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**Valuing Young Children's Signs  
of Learning: Observation and  
Digital Documentation of Play  
in Early Years Classrooms**

**The Froebel Trust Final  
Research Report**

**PROJECT DETAILS**

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UCL Institute of Education

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Open Call Research Grant

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(with no-cost extension to  
31/01/2019)

## Project summary

Observations of play in early childhood education have typically been documented in paper-based formats (e.g. scrapbooks, written notes, printed photographs) as part of assessment practices. However, there is a growing trend in early childhood education towards using commercial software to record learning in digital formats, where video, audio, photographs and writing can be combined. These multi-media forms of 'digital documentation' offer new possibilities to recognise, represent and value children's multiple signs of learning in new ways, and to share these narratives with parents and children. Yet there is little research-based guidance on digital documentation, so early education assessment practices run the risk of being guided by commercial drivers rather than by child-centred learning theories.

In this study, we worked with educators to develop an early childhood pedagogy of observation, documentation and assessment that brings Froebelian principles of the 'uniqueness of every child's capacity and potential' and 'holistic nature of development' to documentation practices in contemporary early years settings. Fieldwork included case studies of children aged 3-5 years living with disadvantage and/or in the early stages of learning English in three diverse multicultural early years settings in London. The study design was framed by a multimodal social semiotic perspective on learning (Kress 2010) and an ethnographic approach to social science enquiry. Data generation included video recordings, examples of documentation of children's learning, interviews with educators, parent questionnaires and video-prompted discussions with children. Thematic and fine-grained multimodal analysis of video extracts resulted in rich findings regarding the opportunities and constraints of different approaches used by the participating settings in their observation and documentation of young children's learning.

## Key Findings

- a. Early childhood education settings have diverse approaches to observing and documenting children's learning, depending on *who* and *what* the documentation is for, and this is linked to each setting's ethos;
- b. Practitioners found it harder to observe and document children who did not communicate confidently in English, who spent extended periods playing outside/in physical play, and who did not seek out adult interaction or produce things that acted as traces of their learning (e.g. drawings, paintings). This highlighted characteristics of children whose 'signs of learning' are more likely to go unnoticed;
- c. Practitioners valued observation and documentation as part of their child-centred pedagogy, yet felt this was in tension with the summative assessment requirements of the EYFS national curriculum;
- d. Parents appreciated documentation of their children's learning, and found digital documentation more accessible than paper-based formats. Parent perspectives on their child's documentation added valuable insights for

- practitioners, yet most parents did not contribute to their children's documentation, irrespective of the format;
- e. Children enjoyed reviewing and sharing their documentation, and this prompted metacognitive reflection on their own learning. However, most digital documentation software is designed for adult use and does not currently facilitate children's independent access or contribution to their own documentation;
  - f. Video was identified as having valuable potential for observing and documenting children's play, giving value to aspects of play that might otherwise be overlooked, for supporting reflection, and for letting parents and children know that play is valued;
  - g. Video observations and documentation presented challenges: time needed to record and re-watch material; impact of digital devices on interactions with children; the digital documentation software design creating tensions with enquiry-based approaches to early learning;
  - h. The participatory research design of this study supported practitioners to reflect critically on their own practice, address challenges, and creatively implement changes relating to the use of digital tools and the embedding of core Froebelian principles in their observation and documentation practices.

### Next Steps

Our plans to take forward the findings of this valuable and original study focus on the need to promote assessment practices in early childhood education that recognize and more fully capture the holistic nature of development and every child's unique capacity and potential. Next steps towards achieving this include:

1. Raising awareness of the need to recognize and value children's silent signs of learning, which may be hard to observe and document and are often overlooked;
2. Exploring the potentials of digital documentation for critical reflection on learning, including using video as a tool for prompting children's own recall;
3. Supporting early educators to find ways to include parents and children in documentation processes;
4. Working with digital software designers to explore more accessible, child-friendly documentation interfaces that support the documentation of enquiry-based learning, and proactively encourage parental contributions;
5. Developing an international network for research on early years digital documentation.

These aims will be achieved through ongoing activity, including: a dissemination event that brings together practitioners, academics and software designers to share key research findings and consider potential for change (London, UK, January 2019); presentation of findings at leading international education research conferences; publication of academic and practitioner-oriented papers to promote the value for educators, parents and children of observation and documentation processes that

recognize and value children's silent signs of learning; ongoing liaison with digital software designers; founding an international network that brings together like-minded academics and practitioners who share a commitment to improving early childhood education observation and documentation.

### Progress Towards Achieving These Objectives

Interim findings were presented at the *International Froebel Society Conference* (Hiroshima, Japan. September 2018). Findings and recommendations will be shared at the *Reconceptualising Early Childhood Literacies Conference* (Manchester, UK. March 2019. Paper accepted), the *American Educational Research Association Annual Meeting* (Toronto, Canada. April 2019. Paper accepted) and the *UK Literacy Association Annual Conference* (Sheffield, UK. July 2019. Paper submitted).

The findings will be reported in: Cowan and Flewitt 'Towards valuing children's learning'. In C. Cameron and P. Moss (forthcoming) (Eds.) *Early Childhood Education and Care in England: Towards Transformative Change*. UCL IOE Press.

Cowan and Flewitt are founder members of the recently formed, international network: *Research on Early Childhood Digital Documentation* (REDD), in collaboration with researchers at the University of Agder (Norway) and the University of Helsinki (Finland). As founders, Cowan and Flewitt plan to take forward the research findings through comparisons of international practice, fostering joint publications and symposia, and developing proposals for future research projects.

## Introduction to the Project

Many early years and primary classrooms in England, as elsewhere in the world, are populated by an increasing number of young children who are living with disadvantage, children from ethnic and linguistic minority backgrounds and/or recently immigrated children who are in the early stages of adjusting to life in a new country. Whilst this phenomenon reflects the rise in global mobility and adds rich diversity to the early years classroom, it also presents profound challenges for early educators regarding how to recognise and value all children's often subtle 'signs of learning'. Recognising learning is particularly complex since learning takes many and diverse forms, consisting of combinations of visual, audible and tangible signs (e.g. drawing, model-making, dance, storytelling, role-play), along with less tangible expressions of meaning-making (e.g. children's often silent negotiation of social interaction and/or creative thinking, where visible signs of learning and decision-making may be expressed more ephemerally through action). However, such signs of learning may all too readily be overlooked or dismissed without educational approaches that reveal and support the diverse contributions and capacities of all learners, in multiple forms.

Recognising and valuing all children's diverse signs of learning is particularly challenging for practitioners who are working within the constraints of an educational climate where a focus on measuring 'standards' assumes 'homogeneity and stability represent the norm' (Creese and Blackledge, 2015, p.20). In England, as in many other nation states, early years and primary education has undergone significant change, partly in response to the global trend towards measuring national educational outcomes against international benchmarking systems (Ball, 2013). Over comparatively recent years, there has been sustained and systemic education reform based on the principles of raising measurable 'standards', with national and early years curricula becoming increasingly prescriptive, and standardised measures being used for child assessment, including for young children. This move has led to the introduction of a series of new national tests for early years and primary-aged children, including the Phonics Screening Check for 5 and 6 year-olds in 2012 (Flewitt and Roberts-Holmes, 2015), a new 'Spelling, Grammar and Punctuation' test for 7-11 year-olds introduced in 2016 and roundly condemned by Key Stage 1 and Key Stage 2 teachers (see <https://teachers.org.uk/campaigns/primary-assessment> ), along with plans to introduce national benchmarks for 'Baseline Assessment' of all 4 year-olds at the point of school entry from 2020. Given that teachers and schools have a statutory and moral obligation to prepare children for success in these tests, the breadth of the curriculum on offer and children's access to rich and playful learning opportunities are at risk. Discussing the effects of the standards agenda in England, Alexander (2011) argues:

The tests impoverished the curriculum; the national strategies and professional standards impoverished pedagogy in both conception and practice ... in many primary schools a professional culture of excitement,

inventiveness and healthy scepticism was supplanted by one of dependency, compliance and even fear; and the approach may in some cases have depressed both standards of learning and the quality of teaching. (p. 273)

Whilst the Early Years Foundation Stage (EYFS) advocates play-based learning and highlights the importance of practitioner-observation, the top-down pressures of a standards and school-readiness agenda risk compromising a child-centred approach. With proposed plans to make the EYFS Profile non-statutory, and ongoing discussion regarding the introduction of baseline assessment, there is renewed debate surrounding the purposes and formats of assessment in early years education.

There is therefore a need to develop approaches to early years assessment that are congruent with the basic principles of early childhood education, and which consider the potentials and constraints of new observation tools and practices. This study counters the potential impoverishment of early education assessment by encouraging practitioners to re-engage with young children's playfulness, excitement and inventiveness, bringing Froebelian principles of the 'uniqueness of every child's capacity and potential' and 'holistic nature of development' to their ongoing observation and documentation practices. The study focused in particular on developing the potential of new forms of digital documentation, researching the ways this might be used by practitioners and shared with children and their families to respectfully value all children's diverse signs of learning.

### Project Rationale

Observation has a long and rich heritage in early childhood education, recognised particularly in the pioneering work of Friedrich Froebel and continued by key educationalists such as Maria Montessori, Rudolf Steiner and Susan Isaacs. Froebel's writings included many detailed, naturalistic observations of babies and young children, suggesting that kindergarten teachers should be keen observers of children (Froebel, [1826] 1902). Froebel argued that observation was vital to the adult's understanding of the individual child, enabling sensitive and meaningful interactions, supporting the teacher's own learning, and informing their teaching. Froebel advocated that the most important facts about each child should be recorded. Froebel can therefore be considered one of the first educators to argue for the documentation of observations (Lilley, 1967).

Whilst Froebelian principles continue to have relevance today, the tools, practices and contexts for observation and documentation have changed dramatically, and contemporary early education practitioners face many challenges when observing and documenting children's learning. In an era when many early childhood educators are responsible for the care and education of young children from diverse social, ethnic and linguistic backgrounds, and in an education climate of increased testing and narrow skills-based outcomes, this project explores approaches to early

years assessment that start with the child. Rather than formalized, summative testing, this study explored early childhood educators' ways of recognising and valuing children's often subtle signs of learning during child-initiated play, and we worked with practitioners to promote this aspect of their pedagogy through sharing and reflecting on their current observation and assessment practices.

Furthermore, this study extended and enhanced existing practice through exploring how Froebelian-inspired observation might make use of the digital tools of the 21<sup>st</sup> Century. The portability of new handheld technologies (e.g. iPads) supports the recording of observations 'on the go' and 'in the moment', offering the possibility to generate images, video clips and audio recordings on the spot, rather than requiring documentation to be compiled retrospectively. Where previously practitioners documented observations of children predominantly in written forms, digital documentation introduces the possibility of creating new hybrid formats that include still image, moving image, sound and writing in various combinations. Changing technology therefore invites new possibilities for *what gets represented*, in *what form*, and *to what effect*, including, for instance, how children's activity (such as movement, mark-making, speech) becomes represented in digital documentation (in writing, photographs, video clips, sound recordings etc.). There are also implications for *who documents learning* and *who has access to children's records of learning*, as digital documentation can be shared securely both directly and remotely with children's families, and parents can be encouraged to create their own observations at home, and comment on their child's classroom-based experiences. The audio-visual possibilities of digital documentation also present new possibilities for sharing assessment with young children themselves, most of whom do not yet read print.

There are currently several applications (apps) being marketed as tools for streamlining and simplifying early years assessment, and their appeal to educators is demonstrated by their increasing uptake. For example, the online learning journal ['Tapestry'](#) reports that it has been used to record more than 50,000,000 observations for over 800,000 children across more than 15,000 settings (Tapestry 2018 – figures correct as of 19<sup>th</sup> October 2018), with the ['2Build a Profile'](#) app receiving multiple awards (e.g. Education Resources Award 2016; British Educational Training and Technology Awards 2014 and 2015) and reportedly being adopted by over 100 new settings every week (2Eskimos, 2016). As just two products in a range of available software (also including, for instance, ['Seesaw'](#), ['Interactive Learning Diary'](#), ['Kinderly'](#) and ['EYLog'](#)), the growing market and increasing uptake demonstrates a significant shift towards digital formats in early years documentation practices.

Despite rapid technological changes, and acknowledgement in EYFS guidance that "settings may choose to record children's learning in any way which suits their purposes" (S&TA, 2014, p.12), official exemplification materials currently illustrate only paper-based documentation. Handbooks for practitioners advising on



observation and assessment are similarly out of date, offering only brief discussion of formats such as photographs and video (e.g. Hobart & Frankel 2004; Arnold 2015), with little mention of digital documentation software. The limited research in the area (see Boardman, 2007; Lindgren, 2012) leaves digital documentation similarly unexamined, calling for urgent updates to policy exemplification and guidance. Currently, information for practitioners is available primarily from marketing materials by software companies (e.g. 'Your Definitive Guide to Choosing the Right Digital Learning Journey' produced by software developer '[Learning Book](#)', 2016), lacking a balanced, impartial and theoretically founded basis. The need for high quality research-based guidance is highlighted particularly by practitioners' use of informal online spaces such as forums, blogs and groups (e.g. the '[On-line Learning Journal Group](#)' on Facebook, currently with around 5,000 members), which suggest there is a proactive community of digital documentation users who are seeking further information and support.

This calls for research examining how contemporary observation practices might make use of a range of tools including the digital, both to contribute to theories of learning and assessment, and to provide specific information and support to early years educators. Without such research, the risk is that the potentials of digital documentation will not be fully exploited and will be driven primarily by commercial interest rather than by child-centred educational theories such as Froebelian principles. There are also financial implications for the use of digital documentation, since software typically requires annual subscription costs in addition to hardware costs for devices like iPads. This means there is an imperative to conduct research determining the potentials and constraints of digital documentation to help schools and early years settings make informed decisions about investing.

The research project outlined in this report offers outcomes with relevance for early educators' practice and the potential to impact on children's learning, immediately in the case of staff and children in the settings chosen for this study, and more widely through offering case studies, guidance and training materials for practice, along with implications for education policy and software design. This study therefore supports the informed and principled use of new digital technologies, based in empirically and theoretically founded theories of learning which reflect Froebelian principles. The project not only has practical implications for educators but also seeks to contribute to academic knowledge and debate by bringing Froebelian principles to contemporary early years practices, offering new insights into the relevance of Froebel's work to 21<sup>st</sup> Century education.

## Project Objectives

The main objectives of this project were as follows:

1. To identify early years practitioners' perspectives on how they recognise, document and assess young children's learning, focusing on children in

multicultural classrooms who are living with disadvantage and/or are in the early stages of learning English

2. To work with participants to develop an early childhood education pedagogy of observation, documentation and formative assessment using handheld digital devices that is based on the Froebelian principles of the 'uniqueness of every child's capacity and potential' and the 'holistic nature of development'
3. To develop participatory research methods that blend the perspectives of practitioners with young children's voices.

### Research Questions

1. How do early years practitioners recognise and value children's signs of learning in multicultural classrooms, particularly children who are living with disadvantage and/or are in the early stages of learning English?
2. How can early years practitioners' observation, documentation and assessment of children's learning be enhanced to reflect the Froebelian principles of 'the uniqueness of every child's capacity and potential' and the 'holistic nature of development' using digital documentation?
3. How can participatory research methods about early learning be developed to blend the perspectives of practitioners with young children's voices?

### Methodology

#### Research Design and Methods

This one-year project worked with three inner-city early years settings, using an ethnographic case study approach which offered in-depth qualitative insights into day-to-day observation and documentation practices. An important feature of the research was its participatory design, involving practitioners as co-researchers of their everyday observation and documentation practices, involving them in identifying case studies, collecting data, offering analytical insights, and exploring the relevance for their own practice. Similarly, the research design sought to blend perspectives of practitioners with others involved in observation and documentation, including children and parents. A range of qualitative methods were therefore used, namely semi-structured interviews, informal observation (including use of video and photographs), video elicitation and open-ended questionnaires. This combination of methods enabled insights into the many 'voices' of those involved in the observation and documentation of play, whilst expanding the notion of voice by giving particular attention to multimodal communication, that is, by not

assuming that speech is always central to meaning making and by recognising that children’s learning is often expressed through silent modes and modal combinations, such as their actions, gaze, gestures and use of objects.

### Case Study Settings and Participants

Three inner-London early years settings were invited to participate based on the following criteria:

- a) high levels of diversity (social, cultural, linguistic and ethnic)
- b) situated in different inner-city areas with high levels of socio-economic disadvantage
- c) good or outstanding OFSTED results
- d) a range of types of early education provision, recognising the current diversity of the early years sector.

A further criterion was our aim to reflect the diversity of provision in the early years sector, so the final selection included an early years unit in a primary school, a freestanding nursery school and a private childcare provider. Two of the settings (Burrell Nursery School and Tree House Nursery<sup>1</sup>) were known to Cowan, and one (Hargrave Primary) was identified through UCL Institute of Education contacts. Key information about the three settings is presented in Table 1.

Setting Name	Hargrave Primary School	Burrell Nursery School	Tree House Nursery
Setting Type	Early years unit within a state maintained primary school	State maintained nursery school and children’s centre	Private childcare provider
Age of Children	3 – 5 years	2 – 5 years	10 months – 5 years
Number of Children (Approx.)	90 children across three groups	70 children across three groups	85 children across three groups
Ofsted	Good (2016)	Outstanding (2017)	Outstanding (2015)
Notes on Diversity (taken from Ofsted reports)	EAL, SEN, disadvantage and proportion of children from minority ethnic backgrounds all well above	EAL, SEN, disadvantage and proportion of children from minority ethnic backgrounds somewhat above	EAL, SEN, disadvantage and proportion of children from minority ethnic backgrounds below national average,

<sup>1</sup> All names used in this report are pseudonyms.

	national average.	national average.	but some cultural and linguistic diversity.
<b>Participating Staff</b>	Sharon (teacher) Vanessa (teacher) Jill (head of early years unit)	Dawn (teacher) Jess (teacher) Natalie (deputy head of nursery) Carla (SENCO)	Anna <sup>2</sup> (educator) <sup>3</sup> Ruby (educator) Nerida (pedagogista) <sup>4</sup>
<b>Case Study Children<sup>5</sup></b>	Aran (Kurdish/English; 3 years, 6 months) Sita (Marathi/English; 3 years, 11 months) Sushma (Telegu/English; 4 years, 2 months)	Harry (Albanian/English; 3 years, 7 months) Jemma (Nepali/English; 4 years, 4 months) Mateo (Spanish/English; 4 years, 1 month)	Aliyah (English, 4 years, 3 months) Felix (English, 3 years; 3 months) Marta (English/Italian, 3 years, 10 months)

*Table 1: Information about the 3 research settings*

Following the ethical review process outlined below, the project was described to a member of the leadership team in each setting who helped identify educators who might be willing to participate in the research. Two educators with responsibility for day-to-day observation and documentation of children were subsequently recruited as participants in each setting. Members of the leadership teams in each setting maintained some involvement throughout the project.

In each setting, three case study children were identified in discussion with the practitioners to enable close consideration of observation practices, examples of documentation and to incorporate the perspectives of children and families themselves. Criteria for the selection of these children were:

- a) children who were considered by practitioners to be representative of the particular patterns of diversity in each setting

<sup>2</sup> Unfortunately, ill health meant Anna was only able to participate in Fieldwork phases 1-2.

<sup>3</sup> The term 'educator' is used in this setting to refer to all adults working directly with children, also reflecting the fact that private early years settings are not obliged to employ qualified teachers.

<sup>4</sup> This Italian term reflects the influence of Reggio Emilia on the setting's practice. They define the role of pedagogista as: 'The person responsible for supporting the professional development of educators and staff, collaborating with them to make choices and decisions about their work with the children.'

<sup>5</sup> Age at the start of the data collection period.

- b) children who the practitioners identified as having fewer documented observations, whose learning they found challenging to document, and who they would like to focus on as part of this study.

### Ethical Considerations

The project was approved by the UCL Institute of Education Research Ethics Committee, and was guided by the BERA Ethical Guidelines for Educational Research (2018), and the National Centre for Research Methods' guidance relating to *Ethical Regulation and Visual Methods* (Wiles et al, 2010).

Voluntary informed consent was sought from all participants, including head teachers, practitioners and parents, with varying levels of involvement offered. Consent was negotiated through the use of information sheets, opt-in consent forms and opportunities to meet the researcher and ask questions. Voluntary informed consent for the children's participation was sought initially on behalf of their parents/carers, and subsequently, with parental permission, the research was explained to the children in age-appropriate terms and their own consent was sought through child-friendly means. All participants were informed that they could withdraw from the study at any stage of the project. Throughout the research process, the researchers remained particularly alert to the children's wellbeing. Children and adults' initial consent was considered provisional upon the project developing within participants' expectations, as part of a responsive ethical stance to issues as they occurred moment-by-moment in the field (Flewitt, 2005).

A central ethical consideration of the research was the creation of digital video recordings and digital images of young children, both during the research process and resulting from practitioners' digital documentation of children's learning. The material included in this report has only been shared in relation to the levels of permission given by the participants. The names of all individuals and settings have been changed, and images of participants are only shared where explicit permission has been given.

### Fieldwork

The fieldwork unfolded over 6 months, with visits to the settings by Cowan taking place to each setting roughly every month, and one visit to each setting by Flewitt.

*Phase 1 Fieldwork* (1 month) began with one-to-one semi-structured practitioner interviews and observations of daily practice in the settings to gain an overview of early years educators' beliefs and practices about observing and documenting learning in children's play. This phase helped establish what gets recognised and valued as 'signs of learning', and explored the spectrum of current and possible

future forms of documentation in each setting, from traditional paper-based observations to digital media.

*Phase 2 Fieldwork* (2 months) focused on case studies of three children in each setting, selected in consultation with practitioners. Semi-structured group interviews were conducted with practitioners and members of the leadership team about each case study child and the children's documentation was considered. The case study children's play-based learning in a range of contexts was observed (e.g. on their own, with their peers, in adult-led situations). Parents of case study children completed a questionnaire regarding their perspectives on their child's documentation. To seek the children's perspectives, the researcher shared their documentation with them, and video-recorded these interactions to note their responses in multiple modes, including and beyond language. This phase therefore looked at specific cases of observation and documentation, and supported practitioners to reflect on learning that they felt was difficult to capture, giving rise to suggestions for the use of digital technologies in Phase 3.

*Phase 3 Fieldwork* (1.5 months) involved giving each setting an iPad Mini and asking them to video record instances of the case study children's play, focusing on the signs of learning that were identified as being 'hard' to document in the prior research phases. The video recordings were then watched back jointly by the researcher and practitioners, and these review sessions were recorded. This participatory approach gave practitioners the opportunity to formulate their own lines of enquiry and to be involved in data collection and analysis, with the video stimulating reflection on aspects of their understanding that might typically be hard to express (Reavey, 2011).

*Phase 4 Fieldwork* (1.5 months) During this final fieldwork phase, semi-structured group interviews were carried out with practitioners and leadership staff. This included the researcher sharing emerging findings of the project and asking the practitioners for their responses. The interviewees were also prompted to reflect on their observation, documentation and assessment practices in light of the research project, and to consider how their observation and documentation systems (digital and non-digital) might change to respectfully recognise all children's multiple and varied signs of learning.

## Analysis

Data collection and analysis was shaped by a framework that brings Froebelian principles to multimodal social semiotics (Kress, 2009; Bezemer and Kress, 2016), seeking to notice and make visible children's many and varied signs of learning, including their use of language(s) and silent signs of learning (e.g. gesture, gaze, movement, use of objects). A multimodal approach was particularly apt for researching classrooms with high levels of linguistic and social diversity due to its

focus beyond language, and reflects Froebelian principles through its focus on children's multiple capacities and the holistic nature of meaning-making.

Data Analysis was ongoing during and after the data collection phase. All interview data was transcribed and analysed thematically, supplemented by observational fieldnotes, photographs, video recordings and examples of documentation. The video recordings of the case study children were analysed using aspects of multimodal analysis, focusing attention on modes such as action, gesture, gaze, mark-making, use of objects, speech and writing as signs of learning (Jewitt, 2011; Cowan, 2014a). The video generated by the practitioners was re-viewed jointly with the researcher to elicit practitioner reflection on their own observational practice, and to identify practitioners' views on the potentials and constraints of video tools (Jewitt, 2011).

Analysis across the entire data set generated key themes in relation to the research questions, namely what does and does not get recognised as 'signs of learning' in early years classrooms. Findings were compared and contrasted within and across the three settings through use of a tabular analytic 'matrix'. Throughout the research, the practitioners were encouraged to contribute to and comment on in-progress analysis to ensure that the findings respectfully included their views and perspectives. Regular meetings between the researchers supported the sharing of interpretations and clarified analytic insights.

The findings of this study are presented below, organized by the main themes that emerged from analysis. Whilst it is not possible to generalize widely from this small-scale qualitative enquiry, the examples and discussion below offer rich insights into observation and documentation practice, with relevance for researchers, practitioners and designers of digital documentation.

## Findings

The findings are presented in two parts. Part I responds to the first research question, which sought to identify practitioners, parents and children's perspectives on existing observation and documentation practices. Part II responds to the second research question, working with practitioners to develop approaches to observation and documentation practices using handheld digital devices. The third research question, relating to developing participatory research approach described above, is interwoven throughout both sections.

### Part I: Existing Documentation Practices and Perspectives

The three settings involved in this study reflect the diversity of the early years sector, spanning provision including an early years unit in a primary school, a freestanding nursery school and a private childcare provider. They also demonstrated a range of different approaches to observing and documenting

learning, reflecting the EYFS guidance that settings can choose how they record observations (S&TA, 2014). The diversity of approaches, and the differing ethos that underpinned each approach, demonstrates that the purposes of documentation, including *who* and *what* documentation is for, varies from setting to setting. To illustrate the diversity of approaches, and to give context to the discussion of findings that follows, the observation and documentation practices in each setting are first outlined.

### Hargrave School

The early years unit of this large state-maintained primary school occupied an annex to the main building, where around ninety children were based in a series of interconnected classrooms equipped with continuous provision and access to an outdoor area. Children of nursery age (3-4 years old) and reception age (4-5 years old) shared the same space full-time, with daily activities consisting of whole-group sessions where nursery and reception children were mixed, small-group sessions where nursery and reception children were separate, and time for both age groups to engage in free flow play indoors and outdoors. The teachers explained that the reception children had more adult-led sessions (such as phonics and maths) and less free play in preparation for transition to Year 1. The decoration of the space, as can be seen in Figure 1, emphasised formal elements of the EYFS such as phonics, number and early writing. In this way, the ethos of the setting seemed to be influenced by the primary school of which it is a part.



Figure 1: Special Books in Hargrave School



The setting was staffed by the leader of the early years unit, three teachers, three nursery nurses and a number of other support staff such as teaching assistants. Keyworker responsibility, which included compiling documentation for each child, was divided so that teachers took responsibility for reception children, with nursery nurses taking responsibility for the nursery children, and the early years unit leader overseeing practice and taking responsibility for compiling assessment data.

As the children engaged in play, whether free-flow or adult-led, adults would write short observations about the children's learning and take photographs for the children's 'Special Books' which formed the basis of the setting's formative assessment. The teacher Vanessa explained that the staff are required to make judgments about the children to "assess their levels" against the EYFS Profile, which they would do by drawing on their knowledge of the children and observations recorded in their Special Books.

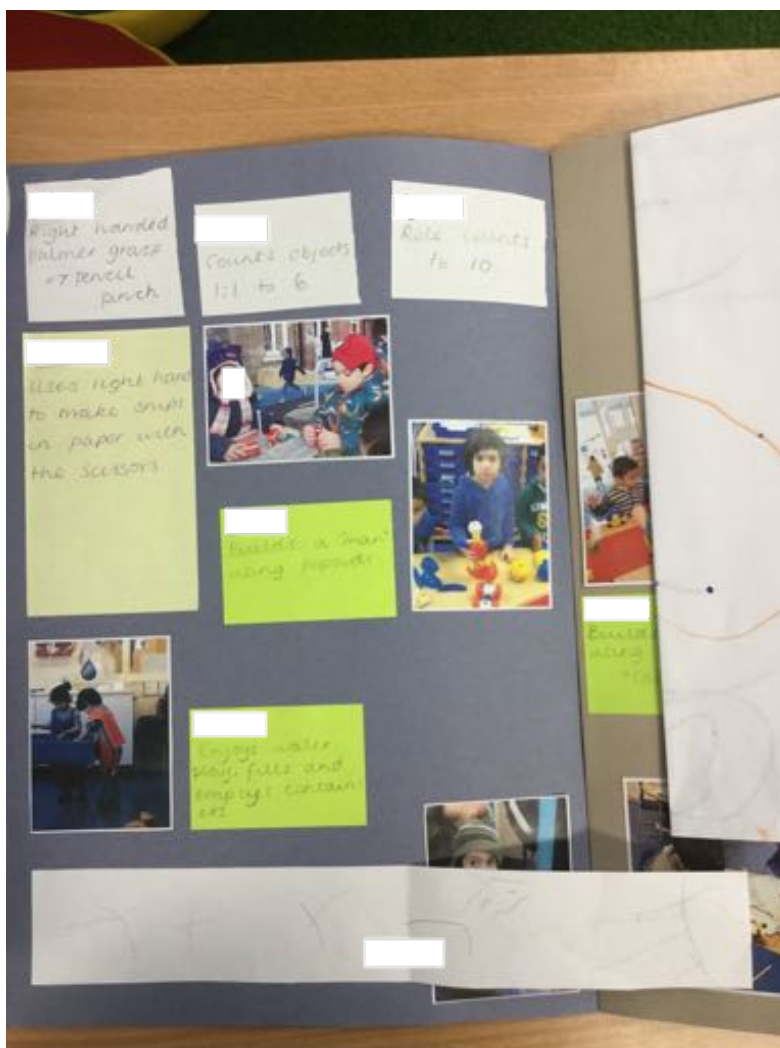


Figure 2: Aran's Special Book

The Special Books were individual A3 paper scrapbooks, featuring the child's name and photograph on the front, and containing observations and other material relating to things the child had done or created in the early years unit. This included drawings, paintings, collages etc. (described by practitioners as the child's 'work') alongside photographs of the child engaging in activities. The Special Books included notes written by the practitioners, which were usually a brief summary of what the child had done, often implicitly related to an aspect of the EYFS (e.g. Figure 2 – 'Aran rote counts objects 1:1 to 6').

The Special Books were stored on high shelves in areas of the classroom where teachers kept other paperwork (see Figure 1), out of reach to children and parents. The books were not given to parents or children to take home, due to concerns about the books getting lost or damaged, as the 2<sup>nd</sup> class teacher (Sharon) explained, "We don't risk it". However, once every half term the early years unit would hold a 'show' inviting parents to visit and see something the children had been doing in the setting (e.g. learning a rhyme, or re-telling a story), with the Special Books out on display for children and parents to look at together. Whilst all parents were invited to these events, work and other commitments meant not all parents were able to attend. At the end of the reception year, parents and children were given their Special Book to keep.

With multiple staff writing observations and taking photographs of the children, the early years unit had a system of labeled containers where staff could place observations of children for the keyworkers to later put into the Special Books. In this way, all staff contributed to the Special Books whilst keyworkers took overall responsibility for compiling them. The staff admitted that it was difficult to keep the Special Books up-to-date, with new observations being generated every day.

The use of Special Books was an established part of practice in this early years unit, partly informed by tradition within the setting and partly influenced by practice they had seen at other settings. As Vanessa explained, "When I came here they were already doing this [using Special Books]" and she explained that when visiting other schools for moderation meetings, "everywhere we've been they use some kind of book to put work in".

The setting had previously trialed the digital learning journey software '2Simple: 2Build a Profile' to compile observations of the children digitally, but the staff had mixed feelings about its effectiveness. Vanessa lost several observations due to a problem with saving them and explained, "I just felt really disheartened by it all, and then I thought I'd just go back to this [Special Books] because I know it works". Sharon shared more positive experiences of '2BuildaProfile', suggesting it made it easier to share observations between team members and created neater documentation than handwritten observations. However, ultimately the team felt "it wasn't really worth the money" and had decided to revert to paper-based documentation. Sharon continued to sometimes type and print out her observations, concerned about the legibility of her handwriting, and was

experimenting with other digital tools such as using an audio recorder to reflect on her use of questioning and to record the children's speech.

### Burrell Nursery School

State-maintained Burrell Nursery School occupied the ground floor of an old Victorian house, with family rooms for the children's centre on the upper floors. The nursery offered provision for around 70 children, some attending full-time and some attending half days or a combination of sessions. The majority of children attending this setting were of nursery age, 3-4 years old, although a few children were delayed entry to reception and there was a small group of two-year-olds eligible for funded nursery places. All children shared the same space, a series of interconnected classrooms with continuous provision and free-flow access to the outdoors. The morning and afternoon sessions ended with activities in small groups (e.g. songs, stories), while most time in each session involved free-flow play and opportunities for children to engage in adult-led experiences. The organization of the space, and the types of provision on offer, gave the children a high level of autonomy. For example, a child-sized woodwork bench, with real hammers and nails, was routinely available to all children. The setting identified itself as historically having a Froebelian ethos, with a prior head teacher and one of the current teachers (Jess) having been Froebel trained. More recently, members of the leadership team had been involved in a learning group relating to Reggio Emilia and enquiry-based learning.

The setting was staffed by three teachers (one with main responsibility for the two-year-olds), as well as nursery nurses and teaching assistants, overseen by the head of the nursery, deputy head and SENCO. Teachers and nursery nurses took keyworker responsibility for individual children, which included completing assessments, writing reports and meeting with parents. All staff would write short observations about the children's play during each session, and these would be compiled by the keyworker into a folder used for formative and summative assessment. This folder consisted of adapted EYFS statements, where relevant written observations would be attached as evidence of particular aspects. The children's records were stored in the upstairs office area of the setting, occasionally shared with parents and during parents' evenings, but primarily used for meeting EYFS assessment obligations, and given to the child's school when they left nursery.

In addition to the assessment records, Burrell Nursery School's documentation consisted of 'Memory Books'. These A3 paper scrapbooks were similar to those found in Hargrave School, but used in different ways. The front cover of each book included the child's name and a photograph of the child with their family, and the inside page of each book included the following description:

*Dear parents and carers,*

*This is your child's Memory Book. It belongs to them and is meant as a way of collecting thoughts and ideas that are important to them. It could be*

*a leaf that they have found on the way to school, or a skill that they have just mastered such as climbing to the top of the climbing frame. It could be something they have made and taken a photograph of, or a picture of a person or a place that is important to them. Every child will use it differently. The adult role is to record the child's voice, gestures, and facial expressions at the time of entry and whenever the child is revisiting their book.*

*If there is an experience, achievement or object that they would like to include from home, please support them to do this. This should prove a powerful link between home and school.*

*Please take time to sit and share it with your child, listening to their thoughts and recording them if time allows.*

*We have found Memory Books to be a wonderful way of finding out what makes each child 'tick', and a valuable way of ensuring children's voices are heard when adults are planning and observing children. Enjoy.*



Figure 3: Mateo's Memory Book

During the nursery sessions, the children were supported to add to their memory books, including taking photographs with a designated children's camera, which they could print on a mini printer located at child-height, and were encouraged to stick these into their book in whatever way they wished. The adult would usually write a small explanation alongside, often scribing the child's own words, or describing their facial expressions and gestures. For example, in Figure 3 Mateo has stuck in photographs of chicks that had hatched in nursery, and the teacher has recorded his speech and laughter when revisiting the Memory Book several months later. As Jess explained, "Most schools you go and see a learning journey that's quite adult led, and this [Memory Book] was really that we wanted the child to use this as

their voice”. The Memory Book also fed into assessment, with the records sometimes indicating ‘See Memory Book’.

The location of the Memory Books supported the children’s autonomy in accessing and adding to them. They were located in low-level containers in the nursery classrooms, accessible to the children as part of their continuous provision, and to parents at drop-off and pick-up time (see Figure 4). Unlike the assessment folders, which followed the child to school, the Memory Books were given to the child at the end of their time in nursery. Whilst parents were encouraged to look at their child’s Memory Book with them, the staff at Burrell Nursery had similar concerns to Hargrave School about books being taken home, with Jess explaining, “We have had some disasters where a book’s gone home - it’s been nearly full, and it’s not come back”.

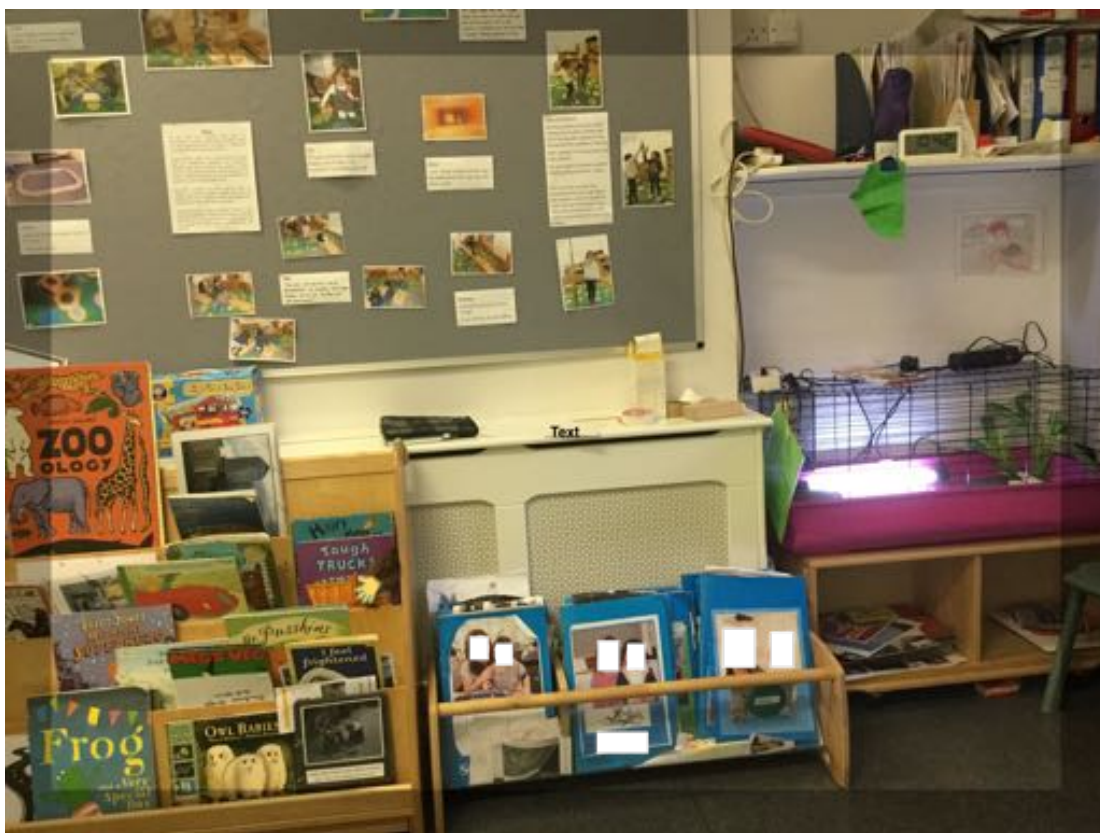


Figure 4: Memory Books at Burrell Nursery

Burrell Nursery’s ‘Memory Book’ approach had been developed over several years, influenced by the setting’s Froebelian legacy and their interest in Reggio Emilia, leading them to seek systems which emphasised the child’s voice and supported independence.

As with Hargrave School, the setting had been put off using digital forms of documentation, such as online learning journeys, after a colleague’s experience of losing observations.



Tree House Nursery

Tree House Nursery provided private childcare for children aged 10 months to 5 years in two converted buildings on a residential street, with approximately 85 children divided into three groups by age. This study focused on the group of children aged 3-5 years, who were based in a large open-plan upstairs room in the main building. The nursery offered extended opening hours, with the routines of the day based around mealtimes. Each session included times for whole group activity or discussion, followed by free flow play opportunities and a range of experiences supported by adults, including ongoing long-term projects. Children had timetabled (rather than free-flow) access to an outdoor area on the ground floor. The setting took particular inspiration from Reggio Emilia preschools, including having an 'atelier' studio space adjacent to the main room, which was used to develop the children's project-based enquiries emerging from their interests.

The setting was staffed by a number of educators with various early years qualifications, including an artist-educator 'atelierista' and a 'pedagogista' who supported the educators' pedagogical direction and development. As in the other two settings, Tree House Nursery used a keyworker system whereby all staff supported and observed all children, with keyworkers taking responsibility for individual children. Educators received 'profile time' out of the room during the sessions in order to document experiences and projects they were leading.

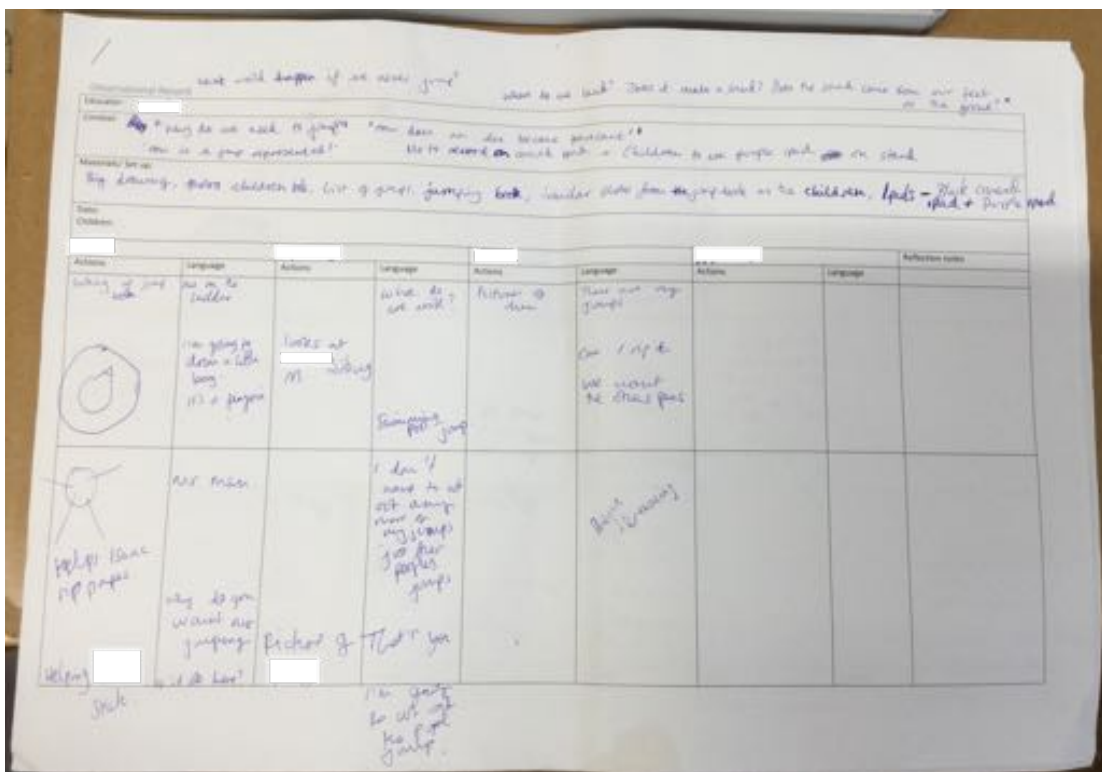


Figure 5: Observation Grid Used at Tree House Nursery

The screenshot displays a digital profile for a child named Felix. At the top, there is a navigation bar with a logo consisting of a grid of colored squares. Below the logo, the profile title "Jumping and hopping" is prominently displayed. The profile includes a video player showing a young child in a colorful, patterned sweater standing on a trampoline in a room with large windows. Below the video, there is a "Notes" section with a yellow background, containing several paragraphs of text. The text describes the child's play with a light box, their attempts at jumping, and the educator's reflections on the child's understanding of jumping and hopping. The profile also features sections for "Early Years Foundation Stage" with sub-sections for "Physical Development" and "Mathematics", each containing specific learning objectives and achievement levels. A "Comments" section is visible at the bottom of the profile.

**Jumping and hopping**

Authorised by [redacted] on 27 Nov 2019 11:21 AM  
Reviewed by [redacted] on 27 Nov 2019 11:21 AM

Notes

[redacted] is playing at the light box area, he begins to jump, maybe because we have done jumping experiences there in the past.

He crouches down and bounces.

[redacted] "this is a froggy jump"

[redacted] "does anything else jump?"

[redacted] "George can only do froggy jumps"

[redacted] "When frogs, on each leg he counts (1-4):

[redacted] "is hopping jumping?"

[redacted] "does and thinks "yes?" he does not seem to be sure if hopping is jumping or not, maybe because it is only with one leg, but he is still going through the air like a jump.

Reflection: [redacted] explores different types of jumping, these videos will be used in the jumping project to get the children to think about what makes a jump and what things can jump.

**Early Years Foundation Stage**

**Physical Development**

**Moving and Handling**

**Level 1 Achievement**

- ✓ Shows focus and self-control and confidence in a range of ways such as sitting, standing, crawling, walking, running, jumping, skipping, sliding and balancing.
- ✓ Can stand independently on one foot when asked.

**Mathematics**

**Numbers**

**Level 1 Achievement**

- ✓ Uses action (counting) names and number language confidently.
- ✓ Uses action (counting) names accurately in play.
- ✓ Recites numbers in order to 10.

**Comments**

Add comment

Figure 6: Felix's Tapestry Profile

Unlike the other two settings in this study, Tree House Nursery used digital documentation software rather than paper scrapbooks. As the children engaged in play, whether free-flow or at an experience supervised by an adult, staff would use iPads to take photographs and videos, which were then added to observations on the online learning journal 'Tapestry'. Written notes were also sometimes recorded in notebooks or observation grids (see Figure 5) then typed up into Tapestry later. Tapestry invites educators to 'tag' individual children in observations and select links with statements from the EYFS, for assessment and 'tracking' across cohorts of children. Tapestry dictates the overall design of the documentation, including the positioning of photographs and videos as thumbnails at the top of the observation, followed by written notes underneath, with links to the EYFS at the bottom of the page, followed by a space for parent comments (see Figure 6). Subscriptions to Tapestry start from £53 per year for 12 children up to £600 per year for 400 children.

Observations in Tapestry can be viewed by any staff member with permitted access, and if parents have registered to receive Tapestry updates they receive an email whenever a new observation featuring their child is added. Parents and other authorized family members are able to view all observations featuring their child, add observations of their own, and to comment on observations created by the nursery.



Figure 7: iPads in Tree House Nursery

The iPads were readily accessible to the educators to enable them to record observations on-the-go throughout the sessions (see Figure 7). Educators sometimes involved children in taking photos or video themselves (see Figure 8) and looked at these together on the screen. The Tapestry profiles were not readily made available to the children, although sometimes documentation from Tapestry (especially photos) were printed out for display in the setting. At the end of the child's time in the nursery, a printed PDF version of the child's Tapestry profile was given to families, consisting of writing and photographs (no videos).





Figure 8: Aliyah using the iPad

When discussing the use of digital documentation at Tree House Nursery compared to her previous experience of using paper-based systems in another early years setting, Ruby commented that she felt it saved considerable time and money. However, the staff at Tree House Nursery also reported they were looking for a digital documentation system that was more aligned with their Reggio Emilia ethos, and that they had made several careful choices about how to use Tapestry to reflect their approach. For instance, in Tree House Nursery, Tapestry observations tended to be based on group experiences rather than individual ‘snapshot’ observations, often featuring several children then linked to individual children’s profiles. The observations also included the educator’s own reflections on the learning experience, which they explained was to support depth of enquiry and help their ongoing planning (see Figure 6). The setting was also using Tapestry to document longer-term project-based enquiries, which they did by creating a ‘child’ profile named after a project that could be tagged every time an observation was related to the project. As Nerida reflected, “The thing is that we are using [Tapestry] in a different way than most settings are using it”.

### *Differences and Similarities in Observation and Documentation Practices*

These examples of observation and documentation practices highlight that all three settings believed it was important to observe and document young children’s play, but that there were significant differences between settings in terms of:

- the form the documentation took (paper-based or digital)
- when the documentation was made accessible to others (regularly accessible, online access, or occasional invited access)
- who was invited to contribute to it (parents, children or only practitioners).

These differences in day-to-day practice highlight differences in *who* and *what* observation and documentation were considered to be primarily for, with the

practitioners' preferred documentation formats further shaping *what was recorded* and *how it was used*.

Across all three settings, the practitioners expressed beliefs that documentation was valuable for multiple audiences. For instance, Nerida explained, "The purpose [of documentation] is to help us, the parents, and the children, and everyone involved in the process, to show them the learning, that is the main goal". Similarly, Vanessa said, "We spoke about this ... about who these books are actually for. I mean are they for us, for our planning, for our assessment, are they for the children, are they for the parents? And actually they are kind of for *all* of that." Whilst all the settings considered these intertwined purposes, each seemed to emphasize a particular aspect.

In Hargrave Nursery, the influence of the **school** seemed particularly to shape observation and documentation practices, indicated in the discussion about the usefulness of the Special Books for 'doing children's levels' and the snapshot observations which tended to relate to particularly formal aspects of the EYFS, such as counting and recognizing colours. The location of the documentation on a high classroom shelf, and the limited, teacher-controlled opportunities for parents and children to view the documentation, positioned it as the teacher's property. Consequently, children and their parents only rarely contributed to the Special Books.

In Burrell Nursery School, the Memory Books centrally emphasized the **child**, being predominantly created *by* and *for* the children themselves. This setting foregrounded the children's autonomy and agency in the documentation process, with the practitioners describing the Memory Books as a 'voice' for the children and an expression of their different personalities. For instance, referring to when the children finally left the nursery, the class teacher Dawn said, "It's just a lovely thing to give the child to take home and I'm sure the children feel that it's quite precious because they did it. It's theirs". The foregrounding of the child's agency in their documentation was also signified through the location of the Memory Books in the classroom, at child-height and continuously accessible, and through the support they were given by adults and resources (e.g. child's camera and mini printer) that enabled the children to make suitable items which they could choose to add to the documentation.

In Tree House Nursery, the role of the **parent** was emphasized to a greater degree. Here, the practitioners mentioned the ease with which observations could be immediately shared using the Tapestry app system. They valued the benefits this had for communicating with busy parents and helping reassure parents that their children were happy in the setting. For instance, Ruby said, "[Felix's parents] requested more observations ... They wanted to see more because I think they felt he would be crying all day and they didn't know what was going on, so Tapestry allowed us to show them very quickly that that wasn't the case". The location of the iPads in the nursery and the design of the Tapestry system meant that their personal documentation was not particularly accessible to the children, unless parents chose

to share Tapestry with the child at home. In this way, parents were positioned as the main consumers of the documentation.

Whilst these differing emphases were identified through the settings' day-to-day practices, it is worth reiterating the interconnectedness of the three aspects above. For instance, Tree House Nursery also emphasized the importance of their Tapestry observations for reflection and planning, Hargrave School spoke about the joy of parents taking home their child's Special Book at the end of reception, and Burrell Nursery drew upon the content of the Memory Books when compiling their assessment records for the institutional setting. In this way, the study found that practitioners across the settings recognised the intertwined purposes of documentation, although one aspect tended to come to the fore in each setting. It is possible that these differences in emphases were partially shaped by the setting type, with: the early years unit within a primary school feeling the expectations of the school more acutely; the private childcare provider being particularly sensitive to the expectations of the fee-paying parent; and the nursery school drawing on its Froebelian roots as a setting where the child's voice and rights are given predominant emphasis. Although this is a small-scale study, future research might further examine how different types of provision may influence approaches to documentation.

In addition to these differences, further themes were identified across the settings. For example, all the practitioners were positive about the benefits of observation and documentation, stating that it was a way of seeing progress that was individual to each child, enjoyed by parents and also resulted in a valuable record of the child's time in the setting. However, all settings also emphasized that documentation was extremely time-consuming, whatever the format, and there were shared concerns about a balance between observing at a distance and joining in with children's play 'in-the-moment'. All three settings identified practical challenges relating to equipment for observation. For instance, they found it challenging to have the right equipment easily at hand at the right moment (e.g. pens, notebooks, iPads), especially when observing play outside, and particularly if they might also need their hands free in order to help children.

Another shared concern that emerged was a tension between the EYFS assessment requirements and their own approaches to observation and documentation. All three settings perceived the value of documentation to go beyond summative assessment, yet this featured as a consideration in all settings, and prompted some resistance. For example, Vanessa stated, "We use this formative assessment to inform our summative when we level them, and I don't like doing that at all. I just feel really bad. I feel like we're boxing the children." There seemed to be particular frustration that the EYFS did not give value to some of the most remarkable and surprising moments of children's learning. For instance, Ruby said, "I find that with observations that are really, really exciting, those are the ones that are hardest to link [to the EYFS]" and Anna similarly said, "There are of course more things that I could say, but it's not in the EYFS". Vanessa felt that the EYFS therefore risked confining what practitioners choose to observe or document, stating, "I don't really

like the idea of this developmental assessment. You know, tick box twenty-two to thirty-six, because that's not really how children learn ... It can confine what you are looking at ... The children might have made some amazing thing, but it's like, 'Can you count how many blocks are there?' Ok, not that. So yeah, I'm not a fan of summative assessment at all". This suggested that across the settings, child-centred observation and documentation of play was often in tension with EYFS assessment requirements.

To summarise, each setting had developed its own distinct approach to observation and documentation shaped by a number of factors, such as the ethos of the setting, trial and error with paper-based or digital formats, time and assessment requirements. All three settings saw observation and documentation as worthwhile and valuable, and as being jointly for the benefit of teachers, parents and children, yet the day-to-day practices (such as the storage, access arrangements and format of documentation) meant that different audiences were given different emphases, suggesting that day-to-day practices shape *who* and *what* documentation is for. There was also evidence of resistance against summative assessment, and frustration at the sometimes narrow lens of the EYFS.

### *Parent Perspectives on Documentation*

This project aimed to explore not only the perspectives of early years settings towards observation and documentation, but to blend practitioner voices with others involved in young children's learning. For this reason, parents in each setting were asked their views about their child's documentation. This was achieved through open-ended and focused questionnaires with the parents of the nine case study children. In Hargrave School and Burrell Nursery, Cowan went through the questionnaire with the parents, which enabled clarification of the questions, particularly where language was a potential barrier, and the child's Special Book or Memory Book was referred to during these sessions to give context to the questions and to prompt responses. In Tree House Nursery, it was not possible to meet with the parents due to their work schedules, so the questionnaires were given to parents to take home, which resulted in fewer responses. In total, all three parent questionnaires were completed at Hargrave School and three at Burrell Nursery, but only one was received from Tree House Nursery. Whilst the number of parents consulted was relatively small, the information they yielded brought an important additional perspective to the observation and documentation practices encountered in the three settings.

Like the practitioners, the parents were highly positive about the children's documentation, regardless of the different forms they took. The parents seemed particularly to value documentation as a means of keeping them informed and providing a lasting record of their child's time in early education, with Aran's mother saying, "I like everything I see inside the book. I feel happy to know what he has been doing in school ... and when the book is given to the parents at the end of the year, it makes joy for the whole family". The importance of documentation for

parents was emphasized by the parent who responded from Tree House Nursery, who wrote, "I think it's a great system for bridging the gap between parents and nursery. It helps keep us in the loop". This echoes the observational findings in Tree House Nursery, where documentation was often produced with parents in mind, using Tapestry to support the immediate sharing of observations, rather than, for example, using this format to encourage children to contribute to their own documentation.

Parents also emphasized the benefits for the child, both currently and in the future, with Aran's mother saying that he feels pride when he looks at the things in his Special Book. The worth for the child was similarly emphasized by parents at Burrell Nursery, with Jemma's mother saying she liked the fact the Memory Book was made by Jemma herself, and suggesting Jemma will be interested to look back at it when she is older. Mateo's mother said he enjoys 'reading' his Memory Book himself, and said she liked it because it helps him remember the things that he has done. This reflects the suggestion that in Burrell Nursery, documentation was primarily co-produced with and for the child, supported by the accessible scrapbooks and available resources for children to add to their Memory Books themselves.

There were also comments from the parents suggesting that they saw documentation as important for supporting teaching and learning, which was emphasized particularly by the parents at Hargrave School. For instance, Aran's mother thought it was important for school to document Aran's "progress" and "development", and Sushma's mother suggested documentation was useful for the teachers to check what she was learning. This reflects the suggestion that in the early years unit at Hargrave School, documentation was influenced by the broader school ethos and that parents were aware of documentation as related to assessment.

Two parents shared thoughts relating to summative assessment and the EYFS, showing skepticism about the role of documentation in assessment. Felix's mother wrote, "I never look at the EYFS stuff at the bottom of the page [on Tapestry]. They are usually (always!) the same and I hope the staff don't have to spend too long inputting all that". Similarly, Sita's father said he liked that the focus in the Special Books was on "play rather than studies". These comments suggest that parents shared the practitioners' resistance to summative assessment, and that they tended to see documentation as serving a broader purpose, including recognizing the child's individuality, keeping parents informed about what their child was doing in the setting, supporting children to reflect on their learning, and offering a lasting keepsake for the child and the family.

When the parents were asked how often they looked at their child's documentation, this seemed to be strongly influenced by the format and practices established in the different settings. For instance, in Hargrave School the parents tended only to look at the Special Books at invited 'shows' every half term, with some parents having never seen the documentation if they were unable to attend. In Burrell Nursery, the parents said they occasionally looked at the Memory Books at drop-off and pick-up

time, whereas in Tree House Nursery Felix's mother said she looked at observations every day that her child attended, particularly valuing the immediacy of the updates: "I love seeing photos of him at nursery, seeing what it is he's enjoying doing that day." This suggests that the form of the documentation affects how often parents view their child's documentation, with digital forms being more accessible.

Whilst parents across the three settings were extremely positive about their child's documentation and said they enjoyed looking at it, they did not tend to add to the documentation themselves. In Hargrave School, parents suggested they had not been asked to or were not allowed to. For instance, Aran's mother said, "I never been asked to add comments or pictures to the book. I guess that's because the book is meant to tell us about what the child is doing in school, not in any other place!", whereas Sushma's mother said she would like to add photos and things from home if she were allowed. In Burrell Nursery, despite the introduction page on the Memory Books asking for parent contributions, some parents said they did not know they could add to the book, or said they did not have time at pick-up or drop-off to do this. The format of Tapestry meant observations in Tree House Nursery were shared with parents digitally, with options for parents to upload material and comment on observations built into the software's design. However, the parent at Tree House Nursery who responded said she did not feel comfortable doing this "because it seems like the comments then get sent out to all the other parents, which would be irritating for them", and the staff at Tree House Nursery said it was a minority of parents who added observations or commented on them. It therefore seems that whilst the parents across the settings appreciated their child's documentation, they were not themselves contributing to it, regardless of the form it took. When sharing this finding with the practitioners, Ruby and Nerida felt parents were reluctant to contribute due to a fear they would seem to be 'showing off', suggesting that this could be overcome through ongoing discussions between settings and parents about the purposes of documentation.

When the parents at Hargrave School and Burrell Nursery were asked how they would feel about the Special Books or Memory Books being digital, there were mixed responses. For example, Mateo's mother said it would be better as she could look from home, whereas Jemma's mother was worried a digital version might crash or go missing, saying she would prefer a physical copy to keep. Harry's mother felt digital and non-digital documentation offered different potentials, with paper-based formats being better for keeping things like arts and crafts, and video being better for capturing activities like singing, dancing and talking. In this way, the parents showed awareness of several potentials and constraints of digital documentation.

To summarise, the parents who shared their perspectives in this research were highly positive about their children's documentation, although the different practices and formats in each setting shaped how often they looked at it. Across all the settings, there seemed to be reluctance from the parents to add to documentation themselves, suggesting that if this is something settings wish to encourage, it requires particular attention, and that digital documentation should

not be presumed to generate more parent input just because this is a feature of the software.

### *Children's Perspectives on Documentation*

As the documentation practices in the settings centrally concerned the children, it was important to include their perspectives as part of this research. Seeking children's views in appropriate and meaningful ways requires approaches that move outside of traditional research methods. For this reason, interviews and questionnaires were not considered appropriate, due to their particular reliance on language. Recognizing that young children communicate in a wide variety of modes in addition to speech, the children's perspectives on their documentation were sought through inviting the case study children to look at their documentation with the researcher, and video-recording these sessions. In this way, the children had their documentation to prompt responses, and the video-recording enabled careful attention to the multimodal nature of these moments, such as use of pointing, smiling, page-turning and gaze.

The children were given opportunities to stop these consultation sessions at any time, and/or to continue for as long as they wanted. Across the three settings, the average time the children spent looking at their documentation was 18 minutes, with the shortest session being Mateo who spent 4 minutes looking at his Memory Book, and the longest being Aliyah who spent 26 minutes looking at her Tapestry profile. Notably, the children in Tree House Nursery spent much longer looking at their documentation (an average of 20 minutes each) compared to the children in Hargrave School and Burrell Nursery (an average of 8 minutes each). This was perhaps a sign that the children found the iPad interface or inclusion of videos particularly engaging, or may have been due to the fact that this documentation was not normally shared with the children in Tree House Nursery, so was a new and particularly interesting experience.

All the children were highly tactile with their documentation, particularly when it was paper-based (e.g. stroking fingers across pictures and artwork, turning pages back and forth, rearranging pictures that had come loose). The children in Burrell Nursery were particularly confident in their handling of their Memory Books, turning the pages independently and offering extensive commentary (see Figure 9). This seems to reflect the fact that the Memory Books were created by them, were routinely available to them, and so were highly familiar. In Hargrave School, the children were much more tentative in their physical interaction with the documentation, needing more prompting to turn the pages themselves and to discuss the material (see Figure 10). A similar hesitation was initially found amongst the children at Tree House Nursery, who seemed to be waiting for permission to touch the iPad screen to access the observations on Tapestry. Their confidence seemed to grow throughout the session as their independent use of the tablet was encouraged, but certain aspects of the Tapestry interface design continued to present challenges. For example, playing a video was a two-stage process that



required pressing a play icon followed by a small button saying 'Play Video'. Because of features such as this, which relied on reading (as yet unfamiliar) written labels and pressing very small buttons, Tapestry was not particularly child-friendly in its design, and this may be because it was created primarily for teachers and parents.



Figure 9: Mateo sharing his Memory Book



Figure 10: Sushma sharing her Special Book



Regardless of the different documentation formats across the settings, the children seemed to get pleasure and excitement from seeing themselves, demonstrated in many instances of smiling, pointing and repeated comments such as “That’s me!” There seemed to be a sense of pride as the children looked through their documentation, often demonstrated through subtle exchanges of glances and smiles between the children and the researcher, suggesting the children were enjoying seeing themselves and sharing this record (see Figure 11). Sometimes they verbalized this enjoyment. For instance, when asked how she felt about her Tapestry profile, Aliyah said, “Happy ... Some of the pictures are going to go to my mummy. I’m going to show my mamma”.



Figure 11: Aliyah sharing her Tapestry Profile

Often the children would add a comment and direct attention to the things they had been doing, for instance Sita saying excitedly, “Look! I was in the garden”, Jemma saying, “That’s me – I’m happy”, and Sushma quietly pointing and naming the activities she had been photographed in, “Cutting, building, dancing”. In this way, regardless of the format, it seemed that documentation was a valuable device for the children to recall and reflect on their learning, suggesting that there could be benefits for making children’s documentation more readily and easily accessible to them.

In Burrell Nursery, the Memory Books seemed to prompt extensive talk, particularly from Harry who was often quiet in the nursery but spoke at length (in a mixture of English and Albanian) about various experiences and interests including his mummy, birthdays, cake, brushing teeth and going to the doctors. Aran was much quieter as he looked at his Special Book, but he singled out one particular photograph, pointing

to himself wearing a Spiderman hat and said, “That hat is mine” (see Figure 2). The significance of this moment became clear after talking to Aran’s mother. She explained that she had made this hat herself after learning to knit at a parent workshop organized by the school, and that it was particularly special to Aran. In this way, documentation can be an important tool for recording things that are seemingly small but highly significant to children. Incidents such as this also point to the importance of including parents’ perspectives in children’s documentation in order to gain important insights into children’s experiences and worlds beyond the early education setting.

To summarize, the children took great pleasure from sharing their documentation and spent extended periods looking at it. In the settings where the documentation was not routinely available to the children, they appeared more tentative, and needed encouragement to turn pages or to open observations themselves. The Tapestry interface presented particular challenges to the children’s independent access of their documentation, as this system is primarily designed for parents and teachers. However, regardless of the format, all the children showed interest in their documentation and pride in the things they had done. This finding suggests that documentation can be particularly important to children, as a way of making their learning visible and providing opportunities for them to reflect and share their learning with others. This makes a case for documentation to be made regularly and readily available to children themselves, not only to adults, and for digital documentation to be made more user-friendly for children.

### *Challenges in Recognising Signs of Learning*

Having examined and discussed the day-to-day observation and documentation practices in the three settings, it was necessary to look in greater depth at documentation itself through case studies of particular children. This helped explore with the practitioners what does, and does not, get recognised as signs of learning in their settings. In order to do this, the practitioners were asked to reflect on children they typically found they had fewer observations of, with three children in each setting then being selected as case studies. From their discussions of the children, and their reflections on why it was harder to get observations on some children than others, certain traits and characteristics emerged. Across the three settings, children with fewer observations tended to be described as having some of the following characteristics:

- Quiet
- Shy
- Having limited English
- Spending lots of time outdoors
- Being highly physical/running a lot
- Shying away from group activities
- Not producing ‘work’ (drawings etc.)
- Independent (not seeking out adult attention)

Several of these characteristics relate to the issue of verbal expression, with the practitioners explaining that they found children who spoke little, or spoke little English, particularly challenging to observe. For instance, Vanessa said, "He's so shy ... he doesn't talk very much so it makes it more difficult to get obs on him", and Anna similarly said, "I guess it is easier sometimes to observe the verbal children". The issue of language was also reflected in the practitioners' choice of case study children, with 7 of the 9 children having English as an additional language, and 4 of these children being in the early stages of learning English.

Another common characteristic concerned highly physical play and extensive play outdoors. The outdoors was identified across the three settings as an area where practitioners found it particularly challenging to observe children's learning, because of practical issues such as having observation equipment easily to hand, using equipment in all weathers, and needing to closely supervise the more risky play that tended to happen outside. Physical play also presented challenges in terms of how it could be recorded, with Sharon saying, "I think outside is harder, practically writing stuff down ... because the boys like to play their chasing games and there's kind of role play going on, but you can't really pin down what's happening because it's over there and it's over there and it's over there". This highlights the difficulty of representing physical play in written documentation, and suggests that play which cannot easily be recorded in writing may be harder to document, and so becomes more difficult to recognize as learning.

Other factors that influenced observation included whether or not children came to join in group activities, as these were often times when practitioners were focusing on getting observations, and whether or not the children produced 'work' such as drawings which provided lasting traces of their activity (unlike physical play). Furthermore, children who did not seek out adult attention seemed to present a challenge for observation in busy classroom environments, with Jess describing such children as tending to "fly under the radar". Several of the children selected for case studies were described as being capable and independent, yet for these very reasons had fewer observations as they tended to have fewer interactions with the practitioners.

Throughout the discussions of what was difficult to observe, practitioners also gave insights into what they tended to find easier to observe. As Dawn put it, "And then of course you've got the star children that *everyone* writes observations of". Characteristics of such children tended to be the opposite of those outlined above, such as being highly verbal, outgoing, speaking English fluently, mainly playing inside at quiet/still activities, enjoying joining group activities, producing lots of 'work' and seeking out adult attention. This highlights that for the many children who do not fit the characteristics of 'star children', signs of learning may be more subtle and may be more likely to get missed in busy early years environments.

Throughout the discussions, the practitioners were highly reflective about children with fewer observations, and shared approaches they were adopting to try and

address this. For instance, at Hargrave School, Vanessa said that compiling the children's Special Books helped her identify which children had more observations than others: "When you are going through and sticking things in it flags, OK that child's doing a *lot* of work, this child's not. Well, why's this child not, and maybe I need to try and think of ways to get more work on this child". In Tree House Nursery, Nerida had introduced an observation grid (see Figure 5) which directed practitioners to observe children's actions as well as language. Similarly, in Burrell Nursery Jess was trying to support other staff to record observations which did not necessarily focus on children's language, saying, "You would write down what the child is doing – *literally* what they are doing ... like breathing really deeply, or making no noise, like a vocalization rather than a word".

To summarize, the case study findings reveal characteristics of children whose play practitioners tended to find it more challenging to document in early years settings, highlighting a tendency to focus on children who communicate confidently in English, with a risk of overlooking play which is highly physical and often outdoors, and children who do not seek out adult interaction or produce 'work'. The settings were reflective about these issues and were developing approaches to ensure all children's learning was recognised. However, the findings call for sharing of such practices and consideration of further approaches and documentation formats which give greater recognition to children's more diverse and subtle signs of learning.

## Part II: Developing Approaches to Observation and Documentation Using Digital Tools

This section builds on the findings of Part I, which explored a range of observation and documentation practices and the perspectives of practitioners, parents and children, and identified signs of learning that may be overlooked. Part II presents findings that explore how digital tools might be used to observe and document young children's play in new ways, reflecting the Froebelian principles of the 'holistic nature of development' and 'the uniqueness of every child's capacity and potential'. To explore this, each setting was given an iPad Mini and asked to record observations of the case study children. The practitioners then watched their recordings with Cowan and reflected on the challenges and potentials of video documentation, and any changes they would make to their practice in light of this experience. The findings reveal the impact of video on their own practice, and leads to a series of recommendations for observation and documentation with relevance beyond the case study settings.

### Challenges of Video Documentation

The degree to which the settings used digital technologies varied at the outset of the research. In Hargrave School and Burrell Nursery, digital tools were not regularly

used in documentation apart from taking photographs. In Tree House Nursery, iPads were already used regularly as part of the Tapestry documentation system, but the setting was interested in using video more and in new ways. Attitudes towards using digital technologies for observation had been mixed across the settings at the outset of the study. In Tree House Nursery, where Tapestry was already used regularly, staff were largely positive about the potentials. However, in the other two settings there were some concerns. Vanessa's experience of losing observations in 2Build a Profile meant she was skeptical about the value of changing approaches, and practitioners at Burrell Nursery mentioned concerns relating to screens in early years settings, worried that the presence of an iPad might interfere with interactions between practitioners and children.

The practitioners used iPads to record video of the case study children's play over three weeks, then watched the videos back as they were interviewed about their reflections. Having tried using iPads in this way, some challenges and concerns were identified. For instance, Vanessa described the iPad as being "a little bit of a barrier" and felt it meant she was less involved in joining the children's play. There were also concerns, raised by Ruby, that some children might find extensive use of video intrusive, with Sharon saying, "I think they are conscious of me [using the iPad] ... their behaviour changes". Vanessa felt that written observations were less obvious to the children, although this then calls into question the right of children to know they are being observed. Jess felt there was also an awareness of the camera amongst practitioners at Burrell Nursery, who she said were worried about being on film, so they did not always engage as they normally would with children who were being filmed. These findings recognize that video cameras cannot be separated from the context in which they are used, and suggest that further research could be carried out to explore the effect of video observation on classroom interactions. It also raises questions surrounding the purposes of video, the ethics of its use and the line between observation and surveillance.

A further concern shared across the three settings was the considerable time needed to record and reflect on video, with the practitioners suggesting that the value of videoing would need to be kept in balance with the many other demands of their role. They also reflected on the difficulty of making decisions in-the-moment as they were recording, with Dawn commenting that it was "difficult to know when to stop filming", and therefore easy to amass lengthy video quickly, with Tree House Nursery highlighting the large amounts of computer memory taken up by video. Whilst the detail of video was recognised as an appealing feature, it was also seen as a challenge, with Dawn saying, "[the iPad] takes in everything, doesn't it? With a Post-It you are much more directed at something", suggesting that there is value in selective and edited documentation. Several of the practitioners also spoke about the challenge of being interrupted when videoing, for instance when children came to ask for help, which they felt was less of an issue with written and photographic observations.

In Tree House Nursery, where use of video was part of established practice, the educators' reflections mainly highlighted challenges they experienced with Tapestry.

For instance, they spoke about the reduction of video quality when clips were uploaded from iPads into Tapestry, and the fact that video clips in Tapestry had to be under two minutes long. Ruby also suggested that the software was not very intuitive to use, and not child-friendly. Nerida described Tapestry as having a somewhat “rigid format” that supported collection of evidence rather than processes of reflection. As Nerida explained, “There are many disadvantages [to Tapestry], but we are trying to make it work to our advantage as much as we can, and the rest we can use other things to work on”. Their critical approach to the software meant the practitioners recognised Tapestry’s shortcomings and worked to overcome them, for example through adding their own ‘Reflections’ section within each Tapestry note.

The practitioners at Tree House Nursery had several suggestions of features they would like to see in digital documentation software, and had even written to the developers of Tapestry to share their ideas. These included being able to edit video, being able to change the order and layout of photos and videos, being able to add captions to photos and videos, and being able to use different fonts and colours for written text. This suggests that designers and developers of digital documentation might consider adding features that give practitioners greater control of the layout and design of documentation, and support reflection, rather than prioritizing evidence and data analytics. A further challenge the practitioners encountered with Tapestry was the documentation of ongoing projects. Ruby recalled that she had attended the Nursery World show, where developers of digital documentation software were trying to promote their products: “And I just said, well does it do what we need it to do? Can we follow a project through? And everybody was like, ‘What? What do you mean?’” This suggests a misunderstanding on the part of digital documentation developers, who may not appreciate the multiple purposes of documentation, particularly those with play-based and enquiry-led approaches. It suggests a gap in the market for digital documentation software which reflects child-centred Froebelian principles, and which appreciates the potential of digital documentation for practitioners’ own reflections.

### Potentials of Video

Whilst the practitioners acknowledged that video observation brought challenges, the research revealed that the practitioners saw valuable potentials for video, particularly for observing children who had been identified as being challenging to observe using traditional methods.

A major advantage that was identified across the settings was the rich detail offered by video, although as mentioned above, this was a double-edged sword and could be time-consuming and/or lack focus. Practitioners mentioned the value of being able to record children’s speech word-for-word, qualities of speech such as intonation, and for focusing on unspoken aspects of their play. The practitioners suggested that video was valuable for capturing this detail, and for noticing aspects of children’s play that might otherwise be overlooked. Ruby reflected, “What I

realized is there's so many things that I've missed during the session that are actually like gold, you know, that are happening in the background". As Jess put it, "It just slows down your thinking to looking into what [Jemma's] actually doing, rather than, you know, in the moment you might not think about the detail". Sharon mentioned she found video particularly valuable for capturing physical play, with Ruby suggesting that it shifted emphasis away from speech, "For children who are much more quiet, the video shows you something you maybe wouldn't have observed". In this way, the practitioners' reflections suggest that video acts as a useful tool for focusing attention on children whose signs of learning might typically be harder to document in more traditional forms, such as writing. The practitioners also suggested that video enabled them to record more about the situation and context of an observation than a written note or photo could. As Jess said, "I think it's a more holistic look at what they are doing. I think you have time to consider more things". The findings therefore suggest that video is valuable particularly for the detailed yet holistic record it creates, which can support practitioners to value unspoken aspects of play and to notice subtleties in children's learning that are typically missed in-the-moment. In this respect, we found clear evidence that digital documentation when used appropriately can enable the embedding of Froebelian principles of the 'uniqueness of every child's capacity and potential' and 'holistic nature of development' in documentation practices in contemporary kindergartens.

A second major advantage of video seemed to be the opportunities it presented the practitioners for reflection. As Dawn said, "I think you see more when you are watching it back", with Ruby suggesting, "In a way you are watching it twice. Rather than watching it and then writing down and missing something, you are watching it all unfold ... you focus in a lot more on what's happening". The practitioners suggested that re-watching the videos enabled a different focus of attention, for instance the possibility to concentrate attention on just one child in a group or a different child each time. Jess described the re-watching process as "having the time to think a bit more deeply" with Natalie suggesting that different interpretations were made possible by re-watching: "I think when you write it down you always go with what you see at that point in time ... whereas when you are filming it you can see it in a different way when you look later". In this way, video proved to be a valuable tool for supporting the practitioners to reflect deeply on the children's play, and to question their own interpretations, in ways that challenged their thinking and depended their insights into individual children's learning.

In all three of the settings, the practitioners had begun to experiment with showing the video back to the children to prompt the children's reflection. For example, Vanessa showed Sita a clip of her playing in the garden, and Sita then told Vanessa all about the story she had been acting out. Vanessa reflected that Sita had been interested in seeing herself, and that Sita's comments had offered new insights into her play. Vanessa had previously used the children's Special Books to reflect with them, but suggested, "maybe there's a little bit more to talk about when there are videos". In Burrell Nursery, the practitioners had experimented with videoing the children, then sharing this with children individually, as a group, and with parents as part of their end-of-year exhibition. Jess said the research had made her think

“about a way I could use [video] where it would just add something extra”. Clara, the SENCO at Burrell Nursery, suggested that video could be an important way of giving value to the things children did, and making this clear to the children: “It’s valuing it, and it’s them seeing that we really value it”. As Nerida put it, “When [the children] see that there’s been put so much value in what they’ve done, I think they find it amazing”. In this way, video might be considered a valuable tool for using with children to prompt reflections on their learning, and as a means of showing to children that adults value and are interested in the things they do.

At Tree House Nursery, the practitioners had explored the possibilities of video as a pliable medium that can be augmented and re-watched in different ways. This came about through an ongoing project exploring jumping, and a parent who had uploaded slow-motion videos of their child bouncing on a trampoline onto Tapestry. The practitioners shared this with the children and reflected on the experience of re-watching it with them: “They kept saying things like, ‘Look at his hair! Look at his hair!’ It’s so slowed down, you see things that you don’t normally see – the movement of the body parts ... Yeah, it’s really amazing. You see the movement”. In this way, video offered particular potential as a malleable, shareable medium that can be watched repeatedly in different ways with different audiences, and can be slowed down in the re-watching to highlight aspects of play that may otherwise be hard to capture.

Finally, a further possibility of video included its potential as a tool for practitioners to reflect on their own practice. Some of the practitioners had inadvertently or purposefully recorded their own interactions with children, and this prompted them to reflect on their role. For example, Sharon said, “I’ve recorded myself during a structured session just to see how I’m questioning ... it’s quite helpful”. Having recorded a group session Ruby said, “It definitely made me more aware of the way I’m interacting with the children”. In this way, video seemed to offer the practitioners a chance to reflect on their own practice in ways that are not always possible in the moment.

To summarize, the findings suggest that using video as part of observation and documentation brings several advantages. Video captures a rich and detailed record that can draw attention to aspects of play that might typically be overlooked in-the-moment, or would be difficult to document in writing and still photos. We found that video supports attention to silent and physical dimensions of play, which might typically be dismissed or be harder to capture in other forms. The malleability of video as a medium also supported its re-watching in different ways, such as in slow motion, which further highlighted embodied aspects of play. Through the possibility of re-watching video after the event, and with different audiences (e.g. children, parents, other practitioners), video presented opportunities for multiple interpretations and critical reflection on practitioners’ own roles in play. In this way, video was identified as having valuable potentials for observing and documenting children’s play, giving value to aspects of play that might otherwise be overlooked, for supporting reflection, and for letting parents and children know that children’s play is valued.



## Reflections and Impact on Practice

The practitioners reported that they had found the research an engaging experience and were highly reflective, particularly in the final interview, in which we discussed the emerging research findings and spoke about whether their practice might change as a result of the research. The research experience had prompted reflection on what their observation and documentation practices gave value to, and what was potentially being missed. As Ruby said, “I think there seems to be a recurring theme that play that’s not verbal is not as valued by the adult ... we are not good at looking at the other languages, or looking at what they are telling us without verbal communication”. By the end of the project, this realization had resulted in ongoing changes to their observation and documentation practices. In each of the settings, the practitioners indicated that they had begun using video more as part of their observation and documentation, or were planning to use it over the academic year ahead. The practitioners discussed several different possible uses, which showed appreciation of the potentials outlined above whilst recognizing and taking steps to address some of the challenges, as discussed below.

In Burrell Nursery, the practitioners emphasized the value of the detail of video and the reflective process they engaged in as they had re-watched their recordings. As a result of the research they were planning to use video as a “tool” for focused observations of children. They recognised that recording and re-watching video was time-consuming, and so planned to identify children who were at risk of becoming ‘lost’ and use video to intentionally focus attention on their play, by re-watching video in staff meetings in order to “raise that child in the consciousness of everybody” (Natalie). Jess had previously talked about some children’s play being “off the radar”, and she felt that video could be a useful tool for addressing this. In this way, the practitioners were planning to integrate video into their practice in purposeful and intentional ways in order to bring attention to children whose signs of learning may otherwise get lost.

In Tree House Nursery, throughout the research the practitioners had identified that they tended to record fewer observations outdoors. They attempted to address this by ordering iPad cases with wearable straps, as Nerida explained: “Actually, it came about because of this project ... The rule became that these [iPads with straps] are the ones for the garden, and you take one every time you go down. Rather than them being left on the windowsill, or left around because you have to help a child or something, it’s just right there. So I think it’s made a big difference actually”. As a result of involvement in the research, the practitioners were reflecting on their observation and documentation practices and taking steps, such as buying new equipment, which would support them to use video in new ways, and enable them to focus on types of play that had previously tended to be overlooked.

All three of the settings said they would like to record more video to share with the children themselves, and that they valued the potential of video as a prompt for reflection on learning. Vanessa said, “I think it would be really nice to show them back little clips and ask them, ‘What was going on then? Why did you do that?’ And I

think they would like that as well". Similarly, Ruby said Tree House Nursery wanted to "do more showing the children as well, because they really love it, and then they start making connections with things". It was recognised that this could be a time-consuming activity, and so Burrell Nursery suggested having particular times when this would be a focus: "We were talking about the potential of the video, and about each half term just having a day where we have the screen up and the projector running" (Natalie). It therefore seemed all three settings felt there was value, and enjoyment for the children, in using video more as a tool for reflection with children themselves, and were considering strategies for supporting this.

Using video for reflection with parents was also common theme. Tree House Nursery were planning to experiment with mounting an iPad with headphones on the display board at the entrance to the classroom, "to make [video documentation] very accessible to the parents" (Nerida). Practitioners also commented that video had potential for communicating with parents who were in the early stages of learning English. For example, at Burrell Nursery, Jess mentioned: "Harry's mum didn't come to any parent teacher conference, and I think that was probably the language barrier or fear of there being one, and I thought that if I had a parent next year I might record video and show them clips of video, and it might help some understanding without the pressure".



Figure 12: Sharon's annotated video stills

Several of the practitioners had begun trying new ways of working with video to document the children's learning, which often required editing video for different purposes. For Sharon, this involved finding ways to incorporate video into the children's Special Books by taking screenshots that she then annotated (see Figure 12). In Tree House Nursery, Ruby was combining video clips, video stills, photographs and written extracts of the children's talk into a film that documented the jumping project, including the practitioners' interpretation of the children's enquiry (see Figure 13). Reflecting on using video, Ruby said, "It gets people thinking, and seeing a bit more into what's happening". In this way, Tree House

Nursery was experimenting with video as a means of capturing the children's exploration of jumping in a medium that highlighted its dynamic and embodied qualities, and were using video to share the enquiry with others, including parents.

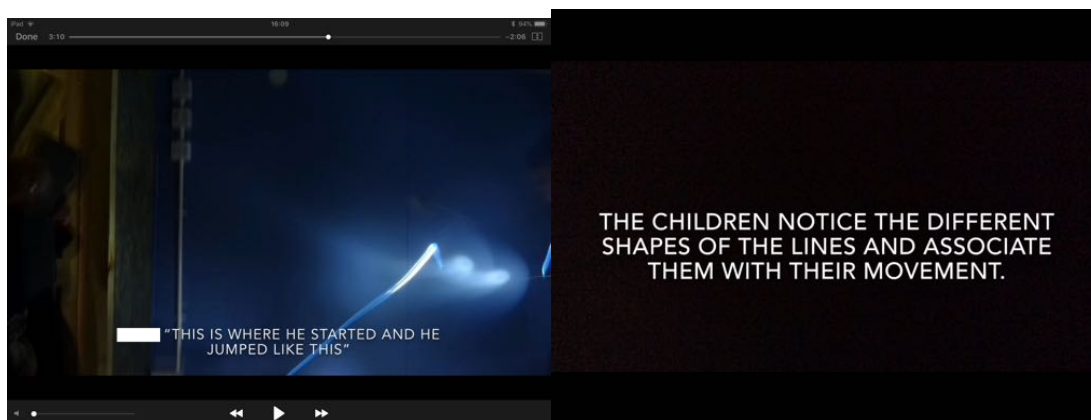


Figure 13: Jumping Project video stills

All three settings acknowledged that working with video presented challenges as well as possibilities, with Ruby reflecting, "I guess it's a bit of a learning curve, just the same as I guess when digital cameras came into use in nurseries". It seemed that across the settings, the practitioners were identifying the challenges and finding ways themselves to overcome them. For example, having been concerned that the iPad potentially presented a barrier to interacting with the children, Jess said she wanted to try using the video in a different way: "I'd quite like to try having the iPad but having it within a conversation, because I was trying to video in the way that I would try to write an observation, which is like you're just an observer". In this way, Jess was reflecting on the impact of video on an interaction and questioning her role as an observer, considering ways she might change the dynamic. Similarly, Ruby reflected on the difficult choices that videoing entailed and planned to experiment with changing the perspective of the iPad: "We were talking about the positioning ... Initially I was thinking it was best to be down and getting the child's face, but [Nerida] was saying actually if you are up and angling it down you can get the whole group and can move it around too, so that's been a bit of a learning process as well". When discussing the limitations of Tapestry as a digital documentation system, the practitioners at Tree House Nursery even suggested they could design and make their own digital documentation software, with Ruby saying, "I feel like going on a coding course to learn and create our own app", and Nerida adding, "Why not? You've inspired us Kate!" This demonstrates that the practitioners were reflective, critical and creative in their approach to using digital tools, and were open to further experimentation in order to overcome the challenges.

The participatory research design adopted in this study supported the practitioners to examine their own practice and to consider how they might improve their observation and documentation. All the settings indicated they would like to use video more in their future, recognizing the potential of digital documentation to focus on aspects of play that might typically be overlooked, to prompt children's own reflection on learning, and to share this learning with parents. Simultaneously,

the practitioners showed awareness of challenges such as the time-consuming nature of re-watching video, the potential of iPads to get in the way of interactions with children, and the limitations of commercial software design, but they were readily identifying means of addressing these issues throughout their practice. Overall the research supported the practitioners to explore the potentials of digital documentation for valuing signs of learning, and through incorporating video into their practice they were giving recognition to the holistic, interconnected dimensions of play-based learning that are central to the Froebelian ethos.

### Key Points and Recommendations

The changes made by the case study settings indicate the direct impact of the research on their observation and documentation practices. Although this was a small-scale study, the findings also offer insights and implications for early years practice more generally, and for those developing and designing digital documentation software. The key points of the research can be summarized as follows:

- a. Early childhood education settings have diverse approaches to observing and documenting children's learning, depending on *who* and *what* the documentation is for, and this is linked to each setting's ethos;
- b. Practitioners found it harder to observe and document children who did not communicate confidently in English, who spent extended periods playing outside/in physical play, and who did not seek out adult interaction or produce things that acted as traces of their learning (e.g. drawings, paintings). This highlighted characteristics of children whose 'signs of learning' are more likely to go unnoticed;
- c. Practitioners valued observation and documentation as part of their child-centred pedagogy, yet felt this was in tension with the summative assessment requirements of the EYFS national curriculum;
- d. Parents appreciated documentation of their children's learning, and found digital documentation more accessible than paper-based formats. Parent perspectives on their child's documentation added valuable insights for practitioners, yet most parents did not contribute to their children's documentation, irrespective of the format;
- e. Children enjoyed reviewing and sharing their documentation, and this prompted metacognitive reflection on their own learning. However, most digital documentation software is designed for adult use and does not currently facilitate children's independent access or contribution to their own documentation;
- f. Video was identified as having valuable potential for observing and documenting children's play, giving value to aspects of play that might otherwise be overlooked, for supporting reflection, and for letting parents and children know that play is valued;
- g. Video observations and documentation presented challenges: time needed to record and re-watch material; impact of digital devices on interactions

with children; the digital documentation software design creating tensions with enquiry-based approaches to early learning;

- h. The participatory research design of this study supported practitioners to reflect critically on their own practice, address challenges, and creatively implement changes relating to the use of digital tools and the embedding of core Froebelian principles in their observation and documentation practices.

## Next Steps

Our plans to take forward the findings of this valuable and original study focus on the need to promote assessment practices in early childhood education that recognize and more fully capture the holistic nature of development and every child's unique capacity and potential. Next steps towards achieving this include:

1. Raising awareness of the need to recognize and value children's silent signs of learning, which may be hard to observe and document and are often overlooked;
2. Exploring the potentials of digital documentation for critical reflection on learning, including using video as a tool for prompting children's own recall;
3. Supporting early educators to find ways to include parents and children in documentation processes;
4. Working with digital software designers to explore more accessible, child-friendly documentation interfaces that support the documentation of enquiry-based learning, and proactively encourage parental contributions;
5. Developing an international network for research on early years digital documentation.

## Outputs

### Dissemination Event

January 2019: A research symposium bringing together researchers, practitioners and designers of digital documentation software to share key research findings and consider potential for change (London, UK). This has identified potential for future collaboration with digital documentation software companies 'Tapestry' and 'Kinderly'.

### Conferences

- September 2018: Presentation at the *International Froebel Society Conference* (Hiroshima, Japan)
- March 2019: Presentation at the *Reconceptualising Early Childhood Literacies Conference* (Manchester, UK)
- April 2019: Presentation at the *American Educational Research Association Annual Meeting* (Toronto, Canada)
- July 2019: Presentation at the *UK Literacy Association International Conference* (Sheffield, UK)

## Publications

- Cowan, K. and Flewitt, R. (Forthcoming) Towards valuing children's learning. In C. Cameron and P. Moss (Eds.) *Early Childhood Education and Care in England: Towards Transformative Change*. UCL IOE Press.

## Research Network

Cowan and Flewitt are founder members of the recently formed, international network: *Research on Early Childhood Digital Documentation* (REDD), in collaboration with researchers at the University of Agder (Norway) and the University of Helsinki (Finland). As founders, Cowan and Flewitt plan to take forward the research findings through comparisons of international practice, fostering joint publications and symposia, and developing proposals for future research projects.

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