

# Practices in using digital technologies to build connections between families and schools as children transition to school:

## A guidance paper to inform leaders of early years settings

John Anderson<sup>1</sup>, Hazel Woodhouse<sup>2</sup>, Don Passey<sup>3</sup> and Clare Evans<sup>4</sup>

<sup>1</sup>Ulster University, Coleraine, UK

<sup>2</sup>University of Waikato, Hamilton, New Zealand

<sup>3</sup>Lancaster University, Lancaster, UK

<sup>4</sup>St. Teresa's Nursery School, Belfast, UK



## Introduction

This summary of practices has been produced to inform leaders of early years settings and nursery schools about aspects of the work of implementing digital technologies in these settings. The evidence is drawn from a study of four purposively selected schools with nursery provision in Northern Ireland, and four purposively selected schools with nursery provision in New Zealand. Anonymised information about the eight schools, together with a short summary of the methodology adopted, can be found Appendices A and B. This document has been produced in association with the Education Network Northern Ireland's Innovation Forum.

In Northern Ireland, until the introduction of the Education Information Solutions (EdIS) Programme from 2024, early years sector settings had not been part of the C2k (Classroom 2000) managed information and communications technology service provision in all other grant-aided primary, post-primary, and special schools. In New Zealand, schools have considerable autonomy in determining their information and communication technology (ICT) needs, with the Ministry of Education providing guidance and support. Schools in New Zealand can either pay for a different retail service provider or use the government-funded Network for Learning (N4L) service.

The information in this paper is derived from a full report developed from evidence gathered through a research study<sup>1</sup> of how digital technologies enable the development of relationships between home and school over time. The research explored how digital technologies are being used by school leaders and practitioners to develop connections that support families as their children transition to school. The research investigated how digital technologies are used to maintain home-school connections and develop positive relationships.

The evidence considered here is organised in two ways. The findings reported in Part One are organised to reflect the research structure. Part Two takes an overview through the lens of the element indicators from the NAACE EdTech Review Framework (ERF)<sup>2</sup>, access to which is provided free of charge to all schools in Northern Ireland through the EdIS Programme<sup>3</sup>.

It should be noted that the term 'parent' is used throughout the paper to include 'guardians' and 'carers'.

## A Framework of Practice for School Leaders

Further analysis of the original research evidence led to the development of a framework for school leaders to develop parental engagement using digital technologies with new families to the school (see Figure 1) through four stages: from establishing communications and building initial connections with new parents (Level 1); through developing opportunities for parents to engage with the school community and supporting their involvement in their child's learning (Level 2); to maintaining support to meet parents' and school's evolving needs (Level 3); and finally, to reviewing practices and exploring new opportunities (Level 4). The framework offers a structure through which practitioners, policy makers and researchers may view the development of parental engagement when children transition to nursery and schools,

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<sup>1</sup> Woodhouse, H., Passey, D. and Anderson, J. (2024). *Exploring the uses of digital technologies to build connections between families and schools as children transition to school and to maintain further parent partnership*. Zenodo. <https://zenodo.org/doi/10.5281/zenodo.10697612>

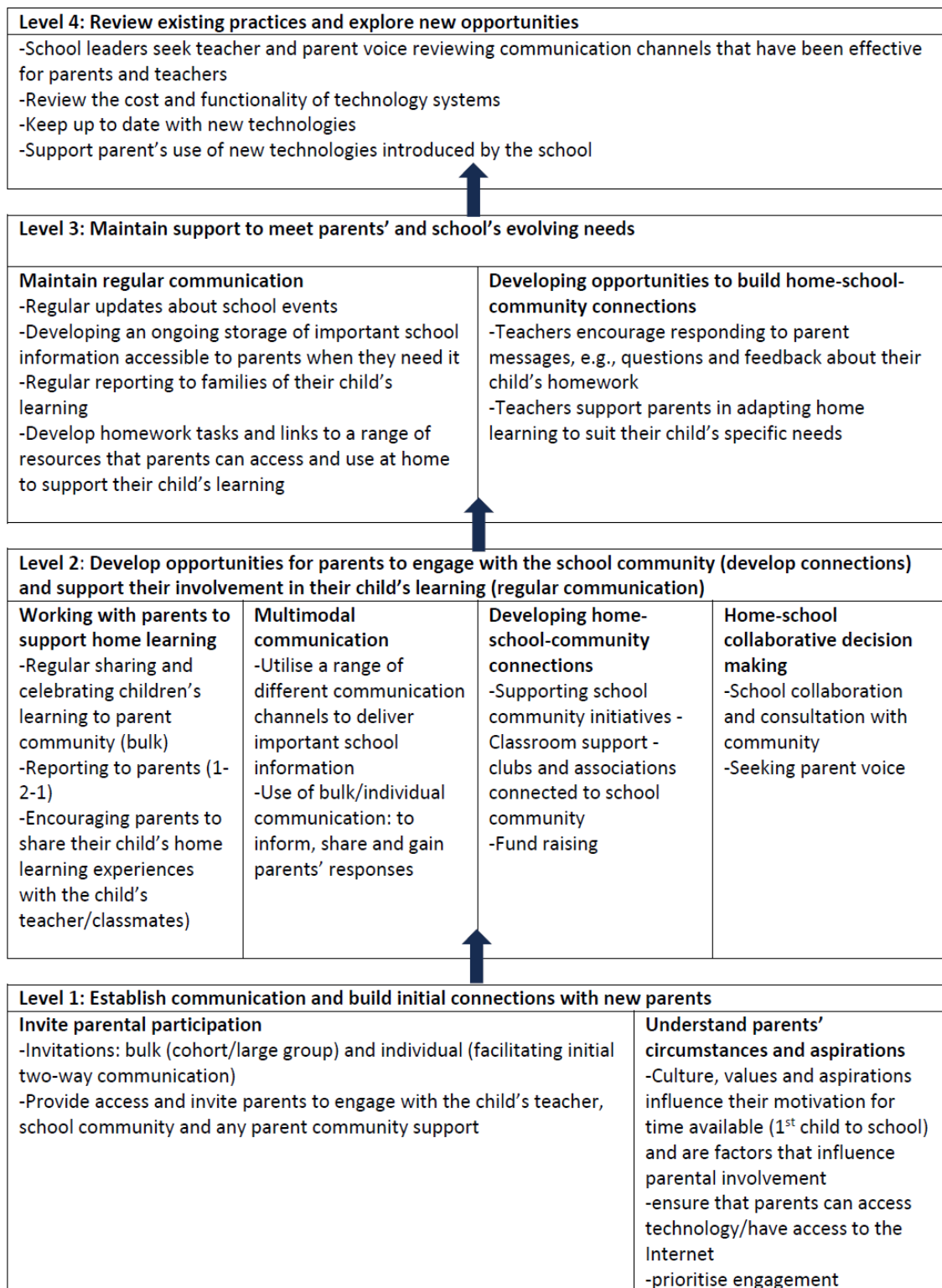
<sup>2</sup> <https://www.naace.co.uk/hidden-pages/edtech-review-framework/>

<sup>3</sup> <https://www.eani.org.uk/naace-edtech-review-framework-erf>

supported within a digital technology context. As Passey, Woodhouse, Anderson, and Charania (2023)<sup>4</sup> have previously stated, this and previous papers offer insights “into discussions about the shifting roles of parents, schools and teachers in a digital age. Continued work in this research field has much to offer for the future”.

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<sup>4</sup> Passey, D., Woodhouse, H., Anderson, J., & Charania, A. (2023). Editorial. *Studies in Technology Enhanced Learning*, 3(3), 1-9



**Figure 1:** Conceptual framework: school leaders developing parental engagement using digital technologies with new families to the school. (Source: Woodhouse, Passey & Anderson, 2024.)

The findings from the research study show the ways that digital technologies can positively support parental engagement when children are transitioning to nursery and schools. The conceptual framework (shown in Figure 1) highlights the features that can support that positive engagement to benefit children,

parents and carers, and teachers. From a practice perspective, whilst schools and teachers need to understand parents' circumstances and aspirations, they also need to invite parental contribution through bulk and group invitations as well as through individual invitations. Beyond this, they should seek to work with parents to support home learning, maintain multimodal communication, develop home-school-community support and collaborative decision-making. Maintaining regular communication is vitally important, as is identifying existing and emerging opportunities to offer and build home-school-community collaboration. Ongoing monitoring and exploration of new opportunities should where possible be based upon feedback and ideas from parent voice.

From a policy perspective, providing guidance to schools on how to understand parents' circumstances and aspirations, and how to provide the digital technologies to invite parental participation and engagement will be fundamental to initial progress. Beyond this, guidance on how teachers can work with parents to support home learning, the provision of digital technologies to support multimodal communication, guidance on what home-school-community connections might be established, and how to develop approaches to collaborative decision-making will all be needed.

The digital technologies provided must be capable of maintaining appropriate regular communication, and opportunities that use existing and emerging methods for home-school-community connections need to be made known to teachers and schools. Supporting ways for parental voice to be involved in reviews of existing practice and exploration of new opportunities should also be shared with teachers and schools.

## PART ONE

### Summary of uses of digital technologies in early years/nursery education based on the structure of the research inquiry

The research in all eight schools showed how they had transformed elements of teaching, learning, assessment, management, governance, and professional development through the uses of digital technologies in early years/nursery education. This applied equally to their support and involvement with parents. A summary of examples follows, listed to reflect the structure of the research findings. More detail of each example can be found in both the original research report<sup>5</sup> and the subsequent academic paper<sup>6</sup>.

1. Initiating communication with families transitioning to the school with children who are starting in nursery, reception, or new entrants.
2. Supporting initiation of contact with new families.
3. Hardware and software used in communicating with families.
4. Factors influencing choice of digital technology when communicating with families.
5. Information and resources shared with new families transitioning to school.
6. Online information/resources purposed to support new families.
7. Supporting new families' questions around transition.
8. Information shared with families, and how it would be shared in a typical school week.
9. Informing the whole school group and informing individual families.
10. Supporting families as a group as well as individually.
11. Enabling families to connect with other families.
12. Supporting a child, once they have started school, to feel included in the school community.
13. Two-way communications developed with school families to support the building of parent-school partnerships.
14. Developing a parent-partnership around the child/new child and their learning.

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<sup>5</sup> Woodhouse, H., Passey, D. and Anderson, J. (2024). *Exploring the uses of digital technologies to build connections between families and schools as children transition to school and to maintain further parent partnership*. Zenodo. <https://zenodo.org/doi/10.5281/zenodo.10697612>.

<sup>6</sup> Woodhouse, H., Passey, D. & Anderson, J. (2024). Using digital technologies to build connections between families and schools as children transition to school. *Education Sciences*, 14, 520. <https://doi.org/10.3390/educsci14050520>.

15. Differences between supporting a transitioning family and families once they have started school.
16. Reviewing uses of digital technologies in communicating with families.
17. Identifying uses as working well.
18. Making changes as a result.

## **1 Initiating communication with families transitioning to the school with children who are starting in nursery, reception, or new entrants**

- Schools normally start communicating with families of children coming into nursery or the school from May (when they have been accepted), or earlier if they have a child already in the school.
- Some use a personal letter; some send emails (often bulk); and some encourage their school app to be downloaded.
- One school uses Google Classroom, ClassDojo and Seesaw as well as social media and traditional print media to advertise and publicise the admissions process which begins in January, making use of resources from the EA.
- In their open day, schools promote their own website and advise parents how to use the CCEA website; one school gives prospective families access to Seesaw containing information about how to apply.

## **2 Supporting initiation of contact with new families**

- All NI case study schools used Seesaw, together with email and a website.
- One school allocates Seesaw codes when they set up a new nursery class.
- One school sets up a Seesaw class for new entrants using the CCEA list, gives out the Seesaw codes, and provides a welcome video to allow parents to access a tour of the classroom.
- In one school, each child is asked to send a picture of them doing something 'fun', helping to set up a positive relationship with the child.
- A day or two before a school visit, families are sent a picture of the classroom, so that the children can see that the classroom is ready for them.
- Before they start in September, the nursery teacher puts on a video tour of the school, something about herself and the nursery, and offers photographs of activities within the school.
- If an induction timetable (bringing groups of children into school in stages) is used, it is translated with Google Translate into all the different first languages that the children speak.
- The school uses visuals to support parents before they come into nursery, to help them see what their children are expected to do.

- Schools use digital spaces to post videos and orientation information about either Seesaw or Hero, designed to support parents in their early days of their child starting school.
- As the families are added to their child's class Seesaw, each teacher sends out their own class newsletter and introduces themselves by sharing an infographic about themselves with the children in their new class.
- In one school, stories are written and read out online for the children, to help them settle in.

### **3 Hardware and software used in communicating with families**

- Microsoft Surface Pro laptops recently provided to teachers have increased use of Google Classroom, ClassDojo, Seesaw and the school website.
- Seesaw is widely used in the nursery setting.
- Additionally, schools use bulk emails and websites, X (formerly Twitter), and a text-messaging service.
- Some schools use a Facebook page and email newsletters for promotion. (Facebook tends to be used by parents of older children.)
- Once the pupil is enrolled, a closed Facebook page may be used which allows for direct messaging.
- Use is made of QR codes in one school, both online and on display on the walls of the parent waiting areas, where parents can access videos of their children at work.

### **4 Factors influencing choice of digital technology when communicating with families**

- The NI schools rely on parental use of smartphones to access Seesaw class groups, which enable either single or group communications, using text, imagery, and video. Pinging the parents' mobiles, it can be used for real-time information, even though it is considered to be impersonal.
- The ability of the channel(s) used to enable parents to message teachers and receive a response is an important factor.
- Where the school has not already provided communications in different language translation, a function of the chosen channel(s) to allow parents to obtain a translation is important.
- One school uses an app, largely for administrative information about what is coming up. School letters are duplicated on to it, as well as emails, and it has a calendar function, so it supports the whole school community.
- Parents are encouraged to respond with a 'thumbs-up' or to send a message to show they can navigate Seesaw from an early stage and the school knows they can rely on it for messages.
- Where parents need digital technology guidance, the school operates an open-door policy to provide technical assistance, especially where parents confuse the child's log-on with the parent's log-on.
- In some cases, the nursery unit will use the same digital technology as the rest of the primary school, such as dedicated Google Classrooms, primarily used for schoolwork and homework, but also for communication.



- Another school uses Class Dojo for communication throughout the primary school. As well as for communications, it is used to support their positive behaviour policy by awarding points which parents can see.
- At the end of the week, in this same school, teachers have competitions to identify who is at the 'top of the class' with regards to behaviour.
- Seesaw permits immediate messaging to individuals, a selection of people or to the whole school, but schools find it advantageous to re-publish information sent out on other channels.
- Where one family does not have a smartphone, the school posts out communications.
- Whatever channels are used for communications, schools understand that unless they are seen by parents to be using it frequently, they too will stop using it. The ability of the channel to give the school information about regular parental usage is essential in this regard.

## **5 Information and resources shared with new families transitioning to school**

- For new entrants, nurseries provide orientation information and resources, as well as regular updates, opportunities for questions to be raised, and for sharing of practical details as they arise.
- Messages are individualised to a particular parent, so it can be "very individual as well as being group friendly".
- Information on the school website (such as safeguarding policies, mission statement, curriculum information, information on the school day, school uniform, the role of parents, how they can support their children, school policies, school routines, yearly information booklets, holiday lists, welcome videos, and video tours) is duplicated on Seesaw.
- Questions that parents send in the first few weeks when the children are settling in are replied to promptly.
- A parent might be sent a reassuring picture of their child at 9:00am to show that they are settling in well and all is fine.
- Celebration of early achievements are engaging for parents; for example, a video/picture of what the child has done, especially on their first day.
- One school sends out songs and rhymes about starting school.
- In an IME context, support is provided for parents on the Irish language (such as connection with the local Irish language group, the Irish language officer, adult Irish language classes, summer camps, play groups, toddler and mother groups, and an inter-Irish medium school quiz).

## **6 Online information/resources purposed to support new families**

- Once parents are familiar with the child's teacher, according to one principal, "We also try to provide... notes and guidance from teachers in the nursery and the foundation stage in general to inform families on what the children are learning, how certain words and phrases are said, and what strategies can be used at home to reinforce the learning that's been happening at school".

- A principal stated that: “We keep our school calendar up-to-date with reminders going out before events. Each class teacher has their own curriculum information presentation which is presented to parents early in the first term each year and again this is saved in its own dedicated area on our school website”.
- Adding that: “Sometimes, as the year progresses, parents tend to forget about the healthy eating policy or the school uniform policy, so you do sometimes need to remind them”.
- One school website promotes how new families can become involved in ‘Enviro school’ initiatives at their school.
- The school’s history, in one case, is shared with new families so that they can develop a sense of connection with the school through the historical records and photographs.
- Fact sheets about restorative practice, learning through play, family development programmes, innovative learning environments, further information about the structured literacy taught in all of the classrooms, and information on how the school reports to families, are shared.
- Information on an app used by parents to make payments to school is provided.

## **7 Supporting new families’ questions around transition**

- Seesaw and email are used regularly to allow families to raise questions, including about transition. In one school, the principal says, “We use e-mail a lot, you know, and I’ve encouraged the teachers to use e-mail a lot with parents... So, a lot of the new parents would e-mail me prior to starting so there would be that initial that contact already in place too”.
- Adding: “We encourage parents and guardians to make use of the digital platforms as soon as possible with any questions they may have, so we do want to get them into that routine of being able to use the likes of Seesaw and Google Classroom as soon as possible”.
- In larger schools, questions about transition, for example, are directed to the school administrator/secretary.
- A closed page (such as Facebook or on a one-to-one message function) facilitates more personal and private queries about matters such as transition.

## **8 Information shared with families, and how it would be shared in a typical school week**

- A lead teacher shares that: “In a typical school week... newsletters would be shared... immediate messages if needed, latest news would be shared on the website, a class’s homework through Seesaw. A lot of that would be ongoing throughout the week. Messages pertaining to selected children or groups of children within Seesaw or the whole class, and there would be parental correspondence there, back and forward”.
- Routine housekeeping messages are sent daily and, less regularly, surveys and policy consultations.
- The school would also: “post quite a bit on our social media. You know, routines, procedures, the classroom, and school environment would be posted through Seesaw. That would also be available on our website and then Twitter would be used for things that are happening”.

- Information is shared about collaborations with a partner school(s), including the involvement of children in Shared Education through Google Classroom.
- While a school newsletter is sent out at the start of the month, each Friday a summary of the week and plans for the upcoming week are also circulated for each class.
- One school uses EventBrite for booking when parents and children wish to attend events and clubs (face-to-face and online) and a spreadsheet records any consequent changes of bus times. A Breakfast Club is booked on Google Forms.
- A weekly 'focus group' of children share their own photographs, to show parents what is happening.
- In one school, staff use iPads and Surface Pro devices to take photographs of the work for observation, evidence of learning purposes, and to send home to parents to keep them informed of learning progress.
- One teacher is developing a system of recording observations on OneNote or Google, stored using cloud-based technology to replace cumbersome paper files.
- A nursery lead teacher has organised Seesaw where: "each folder corresponds to areas of the curriculum... engagement, language and literacy, numeracy, physical, PSA, the arts" to share with colleagues and parents.
- For new weekly topics, the same lead teacher posts links to YouTube or in an educational video, for example, to help parents help their child to identify numbers and to count.

## **9 Informing the whole school group and informing individual families**

- Schools use digital technologies both to inform individual families and whole class groups. Some details go to individual families; for example, to reassure them about the wellbeing of their child and how they are integrating socially into the class. Other messages go out to all families in the entire class, where the day's learning activities can be illustrated.
- One principal encourages parents not only to celebrate the progress of their own child but to encourage "people taking the time to encourage someone else's child".
- One school leader comments: "they will often comment as individual families on different Facebook posts and sometimes they will connect between the comments as well, so there is a little bit of interaction focused by the postings".
- As all information is online in some format, rather than distributed by paper, parents can readily be referred to messages which they may have missed or forgotten.

## **10 Supporting families as a group as well as individually**

- Where a family has several children in the school at the same time (including in a linked primary school), the school sends the family a code, so they are able to look at their children's work in one place.

- Where parents are separated, this can create questions and issues that have to be addressed by schools, so that the legally appropriate right of access is provided, while the privacy of individual messages is also respected.
- Postings are used by parents to encourage new families' involvement with, for example, the school sports teams and other extra-curricular activities, which can be managed by parents. School sports is an area of school life where families work together for support, with one principal stating: "weekend sport is a great way for new families to get to know the school community".

## **11 Enabling families to connect with other families**

- Information flows are not just between home and school but there is evidence of parental self-help groups developing. For example, as one principal stated, "a group chat with all these potential parents... some of them first time applicants". As a lead nursery teacher reported, a parent will ask "can you tell me the documents I need to upload". In response, the teacher can provide the link to it, and then the link will take them to that page. Where a parent hits an obstacle with an application process (often for social welfare matters beyond education), "another parent jumps in to help them".
- One school provides a chat group which is open to all the parents: "So, they can see a parent saying 'I've done this'. You can see another parent saying 'I can't do it'... We don't have to step in there, and it's developing that wee bit of interaction between parents before they even start... But any other comments that a parent will make to us will (still) be one-to-one".
- Elsewhere, the school does not initiate parental groups, but they are set up spontaneously. As one principal stated: "I know that families within our classes will set up their own WhatsApp groups and that's how they communicate, but it's not something that we set up".
- Another principal stated: (We) "don't... have any systems in place as a school with regard to families connecting with each other. But we're of course aware that our parents have a parents' support group... And they make fantastic use of social media, and they have their own group chats, which they use for fundraising efforts and school initiatives... There's a representative from every family in the school on that, unless they opt out, which doesn't happen".
- Another school facilitates an inclusive learning page which specific families are invited to join. Managed by a school leader and purposed for families that need some additional support with their child's specific learning needs, the leader found that the support for parents does not just come from the school, but from the group of parents who have been invited to use the space to connect and support each other: "openly be talking in there as well" and "supporting each other".

## **12 Supporting a child, once they have started school, to feel included in the school community**

- One nursery teacher exploited the opportunity for differentiated support: "You could easily have three different activities and you can differentiate them easily within Seesaw... so maybe [one pupil] is saying they can't read just as well, you know they're responding by using the functionality of recording their voice, but that's done at differentiated levels, and you can send those [differentiated] activities out to different groups and different individuals".
- One principal reports that: "There would be a voice recording done and that I think is one of the most important, especially in the bottom end of the school where a child hears their teacher's voice, you know that that's extremely beneficial. Because they can't read a comment, but they can listen to an audio comment".

- One school reported that (during lockdown) a specific use of Seesaw had also led to wider school initiatives. For example, “we had a girl during lockdown, who had switched off school completely, couldn’t get her back and her grandmother said to me the only thing she’s interested in is photography, so every day she sent me photographs and of different things that she’d been doing, out walking with parents... And then we introduced a photography competition to the whole school, and it brought that child back in again”.

### **13 Two-way communications developed with school families to support the building of parent-school partnerships**

- Building communication supports engagement and minimises potential problems, in the view of one school, but schools have also needed to find ways to support the wellbeing of teachers by establishing reasonable expectations about responses to messages.
- Hours during which messages will not receive a response are established. Parents are asked to use the message facility in Seesaw as the school’s preferred form of home-school communication in contact with any of the staff.
- Elsewhere, staff are sometimes given discretion about whether to prefer text messages or telephone calls for discussions with parents.
- One principal stated: “Chats going on are very common among the parents [who] normally use WhatsApp for these on their mobile phones. Regarding communication with the school, again, we encourage parents to use our digital learning communication platforms”.
- Adding: “Our parent support group also has a social media page on Facebook, which the school would at times use to publicise things among the wider community which can be shared publicly at our discretion, and which gives parents a chance to engage with and comment, though it’s a separate entity to the school”.

### **14 Developing a parent-partnership around the child/new child and their learning**

- When a school focuses on developing home-school engagement, they firstly share posts about children’s learning in school, and then, secondly, support parents’ own use of technology to contribute towards their child’s learning at home.
- A school may hold a digital technology session for the parents to learn about Google Suite if it is used extensively across the school for homework tasks.
- Versatility is important. Some teachers record explanatory videos for a lesson with a task for the pupils, uploaded in Seesaw. Children can respond in different ways, by an audio comment, or video or as an activity online. If parents are involved, they may upload a photograph of the child’s work.
- Teachers upload photographs and videos of the work that children are doing to encourage parents to engage to support learning. As a nursery teacher said: “When a parent puts a comment on their child’s photograph... it’s only them and us that can see it”.
- It is important for class teachers to be able to choose whether to share class learning experiences to the whole Seesaw class group, or to post to a single child’s digital journal.

- Overall, the use of digital technologies has reversed the dynamic of communication; parents can respond at a time that suits them best. As a principal said: “We used to have parents contacting us... but now it’s us who initiate and are engaging more parents. I think we know them a lot better”.
- As children mature, they are able to upload their own digital material and share their learning onto their own digital journal. Parents are encouraged to share some of their experiences at home onto their child’s journal.
- Seesaw is used to record what the children have been learning over time, with teacher assistants supporting the class teachers by uploading work on a frequent basis. Once recorded, it can be shared as the child progresses through the school.

## **15 Differences between supporting a transitioning family and families once they have started school**

- Some schools take a gradual approach to inducting parents into the use of technology. They may start by meetings of transitioning and new families face-to-face and then support their use of online communications. As one principal said: “We get pupils registered for the digital platforms within the first few days, so the parents and guardians are seeing all the relevant material that they should and so that the children are able to engage with the learning material that they should be able to”.
- In some areas, a lack of confidence about the reliability of connectivity has limited the use of SoundCloud or Zoom and the adoption of a parallel approach.
- One school reports to parents three times a year through email and two times a year in person. Information is provided about how each child is performing against the school benchmarks in the middle and end of the school year, so that parents can track their child’s progress.
- Where the nursery unit is connected to a primary school, the P1 teacher(s) is/are enrolled in the nursery class group in the third term, so that they may appreciate how each child is developing and the children and parents can become familiar with the teacher.
- Continuity of record-keeping enables information about the progress of each child to be available over a longer-term on a transition profile. As a lead teacher said: “You can see the skills. It’s got the skills listed and the red, amber, green code against each skill and additional text describing the level of skill for that child. That’s a lengthy document because you’re covering each share of the curriculum in detail”.

## **16 Reviewing the uses of digital technologies in communicating with families**

- Feedback from parents is considered carefully as part of the school’s monitoring and review of use of digital technologies. Any issues are explored and dealt with.
- Surveying parents is extended beyond the use of digital technologies, to seek input to school development planning.
- The rate of use made of the school website and other forms of social media are monitored too. As for Google Classroom, one principal said that: “at this moment in time, I am extremely happy with, and [it]... has allowed us to branch out into sharing both in terms of teachers’ professional development as well as for our pupils”.

- Schools regularly review the volume of online correspondence and the pattern of hours of usage so that expectations and protocols for parents and staff can be reinforced in the best interest of teacher welfare.
- A lead nursery teacher regularly reviews other digital technologies for future use: “I was looking at OneNote... I could maybe adapt that to collate information”.

## **17 Identifying uses as working well**

- A principal said that: “We looked at our communication via Twitter, via a website, and via Seesaw. You know the response has been overwhelmingly positive”.
- Maintaining parent interviews online has proved universally popular in one school: “Within C2K there’s Google Meet and there’s Google Calendar... we’ve been able to set up an appointment schedule for nursery. [The teacher] inputted her times... as 15-minute meetings sent the link out and everyone has signed up... for an automatic Google Meet meeting”.
- Another principal said that: “Parents and pupils enjoy receiving homework tasks via our online platform as it enables teachers to link websites, et cetera, to assignments easily. Very importantly for our context, as an immersion education setting, teachers are able to attach and send home links to verbal instructions, poems, songs and other audio materials to scaffold, support learning at home”.
- One school welcomes using one environment for everything: “You’re not jumping around from application to application or products... this is making all of that process easier... in order to be able to look at both individuals and the group in terms of your wider and longer-term planning, but also making it easier in terms of making that accessible to parents”.

## **18 Making changes as a result**

- Following evaluation and review, one school is judicious about when it makes the change, considering the timing and impact on parents. It introduces changes in May, to minimise any disruption to the school year and to ensure that everything is stable by August.
- In light of feedback, one school moved to Microsoft Teams for meetings; another to Google for scheduling; another introduced Safer Schools; and other schools have improved the quality of their websites.
- Parental feedback in one school has highlighted the need for a cashless payment system.
- Cost implications for maintaining Seesaw has prompted schools in both jurisdictions to review and urgently seek out new systems to fulfil their needs.
- In New Zealand, all four schools tried different environments and selected one that suited them best. Each chose a different solution: Seesaw, Hero, Facebook, or G Suite.

## PART TWO

### Analysis of uses of digital technologies in early years/nursery education mapped to the elements of the NAACE EdTech Review Framework

An analysis of the research examples reported in Part One above is considered here through the lens of the elements of the EdTech Review Framework (ERF). Some descriptors from the ERF have been incorporated in a very summarised form here (refer to the NAACE framework<sup>7</sup> for full details). The ERF elements are organised into six groups:

1. Leadership and management
2. Teaching and learning with technology
3. Assessment of digital capability
4. Digital safeguarding
5. Professional development
6. Resources and technology

Based on the insights provided through the research, some specific recommendations for leaders are included.

#### **The school's overall vision for the role of technology (ERF elements 1a; 1b-1; 5)**

The school's overall educational vision should include the needs of the wider school community and support a seamless link between home and school so that the vision is understood and supported by parents and the wider community.

As the schools studied in this research show, online digital technologies and imaginative practices enable parents to have access to relevant information to support their children's learning. Parents are able to securely receive, comment and provide feedback on reports and their children's learning, including learning at home. The school can have a variety of innovative ways to communicate informally with parents, utilising a range of digital solutions. The research findings demonstrate how technology enhances nursery leadership (ERF element 1b-1) through more effective communication with stakeholders.

**Recommendation:** To align with ERF element 5, leaders should model and promote digital literacy across all levels of staff. Additionally, analysing the impact of the use of digital technologies on key performance indicators would help quantify benefits and inform strategic decision-making.

#### **Curriculum alignment through strategic leadership (ERF elements 1b; 1c-4/5; 2a-3)**

The research findings highlight how early years curriculum information may be shared with families through digital communications technology. However, to strengthen alignment with learning outcomes, explicitly linking the use of online resources and communications to guidance on the pre-school curriculum would be valuable. Strategic leadership, through a school development/action plan, would help ensure that technology has widespread impact on all aspects of the school's work. A fully integrated approach by

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<sup>7</sup> <https://www.naace.co.uk/hidden-pages/edtech-review-framework/>



the school enables seamless working between home and school. The approach in many of the schools studied identifies and promotes the use of a range of digital technologies (including social media) for effective and safe communication both within and with the home.

**Recommendation:** Develop a plan to map online resources and communications to specific curriculum objectives in the pre-school curriculum guidelines for Northern Ireland.<sup>8</sup>

### **Monitoring and evaluating effectiveness (ERF elements 1a-2; 1b-6/7)**

Tracking the impact of the use of resources on learning outcomes over time enables leaders to evaluate the effectiveness of approaches which are enabled through the use of digital technologies. Systematic evaluation includes the quality of learning and teaching with technology within and beyond the school, including all aspects of technology planning, practice, and the experiences of the children.

**Recommendation:** Implement systems to track and measure the impact of these resources on children's learning progress.

### **Teaching and learning (ERF element 2)**

Findings illustrate how applications for learning and teaching both within and beyond the school are embedded as an integral and natural part of learning and teaching across all early years curriculum areas, in order to extend learning and teaching and cater for the learning needs of children at home and at school. Creative use by all adults in the school maximises the learning opportunities offered by technology and transforms the learning experiences even at an early age.

### **Assessment (ERF elements 3; 1c-3)**

The research findings illustrate the role of digital technology in formative assessment through multimedia observations. Through a coherent strategy for the use of technology to record, analyse and report on the observed learning progress of the children, observations are recorded, summarised, and reported digitally, and assessments linked to the pre-school curriculum guidelines, as recommended previously, would provide an even clearer understanding of children's progress. Additionally, establishing systems to save and then share multimedia evidence of progress with parents, as illustrated in many different ways in the research in the schools, enhances further communication and collaboration with the home, especially by proactively showcasing and celebrating recognition of the children's achievements with the home.

**Recommendation:** Develop a framework for linking multimedia observations to specific learning objectives outlined in the early years curriculum (ERF element 3a-1). Provide scope for parents to share work created informally by the children at home (ERF element 3a-2). Ensure that secure platforms are used for sharing multimedia evidence of progress with parents, ensuring informed consent and data protection compliance (ERF element 1c-5).

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<sup>8</sup> <https://ceea.org.uk/pre-school/curricular-guidance-pre-school-education>

### **Productivity and efficiency (ERF elements 1c-1/2; 1b-9; 5a-1/2)**

The research findings illustrate enhanced efficiency in communication, administration, and record-keeping – the business functions of the school. Quantifying these benefits with measurable indicators of impact on staff time or workload would provide concrete evidence (ERF element 1b-9) of reductions in staff workloads, especially through the use of simplified home/school access to all relevant parts of the network cloud. Additionally, comparing costs and time requirements against traditional paper-based approaches would inform cost-benefit analysis and resource allocation decisions.

**Recommendations:** Conduct a time management study to measure the impact of technology on staff workload and identify areas for further efficiency gains. Compare the total cost of ownership of digital solutions with traditional methods to inform any additional school investment decisions.

### **Equity, accessibility and inclusion (ERF element 2a-8)**

The research highlights the positive impact of technology in supporting diverse families through messaging, translation tools, and multimedia. However, to fully align with ERF element 2a-8, tracking participation rates of vulnerable groups before and after technology implementation would provide data on the effectiveness of these tools in promoting inclusion. Additionally, surveying families on accessibility and attitudes towards inclusion would gather valuable feedback for ongoing improvement. Schools seek ways of supporting families with little or no access to technology (ERF element 2a-8).

**Recommendation:** Implement systems to track participation rates of diverse families in technology-mediated communication and activities. Conduct surveys with families to gauge accessibility, satisfaction, and perceived impacts on inclusion. Use these data to inform targeted support and address identified barriers.

### **Safety, wellbeing and mental health (ERF elements 1b-4; 4)**

The research illustrates many ways in which technology is being used to share safeguarding information as well as learning information with parents. To further strengthen child protection and align with ERF element 4, only using secure systems for information sharing (ERF elements 4a-1/2), along with staff training on online safety policies and practices, is essential (ERF elements 4b-2/4c-1). Additionally, gathering feedback from parents and external agencies on perceived impacts on child wellbeing would inform ongoing refinements. A school/home agreement can promote the principles of safe digital citizenship (ERF element 4c-2).

**Recommendation:** The EdIS Programme will provide secure, GDPR-compliant platforms for sharing safeguarding information. Seek or provide training for all staff on online safety best practices. Survey parents and external agencies to quantify digital technology's impact on child wellbeing and protection.

## Appendix A<sup>9</sup>: Schools

- *School NI 1*: is located in a rural area, with a wide catchment. It is a large Controlled school, with two nursery class enrolment of some 50+ children. Free school meals are below the Northern Ireland average<sup>10</sup>. The enrolment is mixed on a religious basis.
- *School NI 2*: is approximately half the size of School NI 1, and is located by a large market town, but with a wide catchment. It is a Controlled school, with a predominantly Protestant enrolment, with a single nursery class enrolment of some 25+ children. Free school meals are below the Northern Ireland average.
- *School NI 3*: is located in a rural area. It is a small Grant Maintained Irish-medium school, with a single nursery class enrolment of some 25+ children. Free school meals are around the Northern Ireland average. The enrolment is predominantly Roman Catholic.
- *School NI 4*: is a large inner-city school. It is a Maintained school, with two nursery class enrolment of some 50+ children. Free school meals are well above the Northern Ireland average. While the enrolment is largely Roman Catholic, the school is ethnically diverse, with a significant minority of children who are newcomers to Northern Ireland.
- *School NZ 1*: is a small rural school in the wider Waikato (Matamata area), Decile 5 (83 children), with demographics: Māori 19%, NZ/European 51%, Filipino 9%, other 2%.
- *School NZ 2*: is a large Decile 10 new-build urban primary school (2019) in an area of growing housing development in Hamilton, with 800+ students, with demographics: 17% Māori, 23% NZ/European, 18% Chinese, 15% Indian.
- *School NZ 3*: is a country model school on the outskirts of Hamilton/Waikato, Decile 10 (465 students), with demographics: Māori 10%, NZ/European 81%, Asian 8%, other 1%.
- *School NZ 4*: is a country model school with 147 students, Decile 7, with 17 Māori students and a small number of students from culturally diverse backgrounds. Half of the students are 'in-zone enrolments', while the other half are 'out of zone enrolments'.

## Appendix B<sup>11</sup>: Methodology

Developing positive and respectful connections between families and school have been highlighted in the literature as a major factor in supporting a family's transition to school (Balduzzi et al., 2019; McIntyre et al., 2007). Through developing these connections, schools can foster a welcoming approach to families as they start school. Research that highlights innovative ideas using digital

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<sup>9</sup> This appendix contains material taken and adapted from: Woodhouse, H., Passey, D. & Anderson, J. (2024). Using digital technologies to build connections between families and schools as children transition to school. *Education Sciences*, 14, 520. <https://doi.org/10.3390/educsci14050520>

<sup>10</sup> Details about free school meals in Northern Ireland were drawn from: Northern Ireland Research and Statistics Agency (2023). *School Meals in Northern Ireland: 2022-2023*. Department of Education: Belfast.

<sup>11</sup> This appendix contains material taken and adapted from: Woodhouse, H., Passey, D. & Anderson, J. (2024). Using digital technologies to build connections between families and schools as children transition to school. *Education Sciences*, 14, 520. <https://doi.org/10.3390/educsci14050520>

technologies to connect with families is generally focused on familiarising families with the new school environment. The literature is sparser on how digital technologies may be used by schools to develop positive relationships with families as they navigate the unfamiliar school environment. Research exploring the continuing use of digital technologies to connect and foster relationships between schools and families in the period after their child has transitioned to school is even less prevalent. Comparative case studies which focus on digital technologies that can be used to support transition and ongoing relationships is a gap in the literature. These gaps provide a rationale for this research. There is a considerable body of literature which focuses more broadly on developing positive home-school partnerships, including examples of case studies which highlight the role of digital technologies (see Chou, 2015; Wilder & Lillvest, 2014).

The study aimed to address four fundamental research questions:

1. To what extent are digital technologies being used by a school to develop supportive links with families in their transition to school?
2. Once families have started school, how do schools use digital technologies to maintain and build connections with their families?
3. What similarities and differences are there in how digital technologies are used by a sample of UK (NI) and NZ schools to develop home-school relationships?
4. What can we learn from the two cases about policy and practice?

Employing a qualitative design, within an interpretive framework, the research adopted a bounded combined case study and comparative approach. The research used qualitative methods of data collection based on document analysis and semi-structured interviews. The approach generated thick and descriptive data, which are mostly non-numerical, and which were subject to repeated reviews to make sense of and interpret the various sources of data (Creswell, 2009).

The research report explains the methodology in more detail. It also comprises a literature review, a summary of early years provision and of digital provision in early years settings in both jurisdictions and a detailed academic reference list.

**DOI: 10.5281/zenodo.11654710**