The Nature School

Digital practices to support learning

July 2021

Acknowledgement

Research Team

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Professor Sandra Schuck is Adjunct Professor of Education in the Faculty of Arts and Social Sciences at UTS. Her main research interests are in mobile learning and technology-mediated learning in K-12 and teacher education contexts, retention and attrition of teachers, teacher professional learning and mathematics education. Prof Schuck has earned over $1,000,000 in research funding for collaborative research projects and has over 70 research publications, including 6 co-authored books. Professor Schuck was the winner of the inaugural UTS Research Excellence Award for Researcher Development and a founder of the UTS STEM Education Futures Research Centre.

Dr Jennifer Fergusson began her career as a school teacher. She has been a professional development provider for teachers in the use of learning technologies and a director of a digital learning centre. Her PhD research was in the area of science education. She currently conducts both quantitative and qualitative educational research in the Faculty of Arts and Social Sciences at UTS.

Associate Professor Paul Burke is a leading expert in the field of applied market research, particularly quantitative methods utilizing experimental design, choice modelling, and best-worst scaling. Dr Burke designs primary research projects using experimental design techniques and innovative survey approaches, such as best-worst scaling, as well as standard methods integrating hybrid choice, structural equation modelling (for attitudinal models), cluster and discriminant analysis (for segmentation), and regression analysis (for predictions). His work involves models of consumer and human behaviour, including applications to product and service evaluation, social wellbeing, and forecasting, with numerous projects involving mix-methods including those in health and wellbeing, education, employee, stakeholder and community preferences, and issues around rural and remote workforce participation.

Suggested Citation

Introduction to the research project

The 2020 remote teaching period highlighted the need for educators to develop a broad and inclusive set of digital practices to support student learning. Their approaches needed to enable learning across formal spaces (physical and virtual) such as classrooms and learning management systems, as well as home learning environments. Educators also needed to cater for the needs and circumstances of all students, including those with additional needs, and those with home technology access or connectivity limitations.

This case study is part of a broader research project seeking to understand teachers' effective and inclusive digital pedagogies, as well as emerging digital practices during and after the period of remote teaching. It is seeking to uncover effective digital practices, and the factors that influenced their successful implementation. Together these will assist in informing next practices with digital technologies across a range of diverse school contexts.

The research is guided by the following key question:
What digital learning practices have teachers used to support learning practices, in ways that are flexible, accessible and promote student agency and wellbeing?

Methodology Overview

- **Case Study approach** – five NSW independent schools.

- **Data collection** – Term 4, 2020 and Term 1-2, 2021.

- **Data sources:**

    – interviews with school leadership, lead teachers, and teachers from various disciplines

    – focus groups with small groups of students

    – short online survey of students across at least one cohort in each case school (min. 100 students).

- Ethics approval: UTS HREC ETH20-5354 - Parental permission was sought as part of the formal research ethics process.

- Data collected through a mixture of remote and face to face connections.

In addition to the qualitative data collected, the research also utilises a quantitative survey instrument across AISNSW schools to gain additional insights into teachers' digital pedagogies, and other AISNSW priority areas: supporting student wellbeing, digital equity and inclusion during the remote teaching period.

The Nature School, Port Macquarie, NSW

The Nature School is a community where children 'learn and shine' through authentic experiences in nature to become engaged global citizens.

The school was the third case study in this project, with data collected during Term 2, 2021. Data were collected onsite through interviews with the Principal, four teachers and two student focus groups. Artefacts including student work samples and school policies were also collected.

- Independent Primary school

- Kindergarten to Year 5 currently

- Enrolment:
    2020 K-4 (57 students)
    2021 K-5 (78 Students)

- 7% Indigenous students

- 3% from a language background other than English

Source: www.myschool.edu.au.

The Nature School Case Study Data Collection

School leader interview:

- 30 minute interview with the School Principal, Catherine Oehlman

Teacher interviews

- Four 30 minute interviews with four primary teachers: Kindergarten, Year 1, Year 2 and Year 3/4

Student focus groups:

- Two 30 minute focus groups, one with Year 1 students and one with students in Years 3-5.

Research Findings & Insights

Key Research Insights

This regional NSW school has a unique emphasis on outdoor learning. The school's challenge for emergency remote teaching was to adopt digital approaches that remained faithful to its core values. The school therefore encouraged the strategic use of online approaches, typically as a segue to more practical activities that emphasised authentic and social learning. Teachers endorsed a minimalist approach to live video-conferencing with students via zoom. They mainly communicated with parents and students and their parents using weekly Sway pages, and designed take-home kits to support students' practical activities, where possible to be implemented outside. This blended approach, gave children flexibility and autonomy with the timing and pacing of their learning. It also helped families and staff manage competing home interests, supporting efficiency and wellbeing. There was an emphasis on carefully selected activities, rather than volume of learning.

Parents were recognised as critical to the success of this approach, and teachers supported them with targeted instructions and other resources. Teachers also prioritised engaging with parents of students with learning challenges and supported them with how to help their child. Teachers' wellbeing was another priority that helped make the school's remote learning plan work so well.

School priorities for the remote teaching period

Remote teaching had to reflect school values.

The Nature School emphasises the values of connect, protect, respect, with the school's mission to provide a community where children 'learn and shine' through authentic learning experiences. The Principal and staff aimed to stay true to this during the remote teaching period, and used the values and mission to inform strategies supporting teaching, learning and wellbeing: **"While we were in a remote mode, 'connect, protect, respect' for me was really about student wellbeing and student learning. As the Head, it was also about staff wellbeing and staff learning, all simultaneously"** (Catherine Oehlman, Principal, Interview).

There are several outdoor learning spaces at the school where approximately half of all learning takes place. The challenge the teachers faced during the remote teaching period was to provide equivalent student experiences that were faithful to the school's unique emphasis on outdoor learning, and maintain a similar balance. **"I'm proud of the way that we designed learning that was still authentic to our context, that 'looked and felt' like us."** (Principal, Interview)

Remote teaching needed to cater for the varied needs of a regional community.

The Nature School caters for students from a diverse range of circumstances, so teaching practices needed to be flexible to cater for this range of needs. Some students live on properties with unreliable internet access, and some children's parents were essential workers and therefore needed be at school. The school was also dealing with families who had recently been challenged by bushfires. Commonly, there were between eight and fifteen children from Kindergarten through to Year 4 on campus each day, accompanied by two to three teaching staff.

Key factors affecting remote teaching practices

Sharing of ideas and expertise helped ensure consistency.

Staff collaboratively explored what best practice would look like during the remote learning period, and there was a lot of sharing between staff. When developing digital resources, teachers were encouraged to seek feedback from other staff members, and to give each other feedback about what was working. This helped bring consistency across the school and meant that teachers did not feel alone.

"It was fortunate to be working as a team. Because we worked together well, that was really supportive … to share ideas and resources. It really helps when people are circulating what they've used." (Year K Teacher, Interview)

Teachers also tapped into their online professional learning networks to share and gather teaching ideas. They consulted pertinent blogs and Facebook groups. This included focusing on nature-based play and nature education themes to help develop teaching ideas. **"…There were many people on certain platforms that were really happy to share their ideas. It's really helpful to seek out that support. .. so say on Facebook groups, there were lots of things being circulated and shared."** (Year K Teacher, Interview)

Deliberate selection of technologies enhanced access and ease of use.

The school regards itself as 'a low-tech school but not a no-tech school'. According to the Principal, prudent decisions needed to be made that encouraged effective and consistent use of technology across the school but were also user-friendly for the children and their families.

In 2020 the school only had students from Kindergarten to Year 4, and many of these did not have great access to technology, or limited digital skills. To cater for this, the technologies strategically chosen by the school were Microsoft Sway and Zoom. The school had access to the Microsoft Office Suite, but teachers had not used Sway before. They decided to use it because it allowed accessibility for the students and ease of use for teachers to add text, images, and video, without the learning curve being too steep.

The Principal reflected on the benefits of limiting the choices of technology, including support from parents: **"If we'd sent home something saying, 'here's 300 sites of great maths activities you can do', I don't think that would have been as effective for us, as 'here's two things we're doing'. The buy-in we got from parents was better as a result."** (Interview)

A minimalist approach to technologies enabled targeted professional learning.

Adopting a minimalist approach to technology solutions meant that staff could undertake more targeted professional learning. A teacher at the school developed a template for Sway and taught the other teachers how to use it, along with QuickTime to create their videos. Having access to a template enabled staff to get 'up to speed' quickly. After this initial help, they typically developed their skills in an autonomous, self-regulated way: **"I had to learn [how to use Sway] from scratch, on top of the emotional concerns that were going on… . We basically went away and did our own personal training. I learnt some new skills just by playing with it"** (Year 1 Teacher, Interview). This strategy was advantageous when the school needed to quickly pivot to remote learning.

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> (Principal, Interview)

Learning activities were designed to ensure continuation of authentic, social learning.

Staff aimed to design authentic tasks as part of the school philosophy. The Principal explained that there needs to be **"a genuine alliance between what we say and what we do. Nature is not just a glossy prospectus picture"** (Interview). She emphasised tasks that genuinely connect children to their learning and help them to make sense of themselves and the world around them.

Because much of the learning at this school normally takes place outdoors, teachers were encouraged to replicate this idea in the remote learning activities they designed for the students: **"It was that physical kind of engagement with learning that we would do at school, and I was trying to give that to them at home"** (Year 1 Teacher, Interview). Teachers designed learning activities that took students outside: to the backyard, the park, or the beach. Students were also counselled to be aware of the COVID rules and restrictions. As part of this approach, teachers often recorded their own teaching video segments outside when working from home.

Teachers encouraged authentic family tasks to support students' learning. For example, if they were going to do some home-baking, they would need to look at the recipe, consider a range of questions: How many ingredients are involved? What are the steps? How are the different steps set out? Could you make your own cookies and design a recipe and write the recipe down? This style of authentic task where students were engaged with other people was important because teachers noticed that the students struggled with the lack of connection with their peers.

A blend of digital and non-digital strategies supported the school philosophy.

The school adopted a mixture of 'tech and non-tech' strategies to support their students during the remote teaching period. As described in more detail over the next sections, the technologies adopted were Sway and Zoom, accompanied by take-home 'packs' or 'kits', consisting of learning materials in a sewn fabric bag. This integrated, blended approach was well-received by staff, and perceived to be faithful to the school's philosophy: **"There was positive feedback from staff. In terms of our philosophy, I think it blended really well that way"** (Year 4 Teacher, Interview).

A strategic approach to synchronous online learning met student and family needs.

The school staff thought strategically about how to support students and what would work best for their families. Some of the families did not want their children on screens every day, so the school decided to only use synchronous online learning for three days a week. Planning also took into consideration the need to manage siblings sharing remote learning devices so that there were no clashes within families. Because the staff knew that some students at the school would learn better in small groups, they carefully scheduled small-group Zoom sessions throughout the day instead of everyone being online at the same time. They also saw this as helping teachers to differentiate better for their students' learning needs.

Effective digital practices during the remote teaching period

Purposefully selecting and using technology.

The Principal emphasised that they used technology judiciously, in line with their school philosophy: **"We call ourselves a low-tech school but not a no-tech school … So technology was certainly part of our solution to remote learning. But then we were really strategic with what we used, when we used it and how we used it. I tried to really narrow our focus down to a couple of core pieces of technology that we were going to use."** (Principal, Interview).

Staff stressed the purposeful use of technology, both on campus, and at home. **"We wanted it to be meaningful and purposeful. So we used technology if it was relevant and important and helpful for the learning, absolutely. If it was technology for technology's sake, or you could describe it as 'busy work', that was not a focus of ours. So it depended on the nature of the lesson."** (Kindergarten Teacher, Interview)

Technology-mediated activities including the teacher-led Zoom sessions, or the Sway-based instructions and videos, were typically designed by teachers to support students' use of materials as supplied in the take-home packs (or kits). They were also designed to transition into more student-led and often outdoor activities: **"As much as possible we tried to keep the learning in line with how we teach at school and a lot of outdoor learning, a lot of play-based learning, a lot of going out and collecting"** (Kindergarten teacher, Interview).

Supplementing digital approaches with take-home learning packs.

The take-home packs were critical for students' learning and were picked up at the school by the parents. A key element was a paper-based, A3-sized remote learning plan that outlined the sequence of activities for 3-4 weeks. This included the scheduled Zoom sessions for literacy, numeracy, and integrated studies (e.g. history, science, geography) and any relevant links. The plan consisted of 'must-do' (compulsory) and 'can-do' (optional) activities along with expectations for submission of work. For example, photographic evidence of progress on design-based projects was expected to be emailed to teachers periodically. The teachers invested time in preparing materials for these activities, and then packing these resources into the learner kits: **"That time between Term 1 and Term 2 was 'very full' with preparing for continued remote learning. The kits took a lot of time, there were thermometers, all sorts of bits and pieces in there"** (Kindergarten teacher, Interview). Items in the Kindy kits included thermometers, crystals for making rainbows and cloud identification guides

Using Sway for communication and learning.

Sway was chosen as a platform to allow teachers to regularly communicate with parents and children using text, images, sound, and video. Teachers would embed multimodal instructions in their Sway pages, including pre-recorded video snippets and a range of visuals to explain concepts and present information. A Year 1 teacher felt that Sway enabled her **"to collate and present information for the students with visual images as well …. It allowed me to integrate a lot of visual images to illustrate what it was I wanted".** (Interview)

Links to Sway pages were emailed to parents and children once per week. The asynchronous nature of these weekly Sways gave children flexibility with the timing of their learning. This in turn helped parents and siblings to manage the inevitable multi-tasking challenges experienced by families in lockdown. The Years 3-5 students said they appreciated this flexibility, with one student indicating: **"I woke up around 6 and then I would just get my little kit and I'd work through … and then I'd finish all my work."** (Focus Group)

Prioritising targeted teacher-made videos.

"The technology enabled them to know what to do with the hands-on materials that we'd given them. We didn't just throw them some stuff in isolation and say, 'go and have some fun with some toys we gave you in a bag'. It was curriculum-aligned and grounded, and still set up by good teaching, explicit teaching snippets in videos, so that then the students knew what to do with the kits. So it [Sway] was a connection between the tech and the non-tech." (Principal, Interview)

The students needed to quickly understand what the teacher wanted them to achieve in five minutes of listening or watching an introductory teacher video presented on their Sway page. The teachers found that because they were only given limited time for explicit teaching each week, they had to be succinct and targeted with respect to the learning outcome they wanted their students to achieve. This forced the teachers to prioritise important content. The Year 1 teacher commented on her video recordings: **"I really liked the way I reinvented my maths lessons. Because I was only given a few moments for explicit teaching each week, I had to be very succinct"** (Interview). The Principal, who also taught Year 2, made a similar point: **"I had to record myself suddenly teaching explicit lessons in my backyard with a whiteboard… how hard is it to dilute a lesson … at Year 2 level in a four-minute block, so that I can put it in a Sway, so they can come back and play it as many times as they need to through the week to do the learning …. It was challenging but it was great."** (Interview)

The video snippets were typically filmed outside to align with, and promote the outdoor themes in the learning pack activities and embedded in a class Sway. In this way, teachers would include their backyard as background to their videos to promote an outside aesthetic. The Year 4 teacher indicated that: **"Anything I could do outside I did. Sometimes I sat out on a deck and videoed out there"** (Interview). Teachers initially found recording themselves teach was confronting and challenging. When asked about the self-recorded videos, the Kindergarten teacher felt:

"It was absolutely lots of work and it definitely takes you out of your comfort zone too. I'm really comfortable speaking in front of students but taking a video of myself teaching, it really takes you out of your comfort zone." (Interview)

Strategically designing the number and size of live connections.

Compulsory small group instructional 'live' Zoom sessions were restricted to 30 minute sessions across three days per week. This aimed to optimise students' flexible learning, and minimise intrusions on families' multiple agendas and schedules. **"We thought strategically about how it would best benefit our students and how it would best work for our families. We know that we've got some families who don't want their kids on screens every day, how do we do that? So we looked at three days a week instead of five."** (Principal, Interview)

Zoom sessions were conducted in small groups to more effectively facilitate students' remote learning and provide more targeted feedback. A student pointed out some of the benefits of this approach: **"I really liked having Zooms because it was small groups. You could have a lot of one-on-one time where you could ask any questions you have about the learning. Your teachers could answer them. That's why I think the Zoom's good. If you have any troubles, they could help you do it. You got more attention, and kids could learn about more stuff. If you were in a bigger class, you would usually wait in a big line for your turn."** (Focus Group)

Zoom sessions were used in other ways, including small group feedback on tasks, follow-up sessions after activities such as incursions, and to provide remedial support during the two days without a scheduled session. **"We had additional opt-in Zoom sessions on the off days. For those children who do have great access and did want more, that helped"** (Principal, Interview).

There was mixed comfort with the use of online conferencing, as teachers were conscious of being visible in families' lounge rooms during Zoom sessions. It could be intimidating when they became aware of parents in the background, watching them teach. As discussed by the Principal: **"Teachers are so confident in their own space with 20 little faces in front of them, but very few teachers are confident in front of other adults as a daily audience. So that was confronting for teachers."** (Interview)

Supporting parents and recognising their critical role

Teachers were acutely aware that parents were key facilitators of their children's learning at home, so they designed the kits and Sway-based resources with an awareness of both parents and children as audience. They tried to provide succinct instructions to help parents feel supported and not overwhelmed: **"because we were asking parents who aren't educators to take on the role of educators which was challenging for them"** (Year K teacher, Focus Group). This teacher commented on her awareness of parents when writing her remote learning plans. Her aim was: **"to try and make sure that all our remote learning plans were cohesive, the amount of work we were sending home was consistent, the parent communication was consistent so that we didn't have parents go 'I'm so overwhelmed because everything looks so different, and I don't know what I'm doing, and I don't feel supported'."**

Involving the parents helped them to appreciate the school, its philosophy, and the complex roles of teachers. The Principal reported that enrolments had increased and **"more families came to me from other schools and said I'm seeing things differently now that my child's been [remote learning] at home."** (Interview)

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Examples of remote learning activities

The school used a range of activities to engage and support students across the remote learning period.

Digital incursions

Teachers made use of digital incursions or webinars that were offered by different places like the Sydney Living Museum, Museums Victoria, and Taronga Zoo. This strategy helped to address the problem of not being able to participate in their weekly excursions and 'Adventure Days'. Many places that would usually have had students and school groups visiting were sharing some of their material online. A lot of this was free, and often included activities that students could join in. A Year 1 class was studying Australian animals, and Taronga Zoo did a 'meet and greet' inside the bilby habitat. The teacher was able to send that link to families and then be online to help the students answer questions through the online chat function. This activity was followed up with the students in later Zoom sessions. They also made use of carefully selected videos about Australian animals from YouTube, ABC Splash, and other science sites for kids.

Practical experiments

A memorable activity for one of the younger children was an activity about The Three Little Pigs. The teacher had sent home a range of materials and tools in the learning kit, and the students had used these to make houses during the remote learning period. When school resumed, the children brought in their stick, straw, and brick houses to share with their teacher and peers. **"I remember with everyone's house, we tested whose was strong and whose was okay and whose was really weak. [The teacher] cut out a wolf piece of paper and then we got a fan and put it on the fan. This was 'the wolf', and then everyone would have a turn and they put their house there and then he'd turn on the fan, then we put our houses to see which ones blew and which ones stood there"**, the student recalled (Focus Group).

Another teacher described a Maths lesson that worked well, involving the children finding and comparing the length of sticks from their backyard. Students recorded photos of their experiment, and later shared it with the class over Zoom to promote larger group learning conversations facilitated by the teacher. This Zoom session was followed-up by another outdoor Maths exercise. The Kindergarten teacher described a similar activity where students were exploring patterns in nature. The children were **"sorting and classifying leaves by shape and colour, nature mandalas, threading patterns, using natural resources"** (Interview). These children also went for 'number walks' to take photos of certain numbers of natural objects. They would email photos from these walks to the teacher for feedback.

Protostorming

A Year 1 teacher designed a protostorming activity where students were provided a range of materials and were tasked with building something quickly and imaginatively. The students were challenged to build toys with the protostorming materials from their learning kits including pipe cleaners, foil, and wire. Students were instructed to try and make something that flies or spins incorporating the materials given and other items in their backyard. The teacher also shared YouTube videos and pictures for inspiration via their class Sway page. The students later photographed their creations and showed them on Zoom to elicit peer feedback.

Theme-based learning

The Year 4 class was studying Charlie and the Chocolate Factory. In addition to a copy of the novel for each child, the learning kits included lots of related practical hands-on activities for connected learning, including chocolate for cooking, and a Shakeup robotics device. The teacher provided video-based directions in the class Sway page, with all the materials needed to make a pressure switch with the Shakeup in their kits. The students used their mobile devices to document their work using photographs which were then emailed to the teacher. On the first day back at school, the students had to design cardboard machines that might be found in Willy Wonka's factory, and the pressure switch was to be used as an 'on switch'. According to the students in the focus group, this was a memorable activity.

Reading

Reading had a significant focus each week. The Year 1 teacher found read-aloud books online or recorded herself reading the book and shared these materials in the class Sway page. Teachers also read aloud on Zoom so they could talk to the children about the book, ask questions and gauge their comprehension. The Principal, dressed as a pirate, provided an all-age Zoom story telling session which all students could opt into. PM e-readers were used by students for their guided reading at home.

Parents were given materials by the teachers to support their children's reading. The Kindergarten teacher created Sway pages to help parents understand what to do before reading, advice for guided reading at home, and how to use the phonics system they were utilising. The Year 1 teacher created materials to help parents conduct discussions with their children about the books and provided guidelines to help them with their children's writing. She indicated that the materials were designed: **"to help the parents' discussion with their child … questions I want you to ask, … to have a conversation with the kids about these [books]."** (Interview).

Practices to support student inclusion

Engaging with parents of students with special learning needs.

Teachers prioritised engaging with parents of students with learning challenges and supported them with how to help their child engage. Parents would help to synthesise questions for their child and help unpack any information. **"Those social discoursing opportunities were really important for those kids, they really needed to feel engaged."** (Year 1 Teacher, Interview) Teachers sent additional emails and instructions to these parents and had brief follow-up Zoom sessions after classes to 'check in' on progress, and to find out if they needed any additional resources. Teachers' aides were also utilised to engage with students and parents. Students with ADHD sometimes struggled with their concentration during digital tasks such as Zoom sessions, so the practical outdoor activities that teachers provided were very important for them.

Group-based Zoom sessions facilitated differentiation.

Planning for small group as opposed to whole class Zoom calls helped teachers cater for the different groups of students and differentiate learning activities where required.

Tailored support for students with limited digital access

It was common for some families to experience unreliable Internet connection, a phenomenon that can accompany living in a regional area of NSW. Therefore, it was important for the school to support students with limited access to devices. One strategy used to help address this problem was to limit the use of Zoom to three days each week. The school also offered additional opt-in Zoom sessions on the 'off days' for those children who may have experienced connection problems during scheduled Zoom sessions. Another strategy involved the use of Sway and home learning kits which allowed students to participate in learning activities even if they couldn't connect to Zoom sessions. Where needed, teachers printed their Sway pages and included them in the learning packs or provided the Sways on a USB stick.

Approaches to support wellbeing

STUDENT WELLBEING

Teachers spoke passionately about their focus on student wellbeing during the remote teaching period. They prioritised including teaching activities which focused on and fostered children's wellbeing. For example, one teacher mentioned sending home a 'wellness or mindfulness' booklet that included some different breathing activities or guided meditations that the parents could discuss with their children. One of these activities involved students tracing with their finger some breathing pictures to help them concentrate. These were still used in the classroom when students returned to school. There was also an activity to make a pinwheel, where students had to go outside and draw and colour the things that they could see and hear—mindful colouring of nature scenes. The Year 1 teacher said: **"It was helping the students to still feel connected to that Nature School ideology, but also providing them with a tool that they could go to. So if Mum or Dad couldn't get them to do the work that day, they could still pull out their mindfulness booklet and feel like they were doing schoolwork but actually they were doing something good for themselves"** (Interview). Another teacher also remarked on how the wellbeing theme was integrated into learning activities: **"The wellbeing focus was huge. In English I included things like writing a letter to their Grandma to check how they are, or making a phone call. So it's still talking, listening, reading, and writing … but with a wellbeing approach. They could connect in those ways."** (Year 2 teacher, Interview)

The Principal referred to the school's overarching student wellbeing strategy as 'Maslow before Bloom', an approach that prioritises meeting students' basic needs before turning to academic tasks. She said: **"We care about students' wellbeing because if they're not in a good place right now, they're not going to learn well. So it was about ensuring their physical and emotional needs were met before we focused too much on their academic needs, particularly in their return to school"** (Interview). When the students returned to school, their wellbeing was also prioritised. **"The first day back, the kids all sat around the campfire and shared about their remote learning experiences and reconnected. It was a really positive return to school."** (Principal, Interview)

Zoom sessions combined a teaching and wellbeing purpose.

The teachers used Zoom to meet with small groups of three to four students for three 30-minute sessions per week. This was partly a wellbeing 'check-in' for students to be able to see their friends, say 'hello', and check how they were progressing. The Year 1 teacher reflected on her primary concern for students' wellbeing during the Zoom sessions: **"So I had to make sure that those Zooms were more about wellbeing and connection than producing work or teaching"** (Interview). If students were absent from these compulsory sessions, teachers would contact the parents either by email or phone to find out how they were.

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(Principal, Interview).

Teachers emphasised quality not quantity of work.

Activities were designed by teachers to help students and parents work efficiently and flexibly. There was an emphasis on carefully selected activities, rather than volume of learning. Hence, the rationale behind the kits and Sway-based resources was to optimise learning, not provide 'busy work'. The Principal contrasted their learning packs approach with her observations from other schools: **"A lot of other schools thought 'kits' just meant piles of photocopied things, photocopy a maths test or photocopy your spelling program that you had for this term and send it home. It seemed to be about how big the stack of work was that their staff put together. Our kits were very different"** (Principal, Interview).

Support for broader family wellbeing was prioritised.

After the initial period of remote learning began, it became clear that the effect on parents had been underestimated, leading to more support structures being put in place for children's families. The Principal explained the challenge: **"many of them were juggling babies, toddlers as well as school-aged children. …many of them had to use the device at home for work as well as their child needing it."** The Principal made a daily video, for parents as much as for the students, to check in with them. The school surveyed parents to ask if they were really okay and reached out to those who said they needed more help. The Principal followed up with personal phone calls to check in on parents as much as to check in on students.

Strategies were adopted to ensure flexibility for families.

The emphasis on a more flexible approach to learning was helpful to parents' competing needs at home, and in turn supported their wellbeing. Strategies included the deliberate scheduling of 'live' Zoom sessions, and the emphasis on a more flexible 'any time, any pace, any place' approach using the Sways and learning packs. Children could access materials any time, whenever it worked for their family. Zoom sessions were carefully scheduled to avoid overlapping times for siblings. Emails to families were restricted to once per week to avoid excess communications and instructions. One teacher reflected on this approach, indicating they wanted to **"keep it simple because the parents, we didn't want to overwhelm the parents with an email every day, so they got an email a week with a link."** (Year 4 teacher, Interview)

STAFF WELLBEING

A range of approaches were adopted to support staff wellbeing over the remote learning period. As with students, flexibility was prioritised so the needs and preferences of staff could be met. Minimising screen time requirements to only three days also benefitted staff, and they appreciated the balanced approach of the school and use of asynchronous learning strategies.

Frequent online staff meetings included wellbeing checks and opportunities for connection.

To facilitate teacher wellbeing, there were frequent staff Zoom meetings, always beginning with a check-in to gauge how teachers were feeling. The Principal described a strategy adopted before these staff meetings that influenced their direction: **"I would always start with 'give me a number': where are you at today?' Just so I could get … a bearing on how people were feeling. Whether they were feeling confident in what we were doing, whether they were starting to fatigue, whether they were overwhelmed. Sometimes I'd change the agenda … based on the number they all gave me."** (Interview)

One of the teachers mentioned that the good humour and collegiality at these meetings were important: **"We had a weekly Zoom, we'd have a little bit of a laugh and a chat trying to break through the seriousness of the situation and share experiences that we'd had where something worked, or it didn't. I think having those debrief sessions and a laugh...sharing those little humorous anecdotes I think were helpful."** (Year 1 teacher, Interview)

Flexibility for staff working from home or school.

To support staff wellbeing, the Principal attempted to roster staff on and offsite depending on their needs. If they needed the school Wi-Fi they could work on campus. If they needed to teach from home to be with their family, or where the Wi-Fi was better, they could also choose to work at home. The Principal was conscious of **"being really respectfully responsive to the needs of my team. Build flexibility in, so that you can work around things that crop up"** (Interview). As students returned to school, the Principal didn't return all staff to school but continued to roster them to work at school or at home according to their family needs. **"A lot of staff said to me afterwards, the fact that you let us work from home some days, other schools didn't get that, that made a difference"** (Principal, Interview). This was corroborated by one of the teachers, who remarked: **"I did appreciate the fact that the Principal put so much priority onto our wellbeing during that time."** (Year 4 teacher, Interview)

Providing flexibility helped many staff members to manage the challenges of being a parent and a teacher. A major challenge for these teachers was managing the learning of their own children, as well as their own school students from their professional role as a teacher.

Limited numbers of Zoom sessions indirectly helped teachers' wellbeing.

Teachers found the planning and implementation of 'live' Zoom sessions to be exhausting. As one remarked: **"It was four groups, four times a day for three days, and because you're having to be positive and enthusiastic and engage with the learners and get them involved, it was a lot harder than it would be in the classroom. ... the child needs to connect with you [online] but that's hard on you personally"** (Interview). Teachers were grateful that the school decided on a more integrated approach, with greater emphasis on asynchronous learning using the Sway pages and take-home learning kits.

Practices continuing beyond school lockdown period

Increased use of online professional learning.

Teachers are more frequently using Zoom to access professional learning. They have found it easier to connect remotely, rather than physically travelling large distances from regional NSW for meetings and conferences.

Ongoing use of digital incursions.

After the period of remote teaching, classrooms largely returned to previous levels of digital learning. However, there have been a few changes. For example, teachers found websites such as Museums Victoria so beneficial that they have continued to have students use iPads to access them again for research in small groups. A digital incursion to Taronga Zoo during lockdown has prompted teachers to utilise other free virtual experiences, such as historic house museums, to supplement first-hand, face-to-face experiences.

Enhanced use of online projects.

The school is exploring new ways to use live conferencing as part of projects. For example, the Year 4 class is participating in the 'One Giant Leap' project for Astronomy. The class will be given wattle seeds from the international space station and will have to plant them and monitor them and see if they grow. **"It's all about 'will the seeds survive space travel?' So there'll be Zooms with that project"** (Year 4 teacher, Interview). The Years 1 and 2 children had also participated in a class video conference during their history project.

Increased focus on efficient explicit teaching.

Use of video-based introductions has carried over into some teachers' current practice and helped focus their explicit teaching practices. As one teacher explained: **"to pare down a lot of the content to the real engaging and effective learning experiences for all key learning areas and to really focus on those."** (Year 1 teacher, Interview).

Ongoing use of a more flexible learning program.

The period of remote teaching has led one teacher to adopt a more flexible learning program in her classroom. The students' remote learning plan, presented in the kits, included activities that were compulsory and others that were optional ('must do, can do'). The Year 4 teacher commented on how she now avoids a 'one-size-fits-all' approach, offering her children a more flexible 'must do, can do' model back in the classroom.

"I've taken the 'can do, must do's' into my classroom. So some days for English I put up 'must dos' at the top, and then when they finish that they can do the 'can do's'. They really like the flexibility of being able to pick and choose when they do things rather than 'we're all doing grammar now, we're all doing writing'." (Year 4 teacher, Interview)

Targeted use of mobile devices for outdoor learning and support of multimodal communications.

Teachers were again using technology where appropriate, aligned with the school philosophy. As an example, the Kindergarten children frequently use mobile devices as part of outdoor activities, to enhance their learning. **"Using technology to teach kindergarten people was a necessity at that time but is not necessarily always the best method for them. We've used the iPads to go out and take photographs of patterns in nature and then they've airdropped those to my Mac. So if it's meaningful, absolutely"** (Kindergarten teacher, Interview).

During the remote teaching period, teachers and students more frequently used mobile devices for image, audio, and video-based communications. For instance, one teacher emphasised playful and physical learning, and gave feedback on their learning using oral recordings. She now gives the students multimodal opportunities to respond to learning scenarios on their devices. She said, **"I've learnt that a lot of children need to communicate orally. So 'okay, tell me what you've learnt, show me with your practical skills and I'll take a photo'. So I'm still using that photographic evidence, that video evidence to assess."** (Year 1 teacher, Interview)

Participants' recommendations and lessons learned

This school has recently endured bushfires, floods, and a pandemic, and all of these experiences informed the refinement of their remote teaching practices. The Principal and teachers said they are realistic about the need to be prepared for future remote learning periods and shared a number of recommendations.

Use the school's core values to guide planning.

The Principal advocated that schools start with their own core values and work forward from there. **"Go right back to who you are and what you stand for first, and then shape everything else around that. Parents have chosen your school for a reason, and that reason should still come through in what you do."** (Interview)

Teacher wellbeing is critical.

Teachers need to prioritise outcomes for their own wellbeing to make any remote learning plan work well. **"To teachers I say go easy on yourself, less is more. Pick what you want to do and then do it really well. Don't try and keep up with everyone else and what everyone else is doing, or you'll drive yourself to exhaustion."** (Principal, Interview)

Maintain balance between online and practical outdoor activities.

The school received positive feedback on their balanced approach to learning. Screen time was minimised, and the use of kits to promote practical learning activities was family-friendly for parents. One teacher felt that: **"ours was a really good balance for teachers and for students and for parents. They didn't have to be on the computer the whole day so homes with only one computer where the parents had to be working as well, you're not dominating the technology in the home."** (Year 4 teacher, Interview)

Another teacher emphasised the importance of outdoor activities:
"Encouraging your students to do their learning in a fun and practical way with the things that are around them is really important. So rather than printing off or providing a whole lot of worksheets I felt like allowing them to go and connect with things in their backyard was still getting them outside, getting them active and doing something rather than sitting at a desk." (Year 1 teacher, Interview)

> "You need to allow the students to talk to each other. So even facilitating small group or whole class chat sessions where they can talk to each other, or you can encourage them to Zoom one another. If you can facilitate group work where they Zoom each other and then share ideas, that's actually really valuable and much better for their wellbeing."
>
> (Year 1 Teacher, Interview)

Facilitate student connection to support student wellbeing.

Teachers emphasised the provision of opportunities for students to connect and talk with each other, both for their learning but also to combat isolation. **"You need to allow the students to talk to each other. So even facilitating small group or whole class chat sessions where they can talk to each other, or you can encourage them to Zoom one another. If you can facilitate group work where they Zoom each other and then share ideas, that's actually really valuable and much better for their wellbeing."** (Year 1 teacher, Interview)

Be empathetic and understanding of families.

The multi-layered circumstances of different families need to be understood and emphasis is needed on community. The Year K teacher commented: **"So I think putting that focus on keeping connected and keeping each other well was important."** The same teacher emphasised mental and emotional health: **"I think really focus on wellbeing of yourself and the families. We're all in the same situation together and if we look after our mental and emotional health, I think that's paramount in a pandemic."** She mentioned the importance of understanding the difficult challenges of parents, who are assisting with their children's learning and often using new technologies for the first time: **"They're trying to figure out all this new technology and how to be educators, while they're also parents, while they're also working. I think be kind to them. Kids are amazingly resilient, and they have an amazing ability to learn so it'll be okay, we're all in the same spot together."** (Kindergarten teacher, Interview)