The Nature School

Digital practices to support learning

July 2021

About the Case Studies

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.

About The Nature School

- 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 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 was 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.

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.

Key Insights

School priorities for the remote teaching period

Remote teaching had to reflect school values.

The Nature School emphasises the values of connect, protect, respect. The school's mission is to provide a community where children 'learn and shine' through authentic learning experiences. There are several outdoor learning spaces and approximately half of all learning takes place outdoors. The response to remote learning during the pandemic needed to be faithful to the school's unique emphasis on outdoor learning. **"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 school caters for students from a diverse range of circumstances so teaching practices needed to be flexible to meet the 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. Hence, 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.

"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." (Kindergarten Teacher, Interview)

Staff collaboratively explored what best practice would look like during the remote learning period. When developing digital resources, teachers were encouraged to seek feedback which helped to maintain consistency across the school and meant that teachers did not feel isolated. Teachers also tapped into their online professional learning networks to share and gather teaching ideas.

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'. Decisions were made that encouraged effective and consistent use of technology across the school but were also user-friendly for the children and their families. Microsoft Sway and Zoom were selected because of their accessibility for the students and ease of use for teachers to add text, images, and video, without the learning curve being too steep.

"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." (Principal, Interview)

A minimalist approach to technologies enabled targeted professional learning.

Adopting a minimalist approach to technology solutions meant that staff could undertake targeted professional learning. This strategy was advantageous when it became apparent that the school would be moving to remote learning, and staff training sessions needed to be completed quickly. As an example, a teacher at the school developed a template for Sway and taught the other teachers how to use it and QuickTime for their videos. Having a template enabled the staff to get 'up to speed' quickly.

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

Staff aimed to design authentic tasks as part of the school philosophy. The emphasis was on 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 usually takes place outdoors, teachers

designed learning activities that took students to the backyard, the park, or the beach. Authentic family tasks such as baking were also encouraged because teachers noticed that the students struggled with the lack of connection with their peers.

Blending 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. Sway and Zoom were used, accompanied by take-home 'packs' or 'kits' providing learning materials in a sewn fabric bag. **"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 what would work best for students and their families. To minimise screen time, the school decided to limit synchronous online learning to three days a week. This was combined with scheduled small-group Zoom sessions to differentiate better for students' learning needs.

Effective digital practices during the remote teaching period

Purposefully selecting and using technology.

"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. Technology-mediated activities were typically designed by teachers to support students' use of materials supplied in the students' take-home packs and designed to transition into more student-led, 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 included a range of elements including an A3-sized remote learning plan outlining the sequence of activities for 3-4 weeks. The teachers invested much 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 lot of time, there were thermometers, all sorts of bits and pieces in there."** (Kindergarten teacher, Interview).

Using Sway for communication and learning.

The asynchronous nature of the weekly Sways, gave children flexibility with the timing of their learning, helping parents and siblings to manage the inevitable multi-tasking challenges experienced by families in lockdown. Teachers would embed multimodal instructions in the Sway pages, including pre-recorded video snippets and a variety of visuals to explain concepts and present information. The Years 3-5 students appreciated this flexibility. One student said: **"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 studens knew what to do with the kids. 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 a short teacher video which forced the teachers to prioritise

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> (Principal, Interview)

important content. **"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."** (Year 1 teacher, Interview) Teachers initially found recording themselves teaching was confronting, challenging and took them out of their comfort zone.

Strategically designing the number and size of live connections.

The school made a strategic decision to limit the number and size of live online connections. This helped to optimise students' flexible learning, and to minimise intrusions on families' multiple agendas and schedules. This also alleviated concerns teachers had about being 'visible' in family loungerooms during video conferencing. Zoom sessions were conducted in small groups across three days a week to provide feedback on tasks and follow-up sessions after activities such as incursions. On the other two days remedial support was offered to those who needed more help.

"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." (Student, Focus Group)

Supporting parents and recognising their critical role.

Teachers were aware that parents were key facilitators of their children's learning at home. They tried to provide succinct instructions for parents to help them feel supported and avoid feeling overwhelmed **"because we were asking parents who aren't educators to take on the role of educators which was challenging for them"** (Kindergarten teacher, Interview). 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)

Examples of remote learning activities

The school used a range of activities to engage and support students across the remote learning period. In many cases, the teachers ensured these were linked back to activities then undertaken when on-campus learning returned.

Digital incursions - Teachers made use of digital incursions or webinars that were offered by different institutes like the Sydney Living Museums, 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'.

Practical experiments – A variety of hands-on experiments were planned by staff ranging from construction of stick, straw and brick houses, to Maths activities comparing lengths of sticks, and number walks. Students would then share images of these with their peers during Zoom discussions.

Protostorming - A Year 1 teacher designed a protostorming activity where students try and build something really quickly and imaginatively. In this instance, they were instructed to try and make something that flies or something that spins. Students were able to use materials given in their take home kits along with other items in their backyard.

Theme-based learning – As an initial activity for a class studying Charlie and the Chocolate Factory, a Year 4 teacher sent home a Shakeup robotics device. She provided video-based directions in the class Sway page and all the materials needed to make a pressure switch with the Shakeup in their kits. On returning to 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'.

Reading - Teachers read aloud on Zoom, so they could talk to the children about the book, ask questions and gauge their comprehension. They also used PM e-readers, so students could do their guided reading at home. Parents were also povided materials by the teachers to support their children's reading.

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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 strategies to help their child engage. Parents were sent additional information, had 'check in' Zoom meetings to discuss progress, and were provided with additional resources where required. Students with ADHD sometimes struggled to concentrate 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.

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. The provision of make-up Zoom sessions, use of Sway and home learning kits helped students actively participate in learning activities even if they had difficulty connecting online. Where needed, teachers printed Sway pages and included these in the learning packs, or provided the Sways on a USB.

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
- Flexibility for staff working from home or school
- Limited numbers of Zoom sessions indirectly helped teachers' wellbeing.

Student Wellbeing

Teachers spoke passionately about their focus on student wellbeing during the remote teaching period. They always included activities in their teaching activities to foster children's wellbeing. 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. "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)

- Zoom sessions combined a teaching and wellbeing purpose
- Teachers emphasised quality not quantity of work
- Support for broader family wellbeing was prioritised
- Strategies were adopted to ensure flexibility for families.

Practices continuing beyond school lockdown period

Increased use of online professional learning.
The teachers are more frequently using Zoom to access professional learning. They have found it much 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, the school has continued their use of virtual excursions to supplement first-hand face-to-face learning.

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 plant 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)

Increased focus on explicit teaching.
Use of video-based introductions has carried over into some teachers' current practice and has helped to focus their explicit teaching practices. As one Year 1 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."** (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 again used technology where appropriate, aligned with the school philosophy. During the remote teaching period, teachers and students more frequently used mobile devices for image, audio, and video-based communications. For instance, a Kindergarten teacher emphasised playful and physical learning, and gave feedback on their learning using oral recordings. She now provides students with 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."** (Kindergarten Teacher, Interview)

Participants' recommendations and lessons learned

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.

The Principal suggested that to make any remote learning plan work well, teachers need to prioritise outcomes for their own wellbeing: **"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."** (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.

"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)

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 families need to be understood and emphasis is needed on community. Keeping connected and emphasising mental and emotional health was prioritised. Staff also recognised the importance of understanding the difficult challenges for parents, who were assisting with their children's learning and often using new technologies for the first time.