

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

A guidance paper to inform leaders of nursery and primary
school new entrant settings

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Introduction

This summary of practices has been produced to inform leaders of nursery and primary school new entrants about aspects of the work of implementing digital technologies into their settings. The evidence is drawn from a study of four purposively selected schools with nursery provision in Northern Ireland and four similarly purposively selected schools (new entrants) in New Zealand. Please note that the term ‘school’ is used throughout this paper as the four nurseries were located within a school setting.

The information in this paper is derived from a full report developed from evidence gathered through a comparative research study¹ 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 guidance provided here is organised in two ways. The findings reported in Part One are organised to reflect the research findings. Part Two takes an overview through the lens of the element indicators from the NAACE EdTech Review Framework (ERF)², which is used by some schools internationally.

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

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, supported within a digital technology context. As Passey, Woodhouse, Anderson, and Charania (2023)³ 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”.

¹ 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>.

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

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

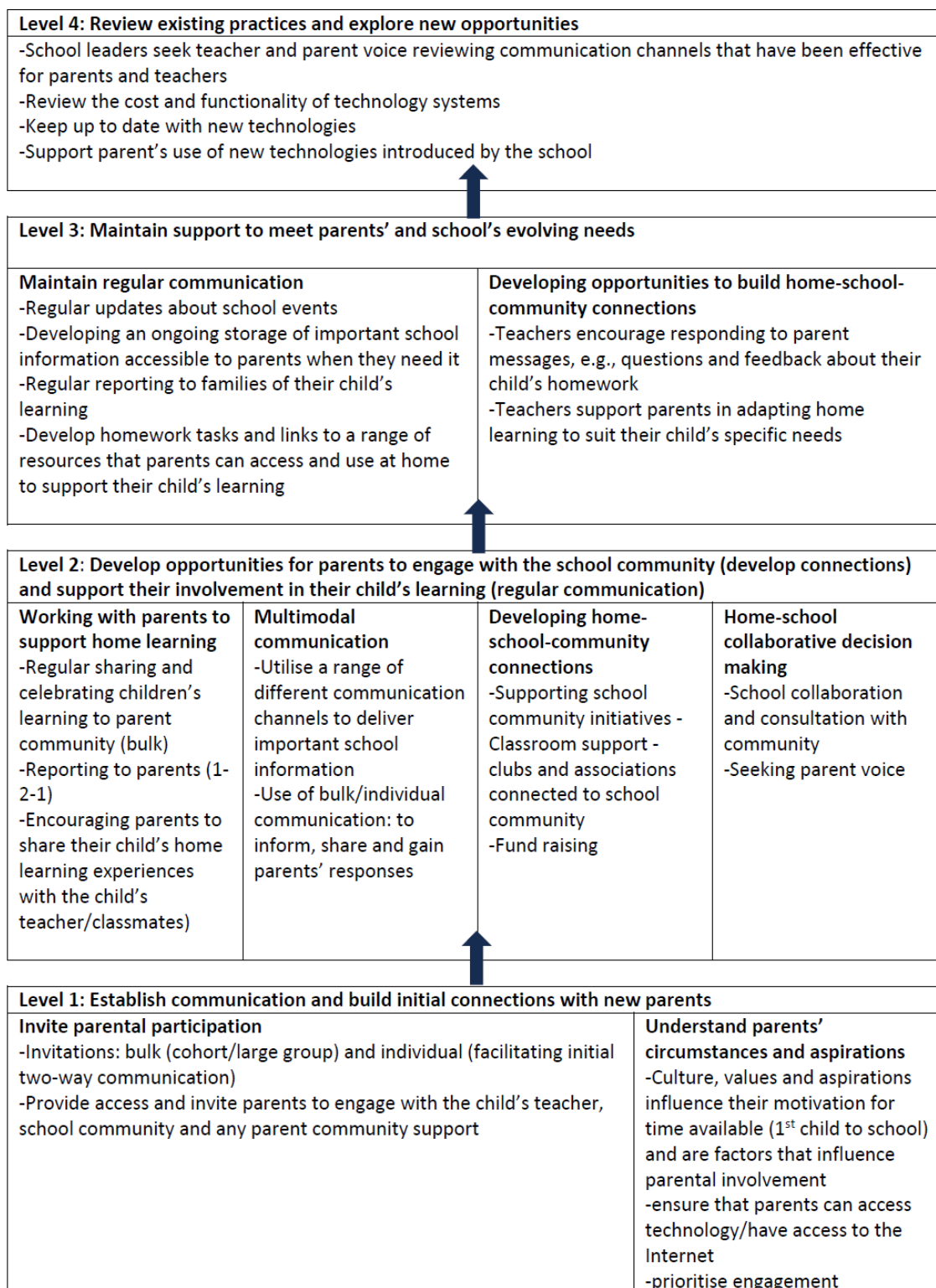


Figure 1: Conceptual framework: school leaders developing parental engagement using digital technologies with new families to the school. (Source: Woodhouse, Passey & Anderson, 2024.)

The findings from the research study show ways that digital technologies can positively support parental engagement when children are transitioning to nursery and schools. The conceptual framework (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. Additionally, 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 nursery/new entrant (primary) education based on the findings 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 nursery and new entrant primary school education. This applied equally to their support and involvement with parents. A summary of examples follows, listed to reflect the findings of the research inquiry. More detail of each example can be found in both the original research report⁴ and a subsequent academic paper⁵.

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 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 could 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.

⁴ 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>.

⁵ 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. The school reviewing the use of technologies in communicating with families.
17. Uses identified as working well.
18. Changes made by the school 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 the time children have been accepted, or perhaps earlier if they have a child already in the school.
- Some schools make contact through a personal letter; some send emails (often bulk); and some encourage their school app to be downloaded.
- A school may use digital technologies such as Google Classroom, ClassDojo or Seesaw as well as social media and traditional print media to advertise and publicise the admissions process, making use of any resources from the ministry or education authority.
- In an open day, schools can promote their own website and advise parents how to use any online application or communication systems; a school may give prospective families access to information about how to apply through digital technologies such as Seesaw.

2 Supporting initiation of contact with new families

- A school may use Seesaw, together with email and a website.
- A school may allocate Seesaw codes when they set up a new nursery class.
- A school may set up a Seesaw class for new entrants using a ministry or education authority list, give out Seesaw codes, and provide a welcome video to allow parents to access a tour of the classroom.
- A school may ask each child 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 may be sent a picture of the classroom, so that the children can see that the classroom is ready for them.
- Before they start, the nursery or primary teacher may put on a video tour of the school, something about herself and the nursery, and offer photographs of activities within the school.
- If an induction timetable is involved (bringing groups of children into school in stages), it may be translated with Google Translate into all different first languages that the children speak.
- A school can use visuals to support parents before they come into nursery, to help them see what their children are expected to do.

- Schools may use digital spaces to post videos and orientation information about their digital communication technologies such as Seesaw or Hero, designed to support parents in their early days of their child starting school.
- As families are added to their child's class digital application such as Seesaw, each teacher can send out their own class newsletter and introduce themselves by sharing an infographic about themselves with the children in their new class.
- Stories may be written and read out online for the children, to help them settle in.

3 Hardware and software used in communicating with families

- Laptops that teachers use can increase use of digital applications such as Google Classroom, ClassDojo, Seesaw and the school website.
- One digital application, such as Seesaw, may be widely used in the nursery setting.
- Additionally, schools may use bulk emails and websites, X (formerly Twitter), and a text-messaging service.
- Some schools may use a Facebook page and email newsletters for promotion, but Facebook may well be used by parents of older children.
- Once a pupil is enrolled, a closed Facebook page may be used, which allows for direct messaging.
- Schools may have access to an environment such as 'Hero⁶', which is a 'one stop shop' where parents can contact their child's new teacher, locate further information, and ask questions about homework and school. The environment allows a teacher to check who has logged on and who has seen important messages.
- Use may be made of QR codes, both online and on display on the walls of parent waiting areas, where parents can access videos of their children at work.

4 Factors influencing choice of technology when communicating with families

- Schools may rely on parental use of smartphones to access digital application class groups, for either single or group communications, using text, imagery, and video. Pinging the parents' mobiles, these applications (apps) can be used for real-time information, even though it may be considered to be impersonal.
- The ability of the channel(s) used to enable parents to message teachers and receive a response is a significant factor.
- Where a school has not already provided communications in different language translation, a function of a chosen channel(s) to allow parents to obtain a translation can be very important.
- A school may use an app largely for administrative information about what is coming up. School letters may be duplicated on to it, as well as emails, and with a calendar function, it can support the whole school community.

⁶ <https://our-hero.com/nz/>

- Parents can be encouraged to respond with a ‘thumbs-up’ or to send a message to show they can navigate an app from an early stage; then the school knows they can rely on it for messages.
- Where parents need technology guidance, a school may operate 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, a nursery unit may use the same technology as the rest of a primary school, such as dedicated Google Classrooms. Although primarily used for schoolwork and homework, they may be used also for communication.
- A school using an app such as Class Dojo for communication throughout the primary school may use it, as well as for communication, to support their positive behaviour policy by awarding points which parents can see.
- At the end of a week, teachers may have competitions to identify who is at the ‘top of the class’ with regards to behaviour.
- Some apps such as Seesaw permit immediate messaging to individuals, to a selection of people or to the whole school, but schools may find it advantageous to re-publish information sent out on other channels.
- Where one family does not have a smartphone, a school can post out communications.
- Whatever channels are used for communications, unless schools are seen by parents to be using it frequently, they too will stop using it. The ability of the channel to give the school useful 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 may 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 can be individualised to a particular parent, so they can be “very individual as well as being group friendly”.
- Information on a 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) can be duplicated on an app such as Seesaw.
- Questions that parents send in in the first few weeks when children are settling in can be replied to promptly using an app.
- A parent might be sent a reassuring picture at 9:00am of their child to show that they are settling in well and all is fine.
- Celebration of early achievements are engaging for parents; for example, through a video/picture of what the child has done, especially on their first day.
- A school may send out songs and rhymes about starting school.

6 Online information/resources purposed to support new families

- Once parents are familiar with their child's teacher, according to a principal/head teacher, "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".
- Also, "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".
- Additionally, "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".
- A school website might promote how new families can become involved in initiatives at their school such as the 'Enviro school'.
- A school's history may be shared with new families so that they can develop a sense of connection with the school through 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, can all be shared.
- Information about an app used by parents to make payments to school may be provided.

7 Supporting new families' questions around transition

- Apps such as Seesaw and email may be used regularly to allow families to raise questions, including about transition. As a principal/head teacher 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, may be directed to a school administrator/secretary.
- A closed page (such as Facebook or on a one-to-one message function) may facilitate 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

- As one teacher says, "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 may be sent daily and, less regularly, surveys and policy consultations.
- A school could also, as a principal/head teacher said, “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 may be shared about collaborations with a partner school(s).
- While a school newsletter may be sent out regularly, a summary of a week and plans for an upcoming week can also be circulated for each class.
- A school may use EventBrite for booking to attend events and clubs (face-to-face and online) and a spreadsheet to record changes of bus or transport times.
- A weekly ‘focus group’ of children may share their own photographs, to show parents what is happening.
- Teachers and classroom assistants can use devices to take photographs of the children’s work for observation, evidence of learning purposes, and to send home to parents to keep them informed of learning progress.
- A teacher may be able to use a system of recording observations, perhaps on OneNote or Google, stored using cloud-based technology, to replace cumbersome paper files.
- A nursery lead teacher in a school may organise an app such as 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 any new weekly topics, a teacher can post links to YouTube or an educational video to help parents help their child to learn, for example, to identify numbers and count.
- A school may receive and manage a centrally delegated budget for making purchases on a weekly basis.

9 Informing the whole school group and informing individual families

- Schools can use technologies both to inform individual families and whole class groups. Some details might 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 might go out to all families in the entire class, where the day’s learning activities can be illustrated.
- A principal/head teacher might encourage parents to not only celebrate the progress of their own child but to encourage “people taking the time to encourage someone else’s child”.
- If 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 a school at the same time (including in a linked primary school), a school may be able to send the family a single code, so they are able to look at their children's work in one place.
- If parents are separated, questions and issues have to be addressed, so that any legally appropriate right of access is provided, and the privacy of individual messages is also respected.
- Postings can be used by parents to encourage new families' involvement with, for example, a school sports teams and other extra-curricular activities which may be managed by parents. As a principal/head teacher said, school sports is an area of school life where families can work together for support: "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 may not just be between home and school, but parental self-help groups may also develop. As a lead nursery teacher reported, a parent may ask: "can you tell me the documents I need to upload". In response, a teacher can provide a link, and the link will connect to that page. If a parent hits an obstacle with an application process, "another parent jumps in to help them".
- A school can provide a chat group which is open to all parents. As a principal/head teacher said, "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, a school may not initiate parental groups, but they might be set up spontaneously. As a principal/head teacher said, "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".
- Additionally, (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".
- A school might facilitate 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, a leader found that 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, saying: "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

- A nursery teacher can exploit 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".
- A principal/head teacher might suggest 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".

- A school can use an app such as Seesaw to support 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 from 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 can support engagement and minimise potential problems, but schools also need 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 may need to be established. Parents may be asked to use the message facility in an app such as Seesaw if this is a school's preferred form of home-school communication to contact any of the staff.
- Staff may be given discretion about whether to prefer text messages or telephone calls for discussions with parents.
- A principal/head teacher reported that: "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 may firstly share posts about children's learning in school, but then, secondly, support parents' own use of technology to contribute towards their child's learning at home.
- A school might hold a digital technology session for parents to learn about a channel such as Google Suite if it is used extensively across a school for homework tasks.
- Teachers may record explanatory videos for a lesson with a task for pupils, uploaded in an app such as Seesaw. Children may 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 can upload photographs and videos of the work that children are doing to encourage parents to engage to support learning.

- Class teachers should be able to choose whether to share class learning experiences to a whole digital app class group, or to post to a single child’s digital journal.
- Overall, use of digital technologies can reverse the dynamic of communication; parents can respond at a time that suits them best. As a principal/ head teacher says, “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 can also be encouraged to share some of their experiences at home onto their child’s journal.
- An app such as Seesaw can be used to record what children have been learning over time, with classroom assistants supporting class teachers by uploading work on a frequent basis. Once recorded, the work 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 may take a gradual approach to inducting parents into the use of digital technology. They may start by meetings of transitioning and new families face-to-face and then support their use of online communications. As a teacher 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 more remote areas, lack of confidence about reliability of connectivity can limit use of apps such as SoundCloud or Zoom and the adoption of a parallel approach.
- Continuity of record-keeping will enable information about the progress of each child to be available over a longer-term on a transition profile. As a lead teacher says, “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 The school reviewing the use of technologies in communicating with families

- Feedback from parents should be considered carefully as a part of a school’s monitoring and review of use of digital technologies. Any issues should be explored and dealt with.
- Surveying parents can be extended beyond the use of digital technologies, to seek input to school development planning.
- The rate of use made of a school website and other forms of social media can be monitored too. As for an app such as Google Classroom, a principal says 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 should 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 teacher as well as a principal/head teacher may regularly review other digital technologies for future use. A lead teacher doing this, says: “I was looking at OneNote... I could maybe adapt that to collate information”.

17 Uses identified as working well

- A principal/head teacher says: “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 can prove popular. As a principal/head teacher says, “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”.
- Adding, “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”.
- A school might welcome using one environment for everything. As a principal/head teacher says, “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 Changes made by the school as a result

- Following evaluation and review, a school can be judicious about when it makes any change, considering timing and impact on parents.
- In light of feedback, a school might move to a channel such as Microsoft Teams for meetings; another to Google for scheduling; another to introduce Safer Schools; or to improve the quality of a website.
- Parental feedback in a school might highlight the need for a new system such as a cashless payment system.
- Cost implications for maintaining an app such as Seesaw may prompt a school to review and seek out new systems to fulfil their needs.
- A school can try out different environments and select one that suits them best, perhaps choosing a specific 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 is considered here through the lens of the elements of the EdTech Review Framework (ERF), which is a digital technology review framework that is used in a range of schools internationally. Some descriptors from the ERF are incorporated in a very summarised form in this section (see the NAACE framework⁷ 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 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 may have a variety of 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 a pre-school curriculum would be valuable. Strategic leadership, through a school development/action plan, would help ensure

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

that technology has widespread impact on all aspects of the school's work. A fully integrated approach by the school can enable seamless working between home and school. The approach in many of the schools studied identified and promoted 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 a pre-school curriculum or guidelines.

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 can include the quality of learning and teaching with technology within and beyond the school, including all aspects of technology planning, practice, and 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 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 can maximise the learning opportunities offered by digital technology and transform 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 uses of digital technology to record, analyse and report on observed learning progress of children, observations are recorded, summarised, and reported digitally, and assessments linked to a pre-school curriculum or guidelines, as recommended previously, provide an even clearer understanding of children's progress. Additionally, establishing systems to save and then share multimedia evidence of progress with parents, as is illustrated in many different ways in the schools researched, 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 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).

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 a 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.

Recommendation: 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 paper 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 can 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 impact 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: Secure, GDPR-compliant platforms for sharing safeguarding information should be provided. 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.

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