophy of this research, the digital capabilities approach has been developed as a framework for other, comparable, digital integration projects. There are multiple emerging projects from local or national governmental level, charity or tertiary sector organisations, and indeed commercial entities. This has created a broader need for a framework to undertake research that accounts for the potential lack of agency and 'voice' of participants.

Organisations working in this area are frequently targeting vulnerable groups, including children, but the organisations' framing of such projects may not necessarily align with the participants' desired outcomes. In the Samsung-IPACA research there was frequent reference to the potential for digital skills and access to increase employability; this was a key motivation for the project staff representatives in IPACA and other community stakeholders. However, when discussing the project with participants – and those who fit within our target group – this notion of employability did not emerge. Instead, they made frequent mention of developing their own agency and self-mastery of digital technology. Furthermore, the participants in any project are subject to their immediate socio-cultural context.

The socio-cultural context in which digital initiatives are launched will affect the effectiveness of the project in tangible and intangible ways. For instance, in this project the physical location of the Digital Classroom and the difficulty of community access presented an immediate practical barrier. At the other end of this spectrum, there was a need to overcome the unspoken perceptions of being an outsider – or 'kimberlin'. It is worth remembering that despite the situated and intimate nature of this research project, it exists within a broader socio-political discourse surrounding notions of digital exclusion and developing digital skills.

Initiatives that concern themselves with notions of digital access or digital literacy are in conversation – either directly or indirectly – with the broader socio-cultural context. Although they may be run in isolation they will in some way be shaped by and inform the broader culture of digital inclusion. For instance, as the Digital Families project was underway, we were able to collaborate with Dorset County Council to facilitate the provision of these activities. In practical terms, we were able to benefit through this partnership, through the additional funding received nationally. Additionally, we able to compare academic discussions of 'digital literacy' and its practice-orientated conceptualisations. With this in mind, the Digital Capabilities approach will be taken forward and developed with the following principles at its core:

Humanistic – interested in the lived realities of the participants' lives, ensuring that the diversity of their lives, preferences, and desires is apprehended and taken into account;

Situated – cognisant of the different roles, relationships and personal interactions during the research process and acknowledging the possible influence of these;

Holistic – cognisant of 'the big picture', that is, the various spaces, social networks, institutional and technological interactions that the participants experience and the project itself is subject to.

Developing Capability through 'Digital Families'

Inherent Capabilities for Digital Literacy

Data – stakeholder accounts, pre-intervention profiling (surveys, school data), pre-intervention interviewing (semi-structured), thematic field scanning, collation of findings from previous research by stakeholders (Samsung, Techknowledge / Tablets for Schools, Family, Kids and Youth).

The research identified 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 – itself a contested and fluid concept which is usually constructed on the terms of the 'engaged'.

The majority of students in our sample demonstrated capability in one or more of these practices:

- Independent engagement with learning in new (digital) contexts (sometimes epistemological, sometimes curational / creative, but in all cases self-representational);
- Self-selection of suitable applications for 'schooled' learning;
- Autonomy in taking the lead in collaborative learning with parents (potentially evidence of 'flipped learning' in a family context;
- Higher confidence in presentation of self in digital contexts.

Very rarely, however students demonstrate this full combination of elements, so digital capability is usually partial.

Parents / carers' capabilities were generally subject to far more impediments – financial, related to trust of institutions, time constraints and internalisation of anxiety around screen time and 'good / bad' use of technology. The single biggest factor in levels of collaborative digital capability in family settings remains economic. As the recent 'Opportunities for All?' report indicates, whilst internet connection is ever increasing 'the leveller', low income / living wage families are impeded by slower connections, reduction to single mobile devices, so capability is undermined by the need to plan ahead to access fast Wi-Fi in a public space or hindered by interruptions to connections in the home.

Challenges Face by Disengaged Students at IPACA

Data - self-reporting, teacher accounts, parental reporting, SEN professional accounts and action research reflexive observation from recorded activities, fieldnotes, research team triangulation.

The challenges to engagement are consistent with previous research and practitioner evidence but must be understood as highly situated also:

- Special educational needs themselves are associated with a disconnection from the educational curriculum;
- The lack of specific applications tailored for particular special educational needs and the problematic 'lumping together' of these needs;

- Broader socio-cultural barriers to engagement for students in lower income families and in this case the highly specific social contexts on the island – the constellation of assumptions, values and attitudes, combined with the particular history of the Academy development and previous under-developed relationships with the community (as referenced by Ofsted, partly leading to this intervention);
- The framing of engagement by community outreach professionals, usually from different socio-cultural groups they are attempting to engage.

However, in the case of this intervention, by far the most significant challenge is the lack 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 (1-1 in the school, 1-1- mobile provision outside of school, access to community space for parental support) and classroom teachers' practice / curricular schemes of work.

Digital Literacy Initiatives as a Conduit for New Collaborations

There is potential for greater collaboration and partnership between the school and community services due to a shared interest in developing digital literacy skills in this community. For example, the Job Shop in the Digital Classroom; Digital Dorset Day co-hosted by the school; and the development of the Digital Learning Hub. Further research, through the EPSRC extension and pending further match-funding, will track the significant changes made on community members, parents / carers and students' terms.

Reducing Barriers between School, Home and Community

The investment in the digital technology by stakeholders enabled digital literacy work to take place in spaces hitherto devoted to craft & cooking. Typically community outreach activities, especially those offered by the school, focussed on knitting circles, or cooking. As well as reducing barriers to entry to the school through creating a familiarity, it also reduced barrier for digital technology engagement. Partnering with Synergy Housing and Skills & Learning allowed for them to *gently* introduce themselves to community members, 'soft-assess' their needs, and signpost other services.

Physical Manifestation of the 'Third Space'

The Community Space offers a space in between school and community with the potential to facilitate rich third space learning and transgress socio-cultural and SEN barriers to engagement – only the *potential* is evident at the time of reporting – further research, with a more ethnographic approach, is necessary to track: a) the development of digital literacy; b) the conversion of literacy to capability; and c) the 'cementing' of the triad between school achievement, family-school collaboration and community services.

Recommendations for Converting Digital Capabilities into Meaningful Opportunities

Our intervention strategy explicitly focused on developing both individual and collective agency among students and families / across the community and by so doing converting digital functionings into valued capabilities such as: social connectivity; trust in educational professionals and rapport with them; sense of purpose and achievement related to learning development and success at school; social belonging; accessing community services; confidence in identity for SEN

learners, contribution *to* the community; and increased confidence in using technology for education, including the confidence to resist problematic public discourse around 'screen time' as a barrier to learning.

For a small scale study of this kind, the capability 'mix' was very complex and further research will require greater sensitivity to the specific contexts for SEN support in particular. Furthermore the highly specific local context can reasonably be understood as greater than for other community setting interventions where this transferable methodology may be applied.

From the evidence generated by this intervention, to convert differentiated (and usually partial) inherent digital functionings into capabilities, we recommend:

- Ensuring that all digital literacy work is driven by a shared, consistent and sustainable pedagogic rationale, embraced by all teachers, who have autonomy, critical voice and space to work reflexively with the rationale and to input their teaching expertise.
- Joining up the triad between school, family and community with consistent, whole institution commitment to embedding the digital initiatives in curricular in order to convert 'digital capital' to 'academic capital' wherever possible.
- Investing in sustainability at-home internet access solutions, potentially partnering with Synergy Housing and BT
- SEN experts supporting the development of activities to tailoring mobile apps to learners' needs in differentiated ways.
- Commitment to construct responses to both student disengagement and community mistrust which are 'sociologically literate' and informed by local community participation to reduce unintended 'othering' of the beneficiaries.

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Amplification and Impact Development

Plans for amplifying and impact develop for this project follow. An impact development proposal is attached, along with a timeline for the production of additional outputs. Further to this we have made a successful application for the EPSRC's Telling Tales of Engagement Competition, and been awarded £10,000 to promote the research that we have undertaken. This money will be used in the development of a video documenting families' and community outreach workers' experiences with the Digital Families programme. Additionally, three seminars, each focussing on a particular stakeholder group, will be run.

Impact Development Proposal

	Description	Community Goal	Research Aim	Outputs
Digital Families	This is a continuation of the current Digital Families programme. Parents from the previous programme will provide support. In addition a SEN Trainer will be invited to inform the pedagogic usage of tablets. *Frequency*: 2 * 8 week programmes of 1 hour workshops to run to run termly	Establish a self-sustaining Digital Families programme with at least 5 families attending weekly.	Explore the connection between digital literacy and capability in relation to parent-child SEN learning. Identify the provisions (technology resources, staff, and expertise) that facilitate the development of digital capabilities in this context.	Practitioner: Digital Families Programme Framework Academic: Journal Publication; Conference Publication
Mobile Community Office	Synergy Housing Group has invested in a digital mobile office that will service the community. Technology and internet access will be provided along with support of the community engagement officer from Synergy and the community action researcher. *Frequency:* 1 Day a Week	Engage with the wider community and provide *ad hoc*, mobile digital and community support. Additionally, establish familiarity with community members and signpost them to the Samsung Space.	Explore the use of a digitally enabled mobile office in community engagement. Identify how this ties into the concept of 'third spaces' and the role of the mobile office as an 'intermediary' space.	Practitioner: Documentation of Best Practice Reflective Informing of Ongoing Engagement Academic: Journal Publication Conference Publication
Digital Access to Community Services	Connecting Advice Services Dorset is seeking to set-up Skype bars for community members to communicate with advisors remotely. Based upon the need for community provision on the island – specifically mental health advice – it is worth exploring this as an option. *Frequency:* TBC	Provide access to community services where physical access is financially or logistically prohibitive.	Explore the role of digital communication technologies in providing digital access to community services. Attempt to identify any potential barriers in its usage.	Practitioner: Identification of Potential Barriers Academic: Journal / Conference Publication
Adult Education Provision	Skills and Learning are interested in establishing the Samsung Community Space as one of their Digital Learning Hubs. Currently, there is no adult education provision on the island. The community action researcher will carry on work facilitating the establishing of adult education. *Frequency:* Termly Courses	Provide access to adult education courses in Portland. Initially, the goal is to provide basic English, Maths and ICT courses – both non-qualified and qualified.	Explore how the Samsung Community Space can be used in an educational capacity. Identify any pedagogic benefits or limitations in regards to the physicality of the space and the provision of technology.	Practitioner: Identification of Potential Barriers Reflective Informing of Ongoing Engagement Academic: Journal / Conference Publication

Impact Outputs Timeline

	December		January		February		March		April	
	Early	Late	Early	Late	Early	Late	Early	Late	Early	Late
Project Milestones	Telling Tales of Engagement Application		Stakeholder Project Report - Findings, Recommendations, and Success Stories	CEMP Research Assistant Post		Digital Families Programme Draft - Lesson Plan Template, 12 Lesson Plans	Digital Families Website Live and Populated - www.digitallyfamily.com		Digital Families Programme Complete - 24 Lesson Plans, (SEN Inclusive)	
Academic Publications								Digital Capability: A Humanistic Approach to Situatng Digital Integration Projects		
Dissemination & Impact Generation			Skills & Learning Training	BETT 2016 Presentation - Community Engagement in 'Digital Classrooms'	Skills & Learning Training		Skills & Learning Training	Digital Families and Digital Classrooms - Times Higher Education Publication	Skills & Learning Training	Festival of Learning Presentation(s) - Family Learning though Digital Media Co-Production

	May		June		July		August		September	
	Early	Late	Early	Late	Early	Late	Early	Late	Early	Late
Project Milestones			Digital Families Workshops (v2) - Supported by CEMP. Run and hosted by IPACA, PowerLearners, Skills & Learning							
Academic Publications		Digital Families: Fostering Engagement Developing Digital Literacies through Family Digital Media Co-Production						Reframing the Digital Inclusion Discourse: Digital Literacy and Access as Digital Capital	Project Review	
Dissemination & Impact Generation		Skills & Learning Training	Festival of Education Presentation - FamilyLearning through Digital Media Co-Production	Digital Capabilities Seminar Series - Digital Families at IPACA (Educational Audience)	Skills & Learning Training	Digital Capabilities Seminar Series - Capability Approach at Bournemouth University (Academic Audience)	Digital Capabilities Seminar Series - Digital Inclusion and Community Spaces at IPACA (Community Outreach Audience)			

Telling Tales of Engagement

From Digital Literacy to Capability: Developing Community Capability through Establishing a Digital Community Space and Developing Family Digital Literacies

Phil Wilkinson, Centre for Excellence in Media Practice, 2015.

Please describe the research field (max ~100 words) Please describe the research area that you are working in.

This is an interdisciplinary action-research project chiefly concerned with indicators of social deprivation, development of capabilities, categorising and situating digital literacies, and family learning. Specifically, this research is applying a digital literacy construct through the capabilities lens – put forward in the field of development studies by Amartyra Sen – with a social constructivist learning approach to support learners with special educational needs (SEN). This work was undertaken with support from Samsung UK and Synergy Housing group, and it took place in a state-funded academy school – the Isle of Portland Aldridge Community Academy. >

Please describe the impact of the research (~1000 words) Please describe the impact of the research detailing what this impact was; who or what it has had impact upon and how this that has been brought about and by whom as a result of the research. The story will provide evidence (quotes, conversations, meeting details, etc) to support the story of how the research impact arose.

This research began with a significant capital investment from Samsung UK into the Isle of Portland Aldridge Community Academy (IPACA) to develop a Digital Classroom. Initially the focus of this research would be to explore the role of tablet computers in supporting SEN learners with economically deprived families. In this, we adopted a capabilities approach to understanding the impact of the digital 'intervention' – aligning suggested benefits with the desires of the families participating. This research expanded – through an embedded researcher and building a network of community service providers – to include developing the Digital Classroom as a community space in the broader context of community practitioner dialogue surrounding digital inclusion. To begin however, research centred on a series of workshops that would became known as Digital Families.

Digital Families is a programme of workshops that engage families in learning through co-production and co-consumption of digital media. Each workshop follows a typical 'lesson-format' such that it is representative of how technology is currently used to support learning in schools – something interviewed parents suggested was desirable. Additionally, the programme targeted families with SEN learners, such that the SEN learners would benefit from additional, technology facilitated, learning support at home. Finally, families were identified through partnership with Synergy Housing – a social housing provider – therefore providing opportunities for them to engage with their customers. This Digital Families programme proved successful for engaging families with learning; providing additional support to SEN learners; and fostering a culture of family learning. Workshops were hosted in the Samsung funded IPACA Digital Classroom and following the success of the project the Digital Families programme will be independently run at

IPACA following the conclusion of this research. Tasha Board, a computer science teacher at IPACA, will be running the Digital Families project independently. Additionally, there has been enthusiasm for running the Digital Families programme by Outreach Officer Teresa Barton at Dorset County Council's Skills and Learning Department (Skills and Learning) and Edward Rothman, owner of private tutoring company Power Learners. As such the Digital Families programme is being developed with these partners as a stand-alone programme that can be run independently.

During the running of the Digital Families project, Phil Wilkinson – a doctoral researcher – was embedded in the school as a Researcher in Residence. Through this embedding, it became apparent that there is a lack of community service provision on the Isle of Portland. Accessing basic community services such as the Job Centre, Citizens Advice Bureau, or Shelter requires a non-trivial commitment of time and money. Accessing specialist services such as support for mental health or domestic abuse issues is even more problematic. Exacerbated this situation is the socio-demographic make-up on the island for as it is highly ranked on several deprivation indexes. Additionally, IPACA itself has a significantly above average number of learners on protection plans – due to unstable home lives, leaners that requiring mental health support, and learners with a special educational need. As such research expanded to include the provisioning of community services in the Digital Classroom. The Researcher in Residence was involved in the development and physical layout of the Digital Classroom. Additionally, the researcher – already regularly meeting with community groups and service providers – began to explore the community use of the space. This includes the establishment of safeguarding, child-protection, and risk assessment procedures, exploration of specific services that can be offered, and the identification of potential barriers. This work was undertaken with support from Synergy Housing and Skills and Learning. A need to focus on three things became apparent: financial and organisational sustainability of the Classroom's growth; initially launching basic job, benefits, and digital support; and appropriate promotion of the Digital Classroom in the local community.

As a direct outcome to researcher engagement there is currently an agreement between Synergy Housing and Skills and Learning to provide community services in the Digital Classroom. Synergy Housing has agreed to fund the use of the Classroom – providing a source of income for IPACA – and Skills and Learning will provide tutors and supporting staff for running drop-in sessions and training workshops. This forms part of the two organisations broader strategy for digital inclusion, family learning, and provision of community services. As such the Digital Classroom is categorised as one of Synergy Housings 10 Digital Learning Hubs around Dorset. For the moment the Classroom is running a 'Job-Shop' – in which people are able to drop-in and receive job application support – that is consistently well attended. Community members are also being signed up for adult education courses that will run in 2016.

It is worth noting that the theoretical and practical development of the Digital Families programme and Digital Classroom was undertaken in a broader context of digital inclusion rhetoric. There are several community groups collaborating with the researcher, in some way these groups often prioritise a notion of digital inclusion – primarily framed through notions digital access. Conversations with these organisations were both formative for the organisations' digital inclusion strategy and for this research project. This is illustrated through the participation of senior Synergy Housing executives in a researcher-led seminar, hosted in the Digital Classroom, that discussed our findings regarding digital inclusion and the newly agreed importance of digital literacy training, as well as providing digital access. Additionally, our approach to promote the

Digital Classroom through a Digital Dorset Day is being replicated in other digital learning hubs across Dorset.

To summarise impact can be categorised into three areas relating to Digital Families, the Digital Classroom, and broader – community facing – discourse surrounding Digital Inclusion. Digital Families will now be run independently by Skills and Learning, IPACA, and Power Learners UK. Furthermore, the co-production of digital media as an engagement strategy is currently being explored by the community practitioners involved in this project. The Digital Classroom is now a self-sustaining community space providing digital access, digital support, and basic community service access to people on Portland. Finally, with the community practitioners worked with there is a shift of discourse to focus on the necessity of digital literacies as well as digital access.

Please describe how you propose to further 'tell the story' of the impact (~1000 words) Please describe your ideas on how you want to use the £10k to tell the story of the impact that your research has had. Novel and innovative ways of telling the story are welcomed.

Our purpose in telling this story of our impact is three-fold. Firstly, demonstrating the practicalities of how the impact arose through embedding a researcher and framing benefits of a digital intervention through the perspective of stakeholders and participants. Secondly, promoting the research's contribution to community outreach practice and the framing of digital inclusion discourse. Finally, it is intended that our means of telling the story will generate meaningful discussions with community practitioners and interested academic parties. In addition, we wish to further the spirit of this research – a participatory approach and exploring digital inclusivity – in our approach. A detailed costing of the planned activities is included below.

With this in mind, we are proposing to split the money across a series of 3 digitally mediated seminars, and the production of a video for online publication. Each seminar will focus on the impact of a strand of the research – the Digital Families Programme, the Digital Classroom, and the culture of Digital Inclusion. The first seminar will be hosted in Wimborne Children's Centre – a Digital Learning Hub supported by Synergy Housing and S&L. Of course the Digital Classroom seminar will be hosted in its name-sake and the final seminar hosted at Bournemouth University. It is intended that this range of venues will build upon the current networks that have been created and allow for inclusion of community, educational, and academic practitioners. Seminars will be hosted in July, August, and September.

Seminars will follow a format of a presentation outlining the research approach, key findings and recommendations, and the current changes in practice or discourse. Following this there will be a panel – consisting of a representative of Samsung, Synergy Housing, Skills and Learning, the Research Team, and IPACA. This panel will answer questions that have arisen from the research and discuss the impact of the research from their perspectives. Additionally, there will be opportunities for attendees to ask questions of the panel. Finally, the seminar will conclude with an open discussion of key questions – attendees are able to propose their own – that all are able to participate. Seminars will be live broadcast using Google Hangout and a custom Twitter hashtag will be created – as such interested academics and practitioners can join in the conversation online. Live broadcasts will be recorded and an edited down version of the most salient points will be included, along with a transcribed version of the full presentation and conversations. Paralleling the production and publication of this video focussing the academic and practitioner role in the research, and additional video will be produced focussing on the

families. The Digital Families programme will be run in other venues. It is our intention to capture the experiences of the families that have been the primary focus of our research.

During the Digital Family workshops attendees will be asked if they are willing to be filmed whilst participating. They will also be asked to offer their opinions on the same topics raised during the seminar series. As the activities focus on co-production of digital media, the families' creations will form part of this video. It is intended that through this video's production and publication online – along with other materials – will give a voice to the families that were the starting point and core of this research project.

Category	**Details *(please specify)***					
	Jan – Feb (2016)	**Mar – Apr (2016)**	**May – Jun (2016)**	**Jul – Aug (2016)**	**Sep - Oct (£)**	**Notes/ explanation**
Travel	£250	£250	£500	£1000	£1000	Travel costs for meeting with seminar and Digital Family participants. Travel subsistence will be provided to invited seminar attendees.
Accommodation	£0	£0	£0	£500	£500	Accommodation will be provided for invited Seminar attendees.
Seminar Catering	£0	£0	£0	£500	£250	
Venue Hire	£0	£0	£0	£1000	£500	Price for hiring the venues used for the seminars. This includes supporting in setting up and using AV equipment.
Printed Materials	£0	£0	£0	£200	£100	Printed materials – papers, posters, handouts – for the seminars.
Equipment	£0	£100	£100	£500	£250	Video production equipment and AV equipment for streaming the seminar.
Consumables	£0	£0	£100	£200	£100	Consumables used in video production and stationary and other materials provided during the seminars.
Temporary Staff Hire (Video Production & Editing)	£0	£400	£400	£800	£400	Hiring of a videographer for filming the digital family participants and for filming and editing of the seminar series.
Total:	£0	£750	£1100	£4700	£3100	£9650

Please detail other related activities to demonstrate the impact of the research.

Ongoing work – funded separately! – bringing additional parties. Demonstrating impact through generating further impact. Conference attendance and journal publications. Development of the Digital Families Programme. Currently in an ongoing consultation with Samsung and Techknowledge. Findings from our research will be used to inform the community usage of Samsung's global digital classroom scheme. Additionally, Techknowledge will disseminate our research findings to their community of practitioners – particularly focusing on the family tablet usage for SEN learners.

Following the level of interest in the Digital Families project, work has begun producing a stand-alone programme that is open access. This stand-alone programme will feature a series of lessons plans - tagged for technology used, costs involved, and SEN learner considerations - that

practitioners will be able to use independently. Each lesson will focus on low-cost, prioritising free, software for families to co-produce digital media - such as blogs, YouTube videos, podcasts. This is being developed with support from Dorset County Council Skills and Learning. Currently, the research team and Samsung UK are in consultation with Techknowledge to look at broader, traditional, dissemination of our research. Techknowledge - formerly Tablets 4 Schools - is an independent charity that commissions and publishes research relating to technology use in schools. As such they already have a network in place consistent of educational, community, and academic practitioners. A report will be produced outlining our key findings, recommendations, and individual success stories. Each will be captured under a Digital Families, Digital Classroom, or Digital Inclusion research strand. It is intended that Techknowledge will then disseminate these findings further along with further press-releases from Samsung UK. From a purely academic stand-point, a preliminary paper has already been presented at Emerson College Media Education Summit 2015 (Boston, US). This paper will be expanded and themed into the three research stands (Families, Classroom, Inclusion) for publication in journals. Additionally, this research project is currently being developed into a Case Study for submission for the Research Excellence Framework under the Education Unit of Assessment (25).

Critical Review – Stephen Heppell

Introduction

The journey from a collection of small schools on Portland to a single exceptional institution with world class ambition has attracted widespread global attention from teachers and parents, through to governments and corporations. That journey needs a narrative, with reflective, detailed documentation and research so that the many interested onlookers might learn from, and with, IPACA's progress. This Samsung-IPACA research is a valuable component of that evolving metanarrative.

Summary

Very significant sums of money have been invested in better learning by a succession of governments around the world (for example English schools' capital investment for 2005–06 was increased from a planned £700m to over to over £5 billion).[2]

The impact of that commitment is varied; a brief summary would be that attaining success is extremely complex: taking a community forward, changing a public sense of entitlement and obligation, progressing practice, reflecting on parameters of success, embracing the potential contribution of emerging technologies, countering naysayers, reducing barriers to ambition, closing rather than widening equity gaps…

This project report, "From Digital Literacy to Capability" explores one important dimension of that complexity. Findings include that: there is potential for greater collaboration and partnership between a school and its community services through a shared interest in developing digital literacy skills; that a community space "between" school and community has a significant role to play; that it is possible to reduce barriers to digital technology engagement and inclusion.

Importantly, accelerating a learning community does not need to result in leaving parts of that population behind - the reflections here of vulnerable groups as they defined and developing their own agency and context-grounded self-mastery of digital technology is particularly heartening.

Exciting progress can really be **by** everyone, rather than perhaps simply **for** everyone.

Review

Historically, and indeed up the the end of the last century, a broad (albeit imperfect) consensus existed between government policy, parental expectation and educational practice. Progress was slow, in some instances too slow: closing the inequality gap, or embracing new skillsets, showed glacial progress.

However, one significant impact of new technologies in education has been to give teachers and learners a voice through the many "bottom up" channels: the very many TeachMeets; the viral social media communities like #ukedchat or the various #satchats. These communities of purpose

[2] "Building schools for the future", Department for Education and Skills ref: DFES/0134/2003 © Crown copyright 2003

- where the purpose is sharing and progressing - have resulted in practice running ahead of policy. As the pyramid of control inverts, one consequence is that policy can find itself being out of step with the leading edge of new practice. This creates tensions: how can a civil service keep up? what should parents expect? who should suppliers be guided by in producing product? what might learners' new entitlements look like?

Why this Samsung-IPACA research is so important is because it is a detailed reflection, resulting from the embedding of a research professional within the community that is a fast moving new school, to document, evidence and narrate their journey of innovation and progress. It has a key role to play in reducing the tensions from accelerating innovative practice.

The Samsung-IPACA research is very precisely targeted on just one dimension of that innovation and progress journey. It it is very careful to say nothing about: the FF&E of the wider school's learning spaces, the reorganisation into schools-within schools, the recalibration resulting from a Stage not Age approach, the mutuality and collegiality of all-through. But that clear targeting is precisely the focus that is needed. If policy is to hang onto the coat tails of the fastest moving learning communities then they will do so though the detailed illumination of research like this: embedded, grounded, trusted, participant, focussed.

There is very much an intention to create a small cluster of such embedded researchers from this initial exploration. In an iterative way this Samsung-IPACA research is learning from itself too.

Conclusions

In a world of tightening education budgets and rapidly moving legislation, each piece of the jigsaw of effective investment needs narrating in the kind of detail seen here.

The fundamental insight here is not simply about the detailed focus of the Samsung-IPACA research and its recommendations / conclusions, it is that this model of research is worthwhile, helpful and necessary. I very much commend both the report, and its processes.